

Advancing the Evidence for Survival of Consciousness

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ABSTRACT

Throughout history and across all cultures, many people have believed in some sort of afterlife. Recent surveys show that 60% to 70% of adults in the United States believe they will survive after bodily death. Such beliefs are often motivated by the loss of a loved one, cultural expectations, religious faith, or existential angst. However, the strongest reason for belief in survival after bodily death is based on personal experience, like a near-death experience or after-death communication. Those who do not believe, roughly 40% of the population, either have not had such experiences or they are not concerned about the question of an afterlife. These people would require persuasive evidence to shift their skepticism. To assess the existing evidence, we adapted a method used in medical research to gauge whether a drug or treatment is effective. We established credibility criteria and then applied the criteria to assign a letter grade, from A to F, to each of nine main categories of evidence suggestive of survival. That exercise found that none of the categories achieved an A level, which is undoubtedly why the question of survival remains unresolved for many. Then we proposed ten new experiments and surveyed over 400 academic scientists and scholars to see which of those studies, if successful, they would find most persuasive. The most frequently selected study was a controlled, prospective experiment that would result in veridical out-of-body perceptions during a near-death experience, followed by experiments involving mediumship and reincarnation. We discuss the implications of these choices and conclude with some thoughts about why improved evidence for survival is important and could benefit individuals and society.

INTRODUCTION

The question posed by this essay competition is, “What is the best available evidence for the survival of human consciousness after permanent bodily death?” For most people, the answer is clear: a personal experience. Those who have had a near-death experience (NDE), or one of a score of other experiences suggestive of survival, are often thoroughly convinced [1]. Other personal motivations to believe in the survival of consciousness include losing a loved one, religious faith, cultural expectations, or struggles with the existential threat associated with the annihilation of the ego.

Surveys among adults in the United States show that 60% to 70% believe they will survive after bodily death [2–4]. That leaves 30% to 40% who are unsure or do not believe. Reasons for uncertainty include the conviction that philosophical materialism is the only valid way to understand reality; others may hold a firm commitment to atheism. Those who hold the former stance maintain doubt because materialism assumes that you — all aspects of yourself, including consciousness and memory — are caused by your brain [5]. So, if the brain dies, nothing is left to survive. Those who hold the latter view disbelieve because they reject religious faith, which often assumes the existence of an afterlife. For them, no evidence — not even personal experience — is sufficient to overcome their prior beliefs.

For example, in his October 2014 column for *Scientific American* science historian and skeptic Michael Shermer admitted that he had an experience that “shook his skepticism to the core” [6]. He wrote,

Often, I am asked if I have ever encountered something that I could not explain. What my interlocutors have in mind are not bewildering enigmas such as consciousness or U.S. foreign policy but anomalous and mystifying events that suggest the existence of the paranormal or supernatural. My answer is: yes, now I have.

Shermer went on to describe a startling after-death communication incident involving his fiancée’s deceased grandfather. However, in that same column two years later, Shermer wrote,

Where the known meets the unknown we are tempted to inject paranormal and supernatural forces to explain unsolved mysteries. We must resist the temptation because such efforts can never succeed, *not even in principle* [7]. (emphasis added)

Evidently, after two years, Shermer’s “core shaking” had settled down because his former skepticism had returned in full force.

Because people who firmly believe or disbelieve are already set in their ways, our essay is addressed to those who have yet to make up their minds about survival. For these agnostics, a slightly revised question for this essay may be expressed as: “What evidence would help *to persuade you* that human consciousness survives after permanent bodily death?”

Some agnostics might be persuaded by a type of evidence deemed suitable by the guidelines for this essay: “Eyewitness testimony supporting the legal requirement that establishes proof beyond a reasonable doubt.” Such testimonies are an indirect way of gaining experience, and marketers are aware of the power of emotional testimonies to promote sales of products and services (hence the popularity of websites like Yelp.com and Amazon.com). However, eyewitness testimony would not convince those who also take into consideration the relevant literature from the neurosciences, clinical, cognitive, and perceptual psychology, and court cases. Research in those disciplines has shown that eyewitness testimony is not as reliable as one might hope because perceptions and memories are easily distorted [8].

One of the strongest examples of the potential unreliability of eyewitness testimony is provided by the *Innocence Project*, an organization devoted to exonerating wrongly convicted prisoners. Of 375 wrongful convictions they investigated, an alarming 69% were due to mistakes in eyewitness testimony [9]. Cumulatively, those innocent people served 5,284 years in prison. In 21 cases, the accused was sentenced to death before being exonerated by DNA evidence, and in at least one case, the accused was executed before DNA evidence proved his innocence [10]. Thus, when it comes to matters of life and death, which arguably includes the question of survival, reliance on eyewitness testimony is both legally and scientifically questionable. Ultimately, we know that eyewitness testimony is not persuasive for many because agnosticism about survival persists despite an abundance of eyewitness reports.

How then can evidence be provided that might nudge agnostics from a position of uncertainty to certainty? The answer lies in what makes the Innocence Project so successful: the application of advanced scientific tools. In criminal justice, the game-changer was DNA analysis, which in turn was based on centuries of basic biological and genetics research. Those disciplines have obvious pragmatic value in the life sciences, and as a result, tens of thousands of academic, medical, and pharmaceutical scientists work in these areas. It is also important to note that basic assumptions within life sciences research do not challenge the prevailing scientific worldview (i.e., materialism).

By contrast, survival research directly challenges materialism, and it does not have obvious pragmatic applications (that is, something that would lead to profitable products or services¹). The consequence is that despite widespread interest in this topic, research is largely an unfunded avocation pursued at any given time by only a few dozen scientists and scholars worldwide. As a result, most of the relevant survival evidence has relied on anecdotes. Some of those anecdotes are compelling and strongly suggestive of survival, but the fact remains that this type of research remains far outside the mainstream as a scientific and scholarly discipline.

¹ A cruel exception is the case where terrorists are convinced that becoming a suicide bomber is acceptable because they will receive a reward in the afterlife.

On a more positive note, given the history of scientific advances and the technologies they have spawned, our present understanding of survival might well allow us to gain new insights through the development of new approaches, instruments, and experimental procedures. How quickly we achieve that new understanding depends on developing bold new ideas and securing the resources for pursuing them.

The remainder of this essay is divided into four sections:

- What survives? This discusses what survival *means* and also how to interpret the evidence given the large overlap between phenomena suggestive of survival and psychic phenomena (henceforth “psi”).
- What are the major categories of evidence for survival? Nine categories of evidence are summarized, critiqued, and assigned a letter grade associated with the strength of the evidence.
- What experiments can advance our understanding of survival? Ten experiments are proposed that hold the potential to advance our understanding of survival. We then discuss the results of a survey conducted for this essay to see which of those experiments would most persuade academic professionals about the existence of survival.
- Why is this important? We discuss why survival is such a challenging topic for the modern, scientifically oriented mind, and why resolving this question is important.

WHAT SURVIVES?

What does survival mean?

What is meant by the survival of consciousness? We propose five meanings related to various degrees of consciousness. The term consciousness in this context includes a sense of subjective *awareness* (including that of one's surroundings) and *a sense of identity* about one's sense of self and personal memories. With those definitions in mind, we propose five possibilities after death:

- Level 0: Nothing survives. You, including all aspects of what you consider to be yourself, emerge from the operation of your brain. When your brain dies, you cease to exist.
- Level 1: Pure awareness survives. There is no sense of identity or personal memory. This is a formless, content-less state, like transcendent meditative states with no perception of the environment as distinct from oneself.
- Level 2: Awareness with limited identity survives, but no personal memories or past lives. There may be a perception of some sort of environment. This is like waking up from a dream and not remembering who or where you are.
- Level 3: Awareness and identity survive. This includes memories of one's immediate past life and the perception of some sort of environment.
- Level 4: Awareness and identity survive and can interact with the physical world. There may be a sense of identities of many past lives and perception of one or more environments. This level of awareness may include the deceased's ability to communicate or interact in some way with the physical world and with living persons.

Levels 1 to 4 indicate some degree of survival. Because pure awareness (Level 1) does not include a sense of identity, for this essay, we set the threshold for what we mean by survival at Level 2 or above, although most popular beliefs about survival would be at Level 3 or Level 4, as we discuss in the next section.

How is survival currently understood?

To better understand how people understand the concept of survival, we conducted a worldwide survey. We asked two questions. "What are your thoughts on what will happen to you after your physical body dies?" and "After the body dies, where will you go or do?" Responses ranging across the above-defined five survival levels were provided, and respondents could check as many responses as they wished. A convenience sample of 2,389 people responded to the survey [11].

Regarding thoughts on what will happen after your physical body dies, the three top beliefs were:

1. I will recognize that my self is far greater (more aware or expansive) than I had previously imagined (endorsed by 49% of respondents);

2. My soul will survive because it was never physical in the first place (45%); and
3. I will remain conscious in some form for eternity (41%).

These three items reflect the belief that the personal self transcends time and space and is not limited to a physical form. This aligns with many religious and spiritual traditions, which teach that humans have, or fundamentally are, a non-physical spirit or soul that inhabits a physical body for a limited time and that one's sense of self while alive will continue after death. While many respondents indicated that they believed in survival, some 10% marked at least one item indicating that they did not believe they would survive in any form (our level 0): "I will no longer exist in any form" (8%), "I am an illusion created by the body, so I will disappear" (4%), "Nothing will happen to my soul, because there are no souls" (3%).

Regarding the question, "After the body dies, where will you go or what will you do?", the top three beliefs were:

1. I will move on to another realm but will be able to access the Earthly realm under some circumstances (e.g., when a loved one reaches out through a medium) (43%);
2. I will exist everywhere as part of pure awareness (43%); and
3. I will reincarnate into another being, but only if I choose to (28%).

Some 9% endorsed that they believed there would be no place or activity after bodily death because "no part of me will survive physical death."

The participants in this survey were a convenience sample that limits generalizability, but it nevertheless revealed that there are many ways people think about what survival means to them. Popular polls about survival generally do not unpack the meaning of those beliefs, and thus while 60% to 70% of the population say they believe in survival, it seems that only about 40% to 50% believe in what we have called Level 2 or above [2–4]. The other 20% appear to believe in continued awareness of some sort, but not anything like what living persons experience as themselves. As is often the case, when diving below the surface of how people respond to simple surveys and polls, we find that beliefs are often richer and more complex than simple questions can reveal. These results suggest that the exact meaning of survival assumed in each study must be considered when reviewing the relevant evidence.

Psi and survival

Another important factor in evaluating the evidence for survival is psi (psychic phenomena). Psychic experiences are labeled *telepathy* (mind-to-mind communication), *clairvoyance* and *precognition* (perception of events or objects distant in space or time), and *psychokinesis* (direct mental influence of distant objects or events). The terms used to describe these experiences do not imply that these experiences involve different underlying mechanisms. Indeed, among psi

researchers today, many assume that these experiences are different expressions of the same underlying phenomenon [12–14].

Psi is important in this discussion because the most compelling forms of evidence for survival can be interpreted not merely as overlapping with forms of psi but rather *as psi phenomena*. That is, psi and survival experiences both involve: 1) awareness not constrained by the everyday boundaries of space and time, and 2) direct mental influence of the physical world.

For purposes of this essay, we will consider two classes of psi. Psi-in-the-lab (PL) will refer to forms of psi that are amenable to be tested under controlled conditions in laboratory tests. Psi-in-the-wild (PW) will refer to spontaneous psychic events in everyday life that are typically much stronger in magnitude or emotional impact than PL, and as a result are self-evident.

Like most psychological studies conducted in the laboratory, PL is usually observed as a small magnitude, highly variable effect. This is because PL is designed to simulate PW experiences within an artificial and tightly controlled experimental setup, where participants are asked to “be psychic” on demand. As such, most types of PL evidence require an appreciation of statistics to understand why such data can provide high confidence about the underlying phenomena. Controlled laboratory studies (and subsequent meta-analyses) reported in peer-reviewed journals show to high degrees of confidence that PL exists. For a recent review of the evidence for PL, see Cardeña et al., 2018 [15].

Spontaneous forms of psi (PW) are documented in many volumes of historical and contemporary anecdotes, and these experiences form the raw materials studied in PL experiments. PW is relevant to understanding the evidence for survival for two reasons: First, by definition, it involves the experiences of *living persons*, and second, some forms of PW can *mimic* evidence that some might interpret as only being explainable as survival. This interpretational confound was first appreciated in the late 1800s when scientists began to systematically study two types of psychics: those who believed that they could communicate with the deceased (called *mediums*) and those who claimed to produce physical manifestations associated with the deceased (called *physical mediums*). Investigators of (legitimate) mediums soon discovered that psi — in the form of combinations of telepathic, clairvoyant, and psychokinetic skills — could provide plausible explanations for what mediums attributed to spirits. As a result, to better understand the types and scope of PL phenomena, researchers began to turn their attention toward these experiences in more rigorous and controlled ways.

These early efforts, from the turn of the 20th century through the 1930s, evolved into the discipline of parapsychology, the scientific and scholarly study of psi. Evermore sophisticated methods have since been developed to study PL phenomena. Historical reviews, spontaneous cases, field investigations, and anthropological studies have also continued to expand. However,

only in the last two decades or so have researchers returned to explicitly studying survival-related phenomena. Furthermore, despite scientific and scholarly advances, the underlying problem of *definitively* distinguishing PL or PW from survival remains unresolved. Thus, the psi vs. survival question must be considered when evaluating the best evidence for survival.

CATEGORIES OF SURVIVAL EVIDENCE

To appreciate the existing evidence for survival and how the psi vs. survival impasse affects interpretations of that evidence, we developed a structured grading system and applied it in each of nine categories.

There are several established ways for evaluating the efficacy of pharmaceutical drugs, medical interventions, and other forms of observational or empirical evidence in the life sciences (see Figure 1). Reviews and meta-analyses are integrative methods at the top of the pyramid and collate already conducted research. One such review is called a *scoping review* because it establishes the scope of the relevant literature and provides a descriptive narrative about the findings. The second is called a *systematic review*, which often evaluates evidence according to a grading system, where the grades provide criteria for the credibility of the evidence. A third is a *meta-analysis*, a set of statistical procedures used to evaluate the objective magnitude and independent repeatability of effects of interest. The grading system we developed has elements of both a scoping and systematic review. The review was scoping in that it considered a wide-ranging overview of the relevant evidence, and it was systematic in that we developed a grading system that was uniformly applied to each of the evidential categories. Our approach was unlike a more formal systematic review in that we used representative examples of evidence rather than attempt to examine all possible studies or methods within each category.

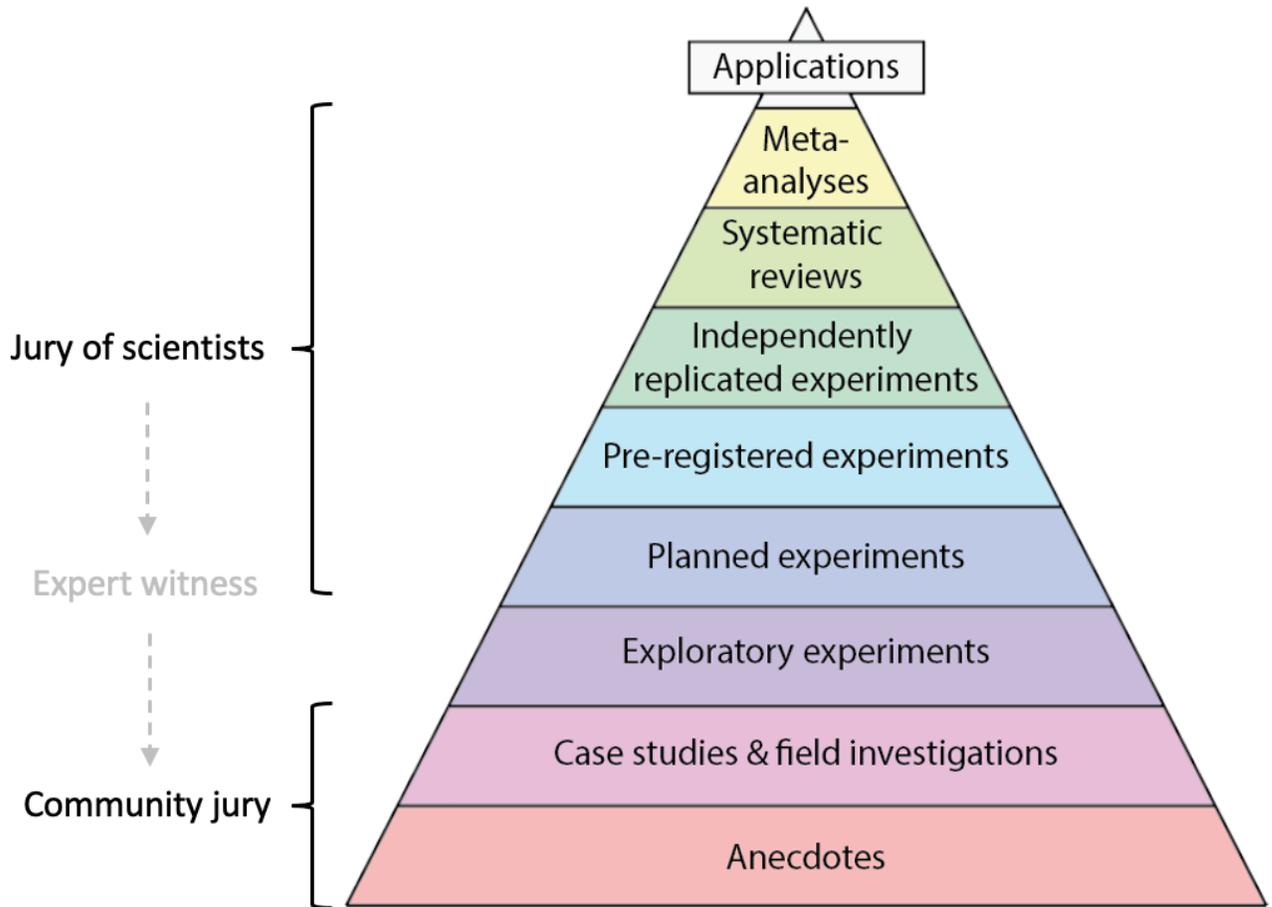


Figure 1. Illustration of the hierarchy of experimental designs that result in increasing levels of evidence from anecdotes to applications.

Structured Grading System

The structured grading system we developed consisted of letter grades from A to F corresponding to very strong evidence to no evidence (Table 1). We also created a decision matrix to show the criteria included in the grading system (Table 2).

Table 1. Evidential grade descriptions

Grade	Description
A (Strong Evidence)	<ul style="list-style-type: none"> ● Planned objective data, prospective, blinded, pre-registered, and meta-analyzed ● Replicated by independent research groups ● Not explainable by current understanding of materialistic science (conventional science) ● Not explainable by current understanding of psi-in-the-wild ● Effects not requiring statistical analysis to observe ● Observable in real-time
B (Good Evidence)	<ul style="list-style-type: none"> ● More than one objective data sample and a prospective design ● Replicated by independent research groups ● Implausibly explained by conventional science ● Implausibly explained by psi-in-the-wild ● Effects not requiring statistical analysis ● Effects observed in near real-time
C (Suggestive Evidence)	<ul style="list-style-type: none"> ● Spontaneous, subjective, prospective or retrospective cases, reported by at least 100 people ● Reported by more than one research group ● Implausibly explained by conventional science ● If applicable, at least one laboratory demonstration ● Effects not requiring statistical analysis
D (Unclear or Conflicting Evidence)	<ul style="list-style-type: none"> ● Spontaneous, subjective, or retrospective cases reported by fewer than 100 people ● Reported by one research group ● If applicable, at least one laboratory demonstration ● Effects not requiring statistical analysis
E (Poor Evidence)	<ul style="list-style-type: none"> ● Only subjective, retrospective, or single case reports ● conflicting reports
F (No Evidence)	<ul style="list-style-type: none"> ● Systematic fraud or obvious documented and undocumented flaws

Table 2. Grade criteria decision matrix. The number of cases/observations is shown where relevant.

Criteria - Grade	A	B	C	D	E	F
Not likely psi-in-the-wild	X					
Consistent results from independent research groups	X					
Objective data (other than questionnaires)	X	X				
Positive planned OR pre-registered OR meta-analysis study	≥10	≥1				
Not requiring statistical arguments	X	X				
No plausible materialistic (psychology or neuroscience) explanation	X	X				
Not plausibly psi-in-the-lab	X	X				
Conducted by independent research groups OR Multiple independent witnesses	X	X	X			
Observable in real-time	X	X	X	X		
Not likely fraud	X	X	X	X	X	
# of people/cases	≥100	≥10	≥5	<5	<10	<10

Does Consciousness Emerge from the Brain?

Before describing the evidence for survival *per se*, we consider an indirect form of evidence: *terminal lucidity*. This term refers to a significant behavioral and physiological anomaly that supports the idea that mind and brain are not the same, which in turn supports survival.

Terminal lucidity has been reported in the medical literature for over 250 years. It refers to periods of mental clarity that sometimes appear spontaneously hours or days before the death of patients with terminal neurodegenerative conditions [16]. Such conditions include coma, dementia from advanced Alzheimer’s disease, brain abscesses, tumors, strokes, and meningitis. Considering the severe impairment of the brain in these diseases, the apparent mental functioning

associated with these patients' behavior is challenging to explain via the assumption that one's sense of identity and awareness are completely dependent on brain activity.

A recent study of terminal lucidity reviewed 124 cases in dementia patients [17]. It found that in "more than 80% of these cases, complete remission with the return of memory, orientation, and responsive verbal ability was reported by observers of the lucid episode." For example, Michael Nahm reviewed a case where a patient had cancer that had metastasized to the brain, with little functional brain tissue remaining. However, one hour before the patient died, he regained consciousness and conversed with his family for about five minutes before passing [16]. Considering the medically documented state of the patient's brain and current neuroscience's understanding of the mind-brain relationship, how the patient was able to communicate at all is a major anomaly.

Most of the cases reported in this category are retrospective case reports [16–20], but a few are prospective. For example, Macleod and colleagues observed 100 consecutive hospice deaths. Of those, six had clear but brief periods of terminal lucidity, what Macleod called "lightening up," in the last 48 hours of life [21]. Fenwick and colleagues conducted a five-year retrospective study and a one-year prospective study with 38 nurses, doctors, and end-of-life caregivers in two hospices and a nursing home [22]. The research team conducted extensive interviews and found that terminal lucidity was not uncommon in the five-year (31%) and one-year (79%) studies. They wrote that "interviewees from all units reported first-hand accounts of previously confused residents suddenly becoming lucid enough in the last days of life to recognize and say farewell to relatives and carers."

The Categories

Each of the following categories of evidence for survival is discussed in hundreds to thousands of books and articles. It is beyond the scope of this essay to describe this literature in detail. Instead, we define the nature of each category and assign a letter grade indicating its evidential strength. The evidence is presented in descending grade order.

1. Mental Mediumship

A *mental medium* (usually referred to as just a *medium*) is a psychic specialty whereby the psychic claims to be able to access information from or mentally communicate with deceased people or non-physical beings. That is, the psychic is the medium through which the living communicates with the dead. Mediumship can be performed either through trance, where the non-physical being apparently communicates directly through the medium's body (i.e., using their voice or body, sometimes called *trance channeling*), or by relaying messages from the purported beings.

Systematic mediumship research began in the late 19th century. Historically well-documented cases of accurate mediums include Leonora Piper (1859-1950), Gladys Leonard (1882-1968), Pearl Curran (1883 – 1937), Luiz Antonio Gasparetto (1949-2018), and José Jacques Andrade (b. 1945) [23,24]. Most historical mediumship research was conducted in group settings involving one medium and many *sitters* (individuals interested in connecting with a deceased person). Usually, the medium would attempt to contact deceased persons related in some way to the sitters, but in some cases, purported deceased persons who were unknown to anyone present spontaneously communicated through the medium; these were known as *drop-in communicators* [24(p. 158)].

One of the most remarkable cases of a drop-in communicator was through the American medium Pearl Curran, an American housewife born in the U.S. Midwest in 1883. One day, Pearl's friend encouraged her to play with a Ouija board. After a year of practice, they received a message from a personality calling itself Patience Worth. Pearl ultimately received over 4,300 single-spaced pages of literary works purported to be dictated by Patience. The literary works appeared to be far beyond Pearl's capacity and were written in 17th century English. Remarkably, Pearl would start channeling a work dictated by Patience, stop in the middle, and then pick it up again, sometimes much later, in the exact spot where she had stopped. These works, which included books, short stories, poetry, and plays, seemed to be fully formed with no editing required. These communications are now housed at the Missouri Historical Society in St. Louis [23(pp. 133–134)]. Another remarkable case was Icelandic medium Hafsteinn Björnsson, through which an entity calling itself Runolfur Runolfsson communicated about the circumstances of his death that were not known beforehand but were subsequently verified [25].

While there are some extraordinary reports of mediumship abilities, skeptics have raised the issue of *cold reading* as a possible explanation for these apparent skills. Cold reading refers to the medium picking up nonverbal cues from the sitters, like observing a sitter leaning forward or raising an eyebrow when the name of a deceased person is mentioned. Because nonverbal cues are a potential confound if a medium can see or hear a sitter, tests designed to vet the abilities of mediums that excluded cold reading used *proxy sitters*. These are individuals who have no relation to or knowledge of the deceased person of interest to a sitter, which eliminates the possibility of cold reading [24(p. 161)]. One well-known case involving a proxy sitter was Edgar Vandy Case, whose death was described accurately with proxy sitters through multiple mediums [24(p. 196)]. More recently, triple-blind protocols have been developed to further isolate the medium from the sitter. In these studies, mediums are blinded to both the sitter's and the deceased's identities. Transcripts of what a medium says after working with a series of proxy sitters are later given to the actual sitters, each of whom rates how well each transcript corresponds to a deceased person they are interested in. One of those transcripts reports what the medium said during a session when their loved ones were purportedly contacted, and the other transcripts were generated for the other sitters. Studies using these rigorously controlled

protocols have demonstrated that some mediums can accurately gain information well beyond chance expectation [26–28].

Cross-correspondences are another type of mediumship survival evidence [24(p. 176)]. In cross-correspondence cases, segments of a communication are distributed by presumably the same deceased person among many mediums. The final message only makes sense after all the pieces are combined. The Society for Psychical Research discovered a famous cross-correspondence case involving eminent psychical researchers who had died, such as Frederic W. H. Myers, Professor Henry Sidgwick, Edmund Gurney, Professor Henry Butcher, and Professor Verral [24(p. 177)]. The messages received by each medium were incomplete until all the messages were combined. For example, Frederic W.H. Myers is said to have transmitted segments of a communication to mediums worldwide, including in New York, London, and Bombay. In some cases, these complex messages were transmitted over nearly 30 years. They often included references to literary classics unknown to the mediums. Critics have found it challenging to propose materialistic explanations for many of these cases, although because the messages were not planned in advance, questions about how to properly interpret reconstruction of such messages remain unresolved [23 (pp. 177–190)].

Xenoglossy, also known as *glossolalia* or speaking in tongues, is another mediumistic phenomenon that supports survival. This phenomenon, reported since ancient times, refers to the ability of an individual to speak or write a language that they presumably did not know and could not have acquired by ordinary means. In 400 BC, Plato mentions priestesses on the Island of Delos who spoke in tongues. There are also descriptions in the Bible (Corinthians 14:1-40 and Acts 2:4). One interesting modern study found significant differences in cerebral blood flow during religious glossolalia versus singing [29]. Another example was Icelandic medium Indriði Indriðason (1883–1912), who apparently channeled deceased people that spoke languages he did not know [30]. Other cases have also been documented by reincarnation researcher Ian Stevenson, who founded the Division of Perceptual Studies at the University of Virginia in 1967 [31,32].

In addition to languages, some mediums have demonstrated expertise or skills that they presumably did not have, at least consciously. For example, Brazilian medium Luiz Antonio Gasparetto produced numerous paintings purportedly originating from famous deceased artists working through him. Among others, these artists included Degas, Renoir, Toulouse-Lautrec, and Manet. Gasparetto often painted with both hands simultaneously on different parts of the painting, sometimes even with his feet. On average, he completed a painting within ten to twenty minutes, with some paintings completed in as little as thirty seconds [22 (pp. 168–169),32 (p. 167),33,34,35 (p. 286)].

Another notable example of mediumistic skill apparently exceeding the medium's capacity was a chess game between 1985 and 1993 between Russian grandmaster Viktor Korchnoi (1931-2016) and purported deceased grandmaster Geza Maroczy (1870-1951). The latter's moves were relayed through the medium Robert Rollans. Chess experts who examined the gameplay afterward judged that a chess grandmaster played the game with skills far beyond Rollans' knowledge of chess. Additional veridical information that Rollans obtained about Maroczy's life reduced the possibility that Rollans had obtained game information via telepathy from Korchnoi (although he may have obtained this information about Maroczy through telepathy from others who knew him) [37].

A second case of exceptional skill was trance medium Cora Scott, born in New York in 1840. From a young age, Scott lectured on a wide range of topics unknown to her. At the age of 14, she was giving scholarly discourses that left experts stunned with her advanced knowledge and erudition. By age 18, she had given over 600 lectures, at times speaking in foreign languages and even in sign language. Her performances were attended by President Lincoln [38].

Mediumship is not the only way that individuals have displayed remarkable skills beyond their background and education. Recent cases of "acquired" and "spontaneous savants" refer to individuals who, either through a traumatic event or with no apparent cause, suddenly gain exceptional musical or mathematical skills [39].

Evaluation: Survival Level 3 or 4; Grade B+

The evidential grade assigned to mediumship is B+ because these cases represent some of the most compelling evidence for survival, including studies with objective data, multiple independent researchers reporting similar results that do not require statistical arguments, and effects that are observable in real-time. While some mediums were found to be fraudulent, others studied for decades were not. The reason mediumship does not achieve an A grade is that one could argue that the results could be achieved through forms of PL or PW (this possibility is discussed again in more detail later).

2. Physical Mediumship

In contrast to mental mediumship, *physical mediumship* involves the production of physical manifestations purportedly associated with deceased people or non-physical beings. One way these physical effects are said to occur is by a medium producing *ectoplasm*, a type of energetic material supposedly used by spirits to manifest themselves or interact with matter [24(p. 246)].

Physical mediumship is much rarer than mental mediumship. Historically many physical mediums were eventually unmasked as frauds, but a handful of cases of well-tested and apparently legitimate physical mediums are recorded in the literature. Among them, Daniel Dunglas Home, a Scottish physical medium born in 1833, was reportedly able to produce full

spirit materializations in front of multiple witnesses in well-lighted rooms. He was also reported to be able to levitate himself as well as heavy dining room tables. During his career, Home performed thousands of séances, including dozens witnessed by prominent skeptics and scientists. He was sometimes accused of fraud, but no instances of fraud were ever confirmed [40].

More recent examples of physical mediumship are provided by the Scole Group, which conducted regular séances in Norfolk, United Kingdom in the 1990s. During some of these séances, investigators would hold a padlocked box containing sealed, undeveloped film. The key to the padlock would be kept in an investigator's car parked outside the event. Following the séance, the unexposed film rolls would be removed from the box and developed. On several occasions, content was found on the entire roll of film, such as ancient German text or French and Greek quotes [41]. While a psychokinetic effect on photography is not unheard of, such as that of Ted Serios, who produced images on undeveloped film apparently through mental intention [42], there are no other cases, as far as we know, where detailed text was produced on film. As of yet, no one has been able to demonstrate how this series of events could have been accomplished by fraud [23 (p. 345)].

Like the Scole Group experiments but in earlier years, French Nobel Laureate Charles Richet and Gustave Geley conducted tests of physical mediumship with medium Franek Kulski (1873-1943). Rather than use undeveloped film, those tests used vats of hot paraffin wax. Kulski was said to manifest non-physical beings that dipped their body parts into the vats, creating wax molds. The wax casts were then dropped into the laps of the sitters. Plaster molds of the delicate wax casts created during these sessions (seven hands, one foot, and one mouth and chin) are currently stored at the Institute Metapsychique International in Paris [42 (pp. 309–310)]. Fraud was never detected in these experiments.

Additional evidence for physical mediumship is *Independent Voice Phenomena* (IVP). This refers to a voice, supposedly of a deceased person, that can be heard through a trumpet-like funnel used in séances for this purpose. Sometimes a voice could be heard without the trumpet [24]. IVP was studied with physical mediums such as Etta Wriedt, Leslie Flint, and John Sloan. Methods to evaluate whether the voice was coming from the medium included taping the medium's mouth shut, restraining the medium, and attaching a microphone to the medium's throat. In the case of Etta Wriedt, the independent voice spoke in languages purportedly unknown to her, such as Dutch, French, Spanish, Norwegian, Serbian, Croatian, and Arabic [24(p. 233)].

Legitimate demonstrations of physical mediumship today are rare. Many find these phenomena difficult to accept despite the use of controls (e.g., zip ties and Velcro used to secure the medium, glow in the dark stickers placed on the medium's body, etc.). This is because séances are almost

always held in complete black-out conditions. (This is one of the reasons that D.D. Home's performances were so remarkable – they were conducted in lighted rooms.) The explanation offered for why physical mediumship séances are held in the dark is that light supposedly destroys ectoplasm, which is how the various manifestations are produced. Thus, fraud was often assumed, and fraud was indeed detected by skilled magicians, such as Houdini [44]. While much attention was paid to secure the medium so they could not produce the observed effects, attention was less often focused on confederates, who either posed as assistants or members of the séance. As in stage magic, confederates are often responsible for producing illusory and fraudulent effects.

Evaluation: Survival Level 3; Grade B+

The evidential grade assigned to physical mediumship is B+ because of the striking nature of the legitimate phenomena and multiple witnesses. However, there are fewer than ten highly credible cases, so confidence in these cases is not sufficiently high to rate an A.

3. Reincarnation

Reincarnation refers to being reborn into another body; less commonly it refers to transferring one person's spirit or soul from one body to another. Reincarnation was mentioned in the earliest writings of ancient Greece and Celtic populations (Hippolytus of Rome, n.d.). Belief in reincarnation continues today in some form in many religions, most prominently as part of the central doctrines of both Buddhism and Hinduism [45,46].

The systematic study of reincarnation was pioneered by psychiatrist Ian Stevenson. Over four decades, Stevenson collected more than 2,500 cases and published twelve books. These cases often involved young children who claimed to remember a past life and made verifiable claims about those lives. In a number of these cases, alternative mundane explanations could not be found.

Most of the initially studied cases of reincarnation were in countries where belief in reincarnation is common (e.g., India), although later cases were also found in countries in the Western world where such beliefs are not as commonplace [47,48]. Stevenson's classic work, *Reincarnation and Biology*, a 2,268-page, two-volume book published in 1997, describes how such cases were collected [49].

Because these studies are, by their nature, retrospective, they are not possible to control. It is thus always possible to claim alternative explanations, however implausible. As a result, Stevenson's *Reincarnation and Biology* is focused on cases reported with the least ambiguity. Selected cases include ones where there was no motivation for fraud; where a child reported information inconsistent with obtaining such information through standard means; where a child

demonstrated skills unique to the deceased person; and where a child had congenital deformities or marks consistent with the reason for the deceased person's death.

For example, a girl from Sri Lanka overheard her mother talk about the distant city of "Kataragama." The girl had not heard of the city before but she announced that she had drowned there in a previous life after her mentally disabled brother pushed her in the river. She gave multiple additional details about her previous life, such as that her father, named "Herald," had been bald, how her house looked, and where it was located with respect to a local temple. Based on Stevenson's analysis of the case, 27 of 30 elements of her story ultimately proved to be correct.

More recent cases of reincarnation in children from the Western world indicate that this phenomenon may be more widespread than previously thought. Psychiatrist Jim Tucker, who has continued Stevenson's work, has continued to find cases where young children seem to possess memories of previous lives [50].

Evaluation: Survival Level 3; Grade B-

The evidential grade assigned to reincarnation is B-. There are some cases where children have produced verifiable information that seems unlikely for them to have learned or be prompted to discuss. However, there are no prospective studies, and this phenomenon does not lend itself to strict controls.

4. Near-Death Experiences

Near-death experiences (NDEs) are sometimes reported after a life-threatening situation or upon being resuscitated after cessation of bodily functions, including the brain [51–53]. NDEs show intriguing similarities across cultures, genders, and ages. In one large prospective study, the experiences included awareness of being dead (50% of reported NDEs), an out-of-body-experience (OBE) (24%), moving through a tunnel (31%), communication with a light (23%), communication with one or more deceased persons (32%), and presence of a border or veil between life and death (8%)[54].

NDEs are often described as hyper-real (more real than everyday reality) and are incompatible with what is known about hallucinations caused by an oxygen-deprived brain. They also appear to be shaped by expectations and culture, and the experiences are often said to be ineffable, bearing resemblance to the difficulties associated with describing mystical experiences [51]. The prevalence of NDEs may be larger than surveys suggest because of this last element. If the experience is so alien to everyday reality that it cannot be described in words, the experiencer may prefer to remain silent.

A key characteristic of the NDE is a long-lasting, positive transformation in personality, often accompanied by an unshakable confidence in survival after death [1,55]. There are also reports of blind patients who claim to see during an NDE, supporting the idea that the visual aspects of an NDE experience do not require a functional visual system [56]. NDEs have been reported by patients whose EEGs have flat-lined [54], again suggesting that consciousness might not require a functioning brain [57], at least as the definition of a “flat-lined” brain is presently understood.

While appearing to provide strong evidence for survival, NDEs are unavoidably subjective and always reported by the living. As such, they cannot be used to assess *actual* survival. However, objective survival evidence is seemingly provided in some NDEs cases where the person claims an OBE and the details of what was perceived are later verified. In such cases, the person describes leaving their body during the NDE and witnessing events beyond the limit of their ordinary senses. Some of these OBE anecdotes are striking, but again, they are described after the fact, and thus from a strict evidential perspective, the degree of confidence that can be assigned to them is low.

Prospective experiments have been conducted to evaluate OBEs experienced during NDEs that could, in principle, provide objective evidence consistent with survival. In such tests, people undergoing an operation who have experienced an OBE during an NDE were asked to describe an image placed face-up near an operation room’s ceiling (where they felt they were located at some point during the OBE). Unfortunately, none of these experiments have provided positive evidence to date [53,58,59]. Nevertheless, both NDEs and OBEs provide subjective evidence that consciousness may not be bound to the brain or body, thus supporting the notion of survival.

Evaluation: Survival Level 4; Grade B-

The evidence grade for NDEs is B- because virtually all the evidence so far is anecdotal and after the fact. There are no cases of OBEs associated with NDEs that could be verified under strictly controlled, *planned* conditions.

5. Electronic Voice Phenomena and Instrumental Transcommunication

This category of survival evidence assumes that spirit entities can communicate with the living by modulating noise signals inherent in radios or other electronic circuits (called Electronic Voice Phenomena or EVP), or in television or computers (Instrumental Transcommunication, or ITC), or even via images that are said to appear in streams of steam or smoke [60,61(Chapter 4),62]. In some cases, EVP and ITC communications purportedly involve words or snippets of sentences that may or may not refer to topics of interest to the investigators. In more rigorous cases, where the investigators are technologically sophisticated, communications have allegedly involved meaningful conversations between the living and the dead. Konstantin Raudive, a Latvian psychologist born in 1909, was one of the better-known proponents of EVP and ITC

[63]. Several recent books on the subject have also been published [64,65], and the “Association TransCommunication” recently published a comprehensive white paper [66].

However, misinterpretation of signals from mundane sources is an obvious problem. Purported spirit messages are usually embedded in substantial noise, giving rise to auditory pareidolia, the tendency to subjectively perceive meaning in randomness. Ideally, independent judges should be asked to assess, under blinded conditions, if they hear the same material. Alternatively, objective methods, like spectrographic analysis of purported voices, should be performed. At least one such study has been performed by Alexander MacRae, a specialist in the analysis of speech, hearing, intelligibility, and noise. He found results suggesting that EVP-evoked “voices of no natural origin” were recorded in an electromagnetically shielded chamber [67]. Thus, while most of this line of research cannot be considered as high-quality evidence for survival, some intriguing exceptions justify further investigation.

Evaluation - Survival Level 4; Grade C+

The evidential grade is C+ because in most cases (not all), claims of voices or messages are determined subjectively, and even in cases where there is some objective evidence, the effects could still be attributable to PL, PW, or to mistakes of perception.

6. Deathbed Visions

Deathbed visions are experiences reported by a dying person, weeks, days, or just hours before passing away. The visions are described as including visitations from deceased relatives or friends or from a spirit who imparts a message meant to support them in their transition [22,68]. About 20% to 30% percent of hospice patients reportedly experience deathbed visions [69]. Studies have been conducted globally on this topic, including in India [70], Moldova [68], Japan [71], and the United Kingdom [72]. Most of these studies employed interviews or surveys to poll participants or their family members about their visions.

The largest study to date surveyed 2,221 family members of recently deceased cancer patients [71]. Of them, 21% reported that their family member experienced a deathbed vision. The visions were more likely to be experienced in female patients, patients with people in the room who were family members other than spouses, and in patients from more religious families or families that believed the soul survives the body after death [71]. Some have suggested that pharmaceuticals, such as opioids commonly used for palliative care, cause deathbed visions. However, when analyzing the use of opioids in such cases, such drugs do not provide adequate explanations of such visions [73].

The most compelling deathbed visions are those in which people besides the patient also see the visions. For example, in a one-year prospective study, 38 caregivers were surveyed about their experiences of deathbed phenomena. Some 48% of the caregivers reported that dying patients or

their relatives had spoken about “take-away spirits” or deathbed visions involving deceased relatives [22]. Take-away spirits are believed to help the dying person transition to the afterworld. Another common experience is where the patient tells their family members that they see or feel a “visitor” sitting on their bed. Fifty-four percent of the caregivers were told about this experience by the patients they were treating. On rare occasions, the caregiver also saw or felt the presence of a visitor. In one anecdotal report, a pastoral caregiver saw an “angel” sitting on the edge of a patient’s bed. Without knowing the caregiver’s experience, the patient is said to have commented that someone was sitting on the edge of the bed [22]. To our knowledge, there have been no experimental or controlled studies of deathbed visions.

Evaluation: Survival Level 3; Grade C+

The evidential grade for deathbed visions is C+ because all the evidence is anecdotal, and the experience itself, even if partially confirmed by other witnesses, is reported by a living person with impaired functionality.

7. Apparitions

An apparition is a fully or partially formed solid or transparent shape, often humanoid in appearance, that may or may not indicate awareness of the environment. Reports of apparitions have been noted throughout history, and in many cases, the apparitions are said to appear spontaneously. Sometimes the perception of an apparition is found to coincide with a distant person’s death, or it is associated with locations thought to harbor spirits of the dead [74]. One of the first scholarly surveys of the evidence for “phantasms of the dead,” as apparitions were called in the late 19th century, was by British scholar Frederick Myers in his classic 1903 book, *Human Personality and its Survival of Bodily Death* [75].

The ancient practices of crystal ball and mirror-gazing were techniques used, among other things, to evoke apparitions. In modern times, a form of this technique called the *psychomanteum* (“theater of the mind”) was popularized by psychiatrist Raymond Moody. A psychomanteum is typically a small, enclosed area where a mirror is positioned such a way that the person gazing into it cannot see his or her reflection, but can see a dim, featureless surface [76]. After a few minutes of calmly gazing into that space, the mirror begins to look like a window. People typically report seeing swirling fog or clouds appear in the window, then vague vistas that morph into sharper and more colorful images. In some cases, people or animals then appear. In less common cases, entities seem to emerge out of the mirror and enter the space where the gazer resides. While full-blown apparitional phenomena are sometimes reported during psychomanteum sessions, the main application of this method is like that of induced survival experiences (described in the next section), i.e., for the resolution of grief.

Experiences resembling apparitions, although typically less vivid and more as a “felt presence,” are commonly reported in supposedly haunted locations. These experiences have numerous

potential psychological and physiological explanations, including 1) exposure to ionizing radiation, electromagnetic fields, or magnetic fields, which can precipitate micro-seizures in the brain's temporal lobe, which in turn can evoke hallucinations, 2) exposure to infrasound, which can provoke unexplained anxiety without conscious awareness, 3) unexpected deviations in the environment, such as floors that are subtly slanted, causing moments of disorientation that can be misinterpreted, 4) overactive imaginations, and 5) expectation [77].

Evidence for apparitions also involves physical anomalies, like photographs containing unexplained streaks or blobs of light, electrical disturbances, and unexplained sounds. Without independent ways of confirming the presence of an apparition, such anomalies are challenging to verify and interpret. In exceptional cases, such as when an apparition appears at a person's bedside close in time to when a distant loved one dies (typically experienced in the early morning hours), the event can be interpreted as a telepathic or clairvoyant experience on the part of the living person. In such cases, there is no reason to assume that the apparition was more than a psychological projection stimulated by the living person's psychic experience.

In a few cases, more than one person reported witnessing the same or similar apparition [78]. These cases are more difficult to explain as hallucinations. However, in some of these reported cases, the perceived apparition may be explained by group exposure to environmental factors that correlate not only with feelings of anxiety and/or disorientation but in extreme cases with hallucinations.

Evaluation: Survival Level 2 or 3; Grade C

The evidential grade for apparitions is assigned a C because despite a few cases with multiple witnesses, the rest of the available evidence is anecdotal and there are numerous potentially mundane explanations.

8. Induced Experiences of Survival

Drug-induced experiences, especially hallucinogenic plants, have been used for millennia by shamans to communicate with spirits, including the spirits of plants, animals, and deceased humans [79]. These rituals remain an essential element in the culture of Native Americans, other indigenous peoples around the world, and historically in European medieval societies [80]. However, while such experiences can be intensely vivid, they are generally unsuited for scientific analysis.

Two other popular methods have been developed to systematically induce experiences suggestive of survival but without the use of drugs: Eye Movement Desensitization and Reprocessing (EMDR) and hypnotic past-life regression techniques. Both techniques have been effective in reducing the trauma of grief over the loss of a loved one. The first, developed by psychotherapist Allan Botkin, uses EMDR to "reprogram" grief and quickly resolve long-lasting

problems. Persons treated by this method sometimes report experiences where they feel they have directly reconnected with the deceased loved one [81].

The second, past-life regression, is also used to reduce or eliminate chronic grief. Promoted initially by psychiatrist Brian Weiss, this method uses hypnosis and meditation and is described in many books, perhaps the most well-known being Weiss' *Many Lives, Many Masters* [82]. Weiss' approach suggests the existence of past lives, some of which are said to be responsible for problems encountered in the present life. In this way, past-life therapy is said to support the evidence for reincarnation. Many other therapists use these techniques, and efforts have been made to verify reported past-life regression cases.

One such case is Laurel Dilmen, evaluated by psychotherapist Linda Tarazi [83]. To support Laurel in treating her migraines, Dr. Tarazi placed her in a hypnotic state during which she recounted verifiable details of a previous life as "Antonia Michaela Maria Ruiz de Prado," supposedly born November 15, 1555, an individual that Laurel was not aware of previously.

As philosopher Stephan E. Braude wrote:

Despite reasonable concerns about the unreliability and creative potential of apparent past-life regressions, the Antonia case at least poses problems for skeptics of survival. It may not conclusively rule out appeals to living-agent psi, but it comes as close as perhaps any case in the survival literature to stretching the living-agent psi alternative to the breaking point [84].

Evaluation: Survival Level 3; Grade C

The evidential grade assigned for induced experiences is C because nearly all available evidence is anecdotal, and none is prospective.

9. After-Death Communications

Unlike mediumship readings, after-death communications (ADCs) are spontaneous events suggesting that a deceased person is intentionally attempting to communicate with the living. There are many forms of ADC, including sensory perception, dreams, symbolic means (e.g., a meaningful song on the radio or an unexpected appearance of a favorite animal), and telephone calls [85]. ADCs can include apparitional phenomena. Some cases have recently been documented in the popular media due to police involvement [86]. The Netflix 2021 documentary, *Surviving Death*, based on Leslie Kean's book by the same name, also provides examples of such cases.

Susan Kwilecki, a Professor Emeritus of Religious Studies, defines ADC as:

Direct and spontaneous.... The spirits reportedly manifest in a variety of ways: by speaking; touching; displaying the face or entire body; exuding the odor of a favorite cologne; causing lights to flicker; or using the telephone, answering machine, or computer. More often, however, the percipient discerns the ghost through an intuitive sense of presence, in vivid dreams, or in meaningfully timed appearances of birds or butterflies. Most contacts occur within a year of the death. Typically, the message is the simple reassurance that the deceased survived and the relationship continues: "I'm okay. I'm nearby. I love you" [87].

A systematic review of 35 after-death communication studies, comprising over 50,000 participants from 24 countries who experienced an ADC between 1894 and 2006, found that people of all ages, nationalities, ethnicities, education levels, incomes, and religious affiliations have reported ADCs [85]. Because ADCs occur spontaneously, they do not lend themselves to prospective studies. Thus, validation of such claims is challenging. Also, these events are not commonly reported, so researchers must rely on the media to learn of such cases. While ADCs may not provide strong evidence for survival, they reportedly have positive therapeutic benefits, especially for the resolution of grief, and as a result, more formal studies and reviews have been published in recent years [87–90].

Evaluation: Survival Level 3; Grade C

The evidential grade assigned is C because the available evidence is anecdotal.

Summary

The nine categories reviewed above represent the majority of the evidential literature on survival. The categories and associated grades are listed in Table 3, with the type of survival (according to our 5 Levels), as well as pointers to the proposed experiments described in the next section. Note that no category of evidence received an A rating. The Mental Mediumship (B+) and Physical Mediumship (B+) categories had the strongest grades. None of the categories scored below a C because apparently legitimate cases have been observed in each.

Table 3. Nine Categories of Survival Evidence

Survival Evidence Category	Grade	Survival Level	Exp
Mental Mediumship	B+	3, 4	III, IV, V
Physical Mediumship	B+	3	VIII
Reincarnation Studies	B-	3	VI
Near-Death Experiences (OBE aspects)	B-	4	IX
EVP and Instrumental Transcommunication	C+	4	II
Deathbed Visions	C+	3	I, VII
Apparitions	C	3	I
Induced Experiences of Survival	C	3	
After Death Communications	C	3	I, VII

PROPOSED EXPERIMENTS

A wealth of anecdotal evidence and a smaller body of experimental studies suggest that some aspect of consciousness survives bodily death. However, so far, no category of evidence has achieved a grade of A. This provides ample room for skepticism among those who remain agnostic about survival. To help advance the state of the evidence and approach types of evidence that would achieve grade A, in this section we provide brief descriptions of ten proposed experiments. We also anonymously surveyed 422 academic scientists and scholars from major universities in the United States to see how positive outcomes of these experiments might influence them about the existence of survival.

(I) Apparition in the lab

This experiment tests if a deceased person could influence a physical system to reveal their presence. The physical system would be a controlled source of steam (or smoke) recorded by a high-quality camera. Steam would be used to provide a presumably easily manipulated substance that an apparition might be able to influence. A medium would be asked to invite a deceased person to influence the steam so that it appeared in the form of their face, or someone else's face, or any recognizable shape. The picture frames of the resulting video would be analyzed using machine vision techniques to automatically identify frames in which faces or shapes appeared. Those video frames would be compared to control session frames, in which the medium did not summon a deceased person. Positive results would include reliably produced faces or shapes in the mediumistic conditions as compared to control sessions.

(II) Deceased person communicating through Artificial Intelligence (AI)

This experiment tests if a deceased person could influence a truly random number generator (RNG) and use it to communicate in a meaningful way. A participant would provide the name of a deceased person. A medium would ask the deceased person to respond through an AI chatbot designed to generate natural language. The sentences generated by the chatbot would be randomly selected by the RNG. To judge the results, participants requesting a communication would blindly judge (1) sentences associated with the requested deceased person and (2) sentences generated purely at random. Positive results would include statistically more meaningful sentences judged in condition (1) as compared to (2).

(III) Glossolalia

In this study, researchers would evaluate trance channelers who claim the ability of glossolalia. The channelers would be investigated to assess if they know the foreign language they claim to speak, and then their trance sessions would be observed, and their utterances evaluated for language accuracy and fluency. A team of linguists will evaluate unknown spoken languages.

Cases in which languages from a previous era are spoken will be prioritized (e.g., third-century German, ancient Aramaic). Positive results would include at least five rigorously vetted cases of glossolalia.

(IV) Channeling specialized expertise

In this experiment, trance mediums would channel deceased persons who had highly specialized skills while alive. The channelers' personal, education, and professional history would be investigated to confirm that they have no background in the skill. For example, a medium might channel a deceased chess grandmaster and then play a living grandmaster who would rate their skill level. Multiple trance mediums claiming different skill types would ultimately be tested, including skills in games such as Chess and Go, music performance, mathematical knowledge, and fine art. In each case, independent experts would rate the channeled performance or product. Positive results would include at least five rigorously vetted cases where skeptical judges confirmed that there was no ordinary way for the channelers to demonstrate the skill through ordinary means.

(V) Mediumship

Ten people in hospice would be recruited who agreed to contact one or more of five mediums after they passed away. None of those mediums would be aware of this experiment. After each person died, they would request that the mediums contacted the researchers within the next 30 days. Positive results would include at least five mediums contacting the researchers within 30 days for each deceased person, giving that person's name, and saying that the deceased person told them to contact the researchers.

(VI) Reincarnation

A dying person would be asked to assemble a collection of their unique favorite objects, and place them into a sealed box, which is then given to researchers. No living individual would know about the box's content (barring the possibility of clairvoyance). A child claiming to be the reincarnated person would be located and asked to describe the objects in the sealed box. Only then would the sealed box be opened. Positive results for this experiment would include an accurate description of the deceased person's objects.

(VII) After Death Communication

In this experiment, participants who claimed to experience after-death synchronicities would be recruited. They would wear body cameras continuously while awake, and they would indicate when they experienced a synchronicity. A panel of judges would review the videos and rate the likelihood that a given observation recorded by the participants could be interpreted as an ADC.

Positive results for this experiment would include agreement among the judges that the reported synchronicities were not likely due to chance.

(VIII) Physical mediumship in a daylight setting

For this experiment, physical mediumship experiments would be conducted in a highly controlled environment designed to prevent and detect fraud, and in full lighting, with skeptical judges in attendance and multiple cameras continuously recording the phenomena. Positive results of this study would include observation and recordings of deceased persons speaking or materializing.

(IX) Out-of-Body Experiences during Near Death Experiences

This study would investigate claims of OBE visions said to occur during some NDEs. Randomly selected images would be displayed on a computer screen near the ceiling and pointed upwards so that no one at the floor level could see them. Patients scheduled for a cardiac arrest as part of a medical procedure would be asked to float up to the ceiling and observe the computer screen if they have an OBE during their procedure. Upon resuscitation, the patient would be asked if they had an OBE and were able to see a picture on the screen. If so, they would be asked to indicate which of 20 possible pictures was the one they saw (one being the actual target). A positive result for this experiment would include a majority of the participants accurately describing and selecting the correct target image shown on the screen.

(X) Survival through Artificial Intelligence

If an AI absorbed an individual's memories and personality while they were alive (as portrayed in movies based on this theme) when that person died, would you consider that the person has survived within the AI? The responses and perceived personality of the AI would be indistinguishable from the original person, although the AI would be portrayed on a screen or in an android body and not in a living body. A positive result from this experiment would be agreement by people who intimately knew the living person that the AI was identical to that person.

Survey Results

Faculty and staff at major research universities in the United States were sent an email invitation to participate in a survey about the survival of consciousness. We selected academics as likely to represent a subpopulation that would be more agnostic about survival than the general population due to their immersion in the Western scientific worldview. The survey items are described in the Appendix; the IONS Institutional Review Board approved all study activities. This summary report only contains a subset of the methodology and results; a more detailed report will be prepared for future publication in an academic journal.

422 people responded to the survey and rated at least one of the experiments described above. They were 57 ± 14 years old, mostly male (56%) and Caucasian (83%), and they had 19 ± 4 years of education. First, participants were asked “How sure are you that some form of consciousness survives the death of the physical body?” on a slider anchored by “Very sure it does not” (value = -50), “Don’t Know” (value = 0), and “Very sure it does” (value = 50). On average, the respondents slightly believed in survival (see Table 4). Participants were also asked about their belief in paranormal phenomena,² and on average, respondents professed a slightly positive belief in paranormal phenomena. A Wilcoxon signed-rank test showed that overall both confidence in the existence of survival ($p < 0.001$) and belief in paranormal phenomena ($p < 0.001$) were statistically above 0.

Collectively, these respondents felt that OBEs during NDEs, when verified under controlled conditions, would be the most persuasive experiment (henceforth referred to as OBE/NDE [Experiment IX]), followed by the mediumship [Experiment V] and reincarnation [Experiment VI] experiments (see “Overall” column, Table 4).

Table 4. Experiment ratings overall and by belief in survival or the paranormal

Category	Overall n-422	Goats n-83	Sheep n-195	Birds n-144
Predictor				
Confidence in survival	14.2 ± 32.6	-38.7 ± 9.8	43.9 ± 7.2	4.5 ± 9.1
Paranormal Belief	10.0 ± 25.0	-23.1 ± 16.9	26.4 ± 17.4	7.6 ± 14.7
Experiments				
X. Survival through AI	-13.1 ± 31.5	-18.9 ± 33.6	-9.8 ± 32.1	-14.2 ± 28.9
VII. ADCs	-7.9 ± 30.9	-36.1 ± 18.4	4.8 ± 30.7	-7.9 ± 25.6
II. Communication AI	-5.3 ± 31.1	-25.0 ± 28.5	4.4 ± 31.1	-6.7 ± 26.7
III. Glossolalia	-0.9 ± 31.8	-21.5 ± 30.1	10.0 ± 31.3	-3.6 ± 26.7
I. Apparitions	0.8 ± 31.1	-17.3 ± 31.3	9.1 ± 31.2	0.5 ± 25.8
IV. Special Expertise	4.9 ± 32.2	-16.4 ± 31.6	12.5 ± 32.4	6.9 ± 26.5
VII. Physical Mediumship	5.7 ± 32.1	-15.1 ± 33.9	13.0 ± 31.1	8.0 ± 27.2
VI. Reincarnation	<i>9.0 ± 33.4</i>	<i>-10.0 ± 34.0</i>	<i>14.7 ± 35.0</i>	<i>12.5 ± 26.1</i>
V. Mediumship	<u>9.6 ± 32.9</u>	<u>-9.6 ± 36.0</u>	<u>15.9 ± 32.8</u>	<u>12.8 ± 26.1</u>
IX. OBE in NDE	14.4 ± 28.2	-8.1 ± 31.3	24.7 ± 25.3	13.6 ± 21.2

Notes: Means and standard deviations of persuasiveness ratings for the ten experiments overall and partitioned into goats (no belief in survival or the paranormal), sheep (believers), and birds (sitting on the fence). Confidence in survival and paranormal belief scores are also displayed. Bold red font corresponds to first choice; underline corresponds to second choice; italics corresponds to third choice.

² The paranormal belief scale we used was the belief subscale of the Noetic Experiences and Belief Scale [91], which ranges from 0 to 100. To make it compatible with the -50 to +50 scales used for the other questions, -50 was added to each response.

Results by belief in survival or the paranormal

Respondents were separated into three categories to evaluate the effect of belief on these results: 1) **goats**, who did not believe in survival or the paranormal, 2) **sheep**, who did believe in survival, and 3) **birds**, those sitting on the fence (see Table 4). All three groups agreed that Experiment IX (OBE/NDE) would be the most persuasive experiment if it resulted in a positive outcome, followed by the mediumship [Experiment V] and reincarnation [Experiment VI] experiments.

Results by religious or spiritual affiliation and belief in survival

Another partition evaluated participants' religious or spiritual affiliation versus their belief in survival and the paranormal, ranging from none to active practice or belief (see Table 5). Not surprisingly, the non-religious respondents showed low confidence in survival and paranormal belief. However, they still selected the OBE/NDE experiment as the second most persuasive, and the mediumship and reincarnation experiments as the first and third most persuasive, respectively. Those who endorsed being religious or spiritual showed high confidence levels in both survival and belief in the paranormal, and they also selected OBE/NDE as the most persuasive experiment, and mediumship and reincarnation were the second and third choices.

Table 5. Experiment ratings by spiritual affiliation and belief in survival

Category	Religious or Spiritual n- 266	Not Religious n-81
Predictor		
Confidence in survival	25.3 ± 27.8	-18.5 ± 29.1
Paranormal Belief	17.5 ± 21	-15.7 ± 22.7
Experiments		
X. Survival through AI	-12.9 ± 31.2	-17.9 ± 31.7
VII. ADCs	-3.0 ± 30.0	-24.9 ± 26.8
II. Communication AI	-0.7 ± 29.9	-22.8 ± 27.7
III. Glossolalia	3.9 ± 30.7	-15.7 ± 31.3
I. Apparitions	4.7 ± 30.3	-11.3 ± 32.4
IV. Special Expertise	9.5 ± 30.8	-11.7 ± 31.3
VII. Physical Mediumship	8.1 ± 31.9	-4.9 ± 34.2
VI. Reincarnation	<u>11.4 ± 32.1</u>	-3.1 ± 33.6
V. Mediumship	11.3 ± 33.8	-0.6 ± 35.0
IX. OBE in NDE	18.7 ± 26.5	<u>-1.8 ± 30.7</u>

Notes: Means and standard deviations of persuasiveness ratings for the ten experiments partitioned by religious affiliation. Bold red font corresponds to first choice; underline corresponds to second choice; italics corresponds to third choice.

Results by occupation

These same factors were also examined according to four self-reported occupations: physical science, engineering, social science, and medicine.³ Again, their preferences included the same three experiments noted before, with engineers, social scientists, and medical professionals all preferring the OBE/NDE experiment (see Table 6). Scientists, like those who were not religious, preferred the mediumship experiment as most persuasive.

Table 6. Experiment ratings by occupations

Category	Scientists n-52	Engineers n-38	Social Scientists n-77	Medicine n-160
Predictor				
Confidence in survival	7.0 ± 35.7	9.3 ± 36	16.8 ± 31.5	13.4 ± 31
Paranormal Belief	4.8 ± 27.1	-2.2 ± 28.3	11 ± 23	13 ± 23.8
Experiments				
X. Survival through AI	-16.3 ± 31.6	-22.3 ± 31.9	-15.7 ± 27.7	-9.7 ± 32.9
VII. ADCs	-8.8 ± 32.6	-14.7 ± 32.8	-11.9 ± 27.6	-4 ± 30.5
II. Communication AI	-10.8 ± 32.6	-15.1 ± 33.6	-7.1 ± 28.8	-0.1 ± 29.5
III. Glossolalia	-2.0 ± 32.5	-12.0 ± 36.7	0.2 ± 29.0	3.8 ± 31.5
I. Apparitions	3.9 ± 30.8	-7.0 ± 37.2	-0.1 ± 26.2	4.1 ± 30.5
IV. Special Expertise	9.1 ± 32.9	-4.5 ± 36.1	0.8 ± 30.9	8.8 ± 29.0
VII. Physical Mediumship	9.3 ± 33.0	-5.8 ± 35.7	4.5 ± 29.9	10.6 ± 30.2
VI. Reincarnation	<i>10.0 ± 35.8</i>	<i>1.0 ± 37.0</i>	2.6 ± 33.0	<u>15.7 ± 30.2</u>
V. Mediumship	15.3 ± 33.9	<u>5.8 ± 36.4</u>	<u>5.3 ± 32.7</u>	13.8 ± 30.1
IX. OBE in NDE	<u>14.3 ± 28.4</u>	8.0 ± 35.3	9.2 ± 28.3	17.4 ± 27

Notes: Means and standard deviations of persuasiveness ratings for the ten experiments partitioned by professional occupation. Bold red font corresponds to first choice; underline corresponds to second choice; italics corresponds to third choice.

These survey results demonstrate that regardless of current belief in the survival of consciousness, religious or spiritual affiliation, or occupation, there were three experiments whose positive results would be the most persuasive for believing in the survival of consciousness after death: OBE/NDE, mediumship, and reincarnation. Interestingly, our evidential letter grades are reflected in these survey results. That is, academics who were presumably not especially familiar with the survival literature selected experiments that were rated the highest on our grading scheme.

³ There was also a fifth, “other,” occupational category.

DISCUSSION

Summary

Using a multi-faceted approach, we addressed the central question of this essay by first defining the meaning of “survival of consciousness” via five levels of awareness, subjective perception of the environment, and personal identity. Then we reviewed beliefs about survival, including results of a survey we conducted that confirmed that belief in some form of survival is generally high (above 50%).

Then we discussed a factor that confounds interpretation of the evidence for survival: psi experiences. This was followed by briefly reviewing and grading nine major categories of survival evidence. Through that exercise, we found that mental mediumship (in its various forms, including trance channeling) as well as physical mediumship had the highest evidential grades, followed by NDEs and reincarnation studies. No evidential category achieved a grade of A.

Based on our analyses, we proposed ten experiments whose positive results might advance the state of the evidence for survival. Then we surveyed anonymous academics from major universities in the United States whom we deemed to be likely representative of agnostics to see which of those experiments they would view as most persuasive. The top three were OBE/NDEs, mental mediumship, and reincarnation.

Why Is Improving the Evidence for Survival Important?

Believing in survival has health benefits.

It has long been known that religious and spiritual beliefs are correlated with improved well-being and lower mortality [92,93]. Belief in life after death has similar positive benefits and is associated with belief in an equitable world, reduced psychiatric symptomatology [94], and increased tranquility [95]. A recent study found that from 1998 to 2014, religious affiliation decreased⁴, but belief in an afterlife increased⁵ [96].

We want to know what happens after death.

The question of survival is a part of the suite of existential “big questions” asked at some point by every human: Who are we? Where did we come from? Why are we here? What happens when we die? These questions were traditionally answered by religion, but with the rise of science, the influence of religion as a knowledge authority has declined [97,98]. Therefore, it is incumbent on science to seriously address this age-old question, which has not reduced in its intensity.

⁴ 49% of 18 to 29-year-olds said they were moderately or very religious in 1998, versus 38% in 2014.

⁵ From 73% during 1972 to 1974 to 80% in 2014.

Materialism breeds nihilism and fosters humanity's worst vices.

Interest in spirituality is increasing because the answer to the big questions, as provided by scientific materialism, is that we are here as accidents of a purely random, meaningless universe [99,100]. Materialism tells us that there is no purpose to anything. When we die, we are forever extinguished, and our atoms are recycled into other purposeless creatures. Eventually, all the suns will burn out, the universe will grow cold, and by a random fluke, the whole meaningless cycle might begin again.

This nihilistic philosophy is deeply unsatisfying, but that is not its only deficit. Nihilism leads to exaggerations of the worst vices of humanity: envy, greed, and selfishness [99]. The cynical quip, "He who dies with the most toys, wins," captures the harmful effects of absorbing a picture of reality that children begin to learn as soon as they enter the (secular) educational system, and that is inculcated in adults for the rest of their lives. The issue of survival thus presents a major challenge but perhaps also an antidote to this nihilism, as reflected by growing academic interest in notions like idealism, panpsychism, and neutral monism [101], and by a rising chorus of scientists and philosophers proposing "post-materialist" sciences [102–104].

Is Establishing Survival Challenging Because the Question is a Category Mistake?

From a materialistic perspective, the question of survival is so difficult to accommodate that it can be viewed as a category mistake, like asking about the square root of an orange. That is, if consciousness does not emerge from the physical world but the other way around, as proposed by many esoteric traditions and the philosophy of idealism, then the answer to the question of survival is easy: Of course consciousness survives. It was here before the emergence of the physical world, and it will continue afterward (i.e., the passage of time is a physical concept). What that consciousness might *be like*, and the many ways it can be embodied become the more interesting questions to ponder.

Rigorous Experiments Can Improve the Evidence but Interpretations are Still Challenging

Our survey showed that regardless of prior beliefs about survival or the paranormal, or one's occupation or stance on religion, anonymously polled academics agreed that three of ten proposed experiments, if successful, would help persuade them about the possibility of survival. These results suggest that disseminating positive results of such experiments might foster the greatest impact in persuading agnostics to accept the existence of survival. However, even if the most rigorous and controlled methods were used, the results would still be open to other interpretations. For example,

OBEs can be experienced in the living.

Like all the categories of survival evidence, a successful OBE/NDE study could be reframed not as an experiment about OBE perception *after death* but as one of clairvoyance during an altered

state of consciousness *in the living*. The reason is that clairvoyance has already been demonstrated to exist, repeatedly, under controlled conditions [15,105,106]. As a result, a case can be made that it is more plausible for an OBE during an NDE to be due to a known ability in the living rather than to a state of existence that is not yet known to exist.

That said, an OBE might not be the same as clairvoyance. The former is typically described as a vivid visual perception from a specific vantage point in space and time, while the latter is more commonly described as a fleeting impression without a clear perspective in space or time. Whether this apparent difference is due to the nature of the altered state of awareness, or to some other mechanism, is unknown. However, it is known that living persons can have OBEs, so being clinically dead is not a necessary condition to have that experience [107,108].

An OBE/NDE could be due to precognition.

It is often assumed that reports of veridical perceptions during an NDE occur *in real-time*, i.e., while the patient's brain is flat-lined. However, psi perception is not bound by ordinary clock time, so it could also be the case that a veridical description of something that happened during surgery was perceived either before or after the NDE – in both instances while the patient had a functioning brain. So far, there is no way to definitively know at what point in time NDE perceptions take place. Thus, a successful OBE/NDE experiment might provide interesting evidence about psi perception under an extremely altered state of awareness (i.e., near-death), but it would not provide definitive proof of survival.

Evidence for survival might be due to retrocausal effects.

One might object that some forms of survival evidence are so much more potent or complex than the weak forms of psi observed in the lab (PL), that the evidence can *only* be due to survival. However, this interpretation is only persuasive if one is unfamiliar with the strange properties of psi that have been discovered in laboratory tests. Besides its nonlocal properties, psi is also known to display *teleological* characteristics [109], referring to Aristotle's "final cause," wherein events unfold according to the end-goal or final state and not according to ordinary forward-time causality. Teleology is relevant to our discussion because some forms of survival appear to require what has been called *super psi*, i.e., forms of psi that seem to require incredible degrees of coordination and complexity. However, when teleological effects, or more broadly *retrocausal* effects [110], are considered, the degree of apparent complexity involved in any event is completely irrelevant. In other words, while the underlying mechanisms of psi are not well understood, empirical evidence suggests that they take place outside of the usual constraints of both space *and* time. Occurring outside of time means that ordinary causal ways of understanding how events happen are not the only ways to understand psi-mediated events. Psychologist Rex Stanford called this way of thinking about psi a *psi mediated instrumental response* (PMIR), or more simply, as *conformance behavior* [111,112].

Controlled mediumship studies are rigorous but have similar psi explanation challenges.

The second experiment people chose as most persuasive was mediumship. Rigorously designed and controlled mental mediumship experiments have been implemented in the last decade, and they have provided strong evidence for the accuracy of information received by mediums. Despite this, the mediumship experiment we proposed still suffers potential difficulties in interpreting the results. For example, one might argue that if a medium could gain accurate information about a deceased person under triple-blinded conditions, then the information could not have been obtained by telepathy, so it *must* have come from a deceased person. Interpreting the results in this way overlooks the fact that talented clairvoyants can gain information about specific targets distant in space or time without knowing anything at all about the target [105,106]. In fact, any legitimate clairvoyance test *must* be conducted with the participant remaining completely blind to the target; otherwise, biases like expectation and imagination will override their psi impressions.

Cross-correspondence mediumship cases could also be precognition.

Another example is the case where several mediums each obtain a piece of information from (what they each perceive as) the same deceased person, as in the cross-correspondence cases. [113]. Surely, one might argue, the complexity required to provide the deceased's message would require an intelligent entity to coordinate that task. Perhaps. However, an alternative explanation could involve the medium (or mediums) to peer into the future to read the message after it was decoded. If such a message were not decoded in the future, then there would be no way to establish the veracity of the message. Thus, if "the answer" exists in the future, we cannot logically exclude precognition on the part of the living as a viable explanation.

Distinguishing between psi and survival remains a major epistemological challenge.

The moment we entertain the possibility of gaining information or influencing physical systems outside the everyday bounds of space and time, then any evidence for survival is inexorably entangled with a psi interpretation. As psychical researcher William Roll put it, "The theory that ESP may explain the evidence for survival is sometimes called the super-ESP or super-psi theory, but there is nothing super about the idea — it is common scientific sense" [114]. It is common in the sense that once one accepts the reality of psi, it becomes exceptionally difficult to definitively distinguish between psi and survival (see Figure 2).

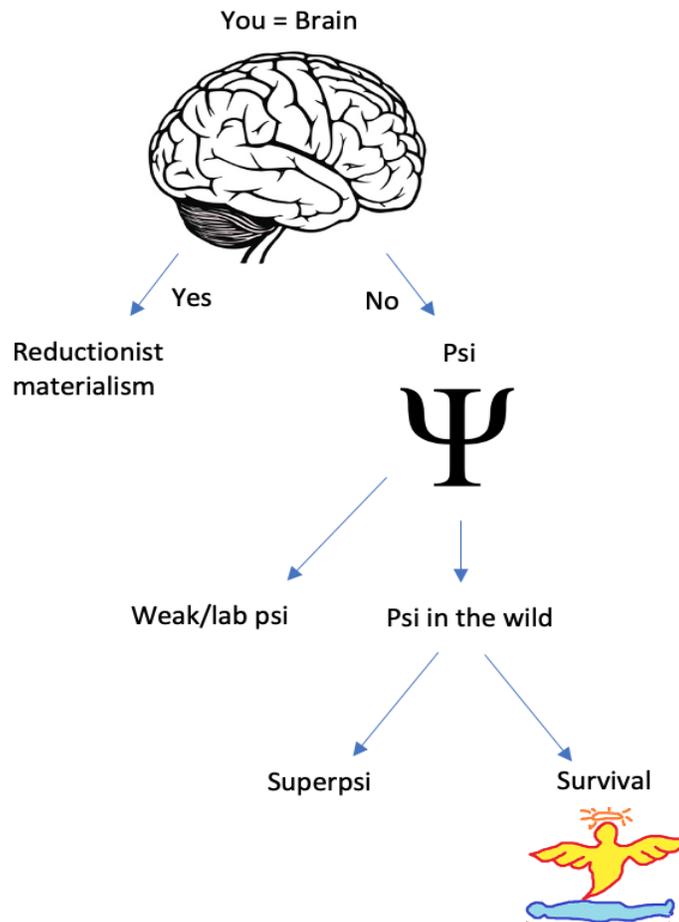


Figure 2. Flowchart for consideration of the evidence for survival. One begins with a reductionist materialist “you are your brain” perspective. If that fails to explain the evidence, then some form of psi can be considered. If psi-in-the-lab does not explain the evidence, then psi-in-the-wild can be considered. If that is viewed as implausible, then the results are either super psi or survival. However, so far, no method has been developed to conclusively distinguish between these latter two possibilities.

Can all evidence for survival can be explained by psi?

Roll’s comment is especially apropos because as one of the more experienced investigators of poltergeist (i.e., noisy ghost) cases, he realized that the source of the disturbances in these cases could be traced to a human agent, typically an emotionally disturbed adolescent who was apparently exhibiting large-scale psychokinesis. Roll coined the term “recurrent spontaneous psychokinesis” (RSPK) to describe what had previously been attributed to ghosts or spirits [115]. The same may be true of what is currently considered to be explainable only in terms of spirits. As more sophisticated methods and instrumentation are developed, perhaps all forms of evidence

for survival, including cases that appear extraordinarily compelling and complex according to conventional causal models, will yield to psi-related explanations.

Are psi and survival really two different phenomena?

It is important to emphasize that the psi vs. survival confound does not mean that survival does not exist. Instead, it means that explanations that *absolutely* exclude psi may require fundamental innovations in our approach to the question, which in turn urges a reexamination of our epistemologies. Further, the psi vs. survival argument assumes that these are two distinct phenomena that *can be separated*.

However, from an idealistic or panpsychic perspective, this assumption might be wrong. Psi and survival might be different manifestations of the same thing (aspects of non-local consciousness), one from a reference point within a body and one from without. This way of conceptualizing the problem resembles modern ideas about apparent differences between precognition and psychokinesis. That is, perhaps they are the same underlying phenomenon. An experience looks like precognition if it involves causes from the future, and it looks like psychokinesis if it involves causes from the present or past. This way of thinking about survival might lead to new ways of designing investigations.

The Scientific Process and Perspective

The criterion for positive evidence for a noncontroversial phenomenon in the social, behavioral, and medical sciences is generally set to a threshold of odds against chance of about 20 to 1 in favor of a claimed effect. For controversial topics, odds of 1,000 or even 10,000 to 1 may be required to persuade peers that something interesting is going on. Review articles in psychology show that only about 20% of such results are independently reproducible even when these upper criteria are achieved. In physics, where odds of a million to one are required to claim a provisional “discovery,” it is not uncommon for such discoveries to later be invalidated as a mistake [116].

Because survival is a complex issue, we propose that it is vital to tighten rather than loosen the criteria for persuasive evidence. For example, imagine it is 1921, and we asked the question, “Do black holes exist?” In 1915, Karl Schwarzschild solved Einstein's equations of general relativity for the limited case of a single spherical non-rotating mass. In the process, he discovered the possibility that under extreme gravitational conditions, space could collapse upon itself. Einstein denied that these “black holes” could possibly form. In 1939, he published a paper arguing that a star collapsing would spin faster and faster, eventually spinning at the speed of light with infinite energy, well before the point that it would collapse into a singularity. It was not until the 1960s when Roger Penrose published more detailed models showing how black holes could form that other physicists considered black holes to be viable. A half-century later, astronomers finally observed a black hole [117].

We propose that today's understanding of the evidence for survival is similar to what was understood about black holes in 1921. A jury of leading scientists in 1921 charged with deciding if black holes existed would have weighed the pros and cons of existing theory and data, they would have consulted with Einstein, and they would have almost certainly decided that black holes could not and therefore do not exist. As we know today, they would have been wrong.

Light at the End of the Tunnel

Considering the psi versus survival confound and the increasing evidence from psi studies that support the notion that consciousness is fundamental, we are likely in a similar position to those who were studying the possibility of black holes a century ago. Perhaps in 50 years, we will look back on the current transitional period between materialistic and post-materialistic paradigms in science, and more clearly understand why we could not possibly have seen the whole picture.

What we can learn from the black hole example is to release our desire to prove the existence of survival, and instead remain in a state of curiosity and focus on improving our methods of exploration. Even if we were never able to definitively "prove" survival, but instead discover in the process that psi is a globally experienced phenomenon that can be understood and controlled to some extent, our world would be radically transformed.

Thus, to firmly establish the existence of survival to ever-higher degrees of confidence and to advance our understanding of the nature and capabilities of consciousness, we believe that the process of science needs to take its course. In particular, it may not be possible to know if consciousness survives bodily death before we know much more about what consciousness is, where it comes from, its purpose, and its capabilities. There are strong opinions about consciousness, to be sure, but the systematic scientific study of consciousness is still in its infancy (even if the philosophy of mind is thousands of years old). Thus, we are at the very beginning of understanding the right questions to ask before we can hope to answer the topic of this essay with any confidence.

A Way Forward

Besides waiting for technology or other tools to be developed that would broaden our understanding of survival, what other actions can we take to improve the state of the evidence? One approach is to provide solid education about the relevant literature about both psi and survival. This is necessary before one can begin to appreciate what constitutes the "best evidence." Of course, becoming deeply familiar with this literature is not a trivial matter because many people today do not have the interest or the time to delve deeply into technical literature outside of their specialty. We therefore propose two educational paths, one for the general public and a second for academics.

General Public. A public education initiative would involve documentaries, television series, and popular books. Leslie Kean’s television series *Surviving Death*, aired on Netflix in January 2021, was a step in that direction. That series did not focus on the challenges encountered when deciding whether a reported phenomenon is evidence for psi or survival, but it did give a good popular-level overview of some of the relevant evidence.

Academics. An academic approach would entail persuading prominent scientists to conduct a series of psi or survival experiments and then use their credibility capital to publish the results in top-tier science journals. Persuading prominent scientists to do this would be more challenging than the first strategy because the academic “woo-woo taboo” continues to act as a powerful suppressant. Nevertheless, such publications might have the same taboo-breaking effect as the recent mainstreaming of UFOs through public articles and statements by prominent politicians and leaders in the intelligence and military worlds [118].

CONCLUSION

Most of the population believes in the survival of consciousness after bodily death. Those beliefs are driven by psychological, cultural, or religious factors, and by personal experience of one or more categories of evidence suggestive of survival. However, what people mean by “survival” is not as simple as it may seem.

Roughly 40% of the population is agnostic or actively disbelieves in survival. In addressing the question of the “best evidence” in favor of survival, we found that variations of mental and physical mediumship provided the most compelling evidence for survival, followed by reincarnation and NDEs.

So far, no categories of evidence are strong enough to persuade those who are uncertain. Prospective experiments such as veridical OBEs during NDEs, mediumship, and reincarnation studies could potentially move the field forward and provide increasingly improved evidence for survival. Widespread education efforts about the nature of the survival evidence and the concept of “scientific worldview” and its role in our beliefs are also desirable. Future technologies will almost certainly enable new kinds of experiments to be conducted that provide improved evidence for survival.

The bottom line is that whether proven or not, *belief* in survival has been shown to support the quality of life and altruistic behavior. From that perspective alone, the topic warrants continued research.

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APPENDIX A: SURVEY

CONSENT FOR SURVEY

TITLE: Persuasive Survival Evidence Survey

PRINCIPAL INVESTIGATOR: Helané Wahbeh, ND, MCR

FUNDED BY: Institute of Noetic Sciences (IONS)

PURPOSE: The purpose of this study is to evaluate what type of evidence for the survival of consciousness after physical death would be most persuasive to scientists.

PROCEDURES: Your participation will take about 10 minutes. You will answer a few demographics questions, then you will be asked to rate how persuasive the positive results of each of 10 experiments would be as evidence for survival.

WHAT WILL HAPPEN TO THE DATA? Data will be collected anonymously and kept for future research. Anonymous data may also be released to other investigators for future research studies.

CONFIDENTIALITY AND RISK: All data are anonymous, so there is no risk of loss of confidentiality.

BENEFITS: There are no direct benefits from participating, however by serving as a participant you will assist further research on this topic.

COSTS: There is no cost to participate.

PARTICIPATION: This research is overseen by an Institutional Review Board (“IRB”). You do not have to join this or any research study. You may communicate with the IONS IRB chair if:

- The research team is not answering your questions, concerns, or complaints.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get more information or provide input about this research.

You do not have to join this or any research study. If you do join and later change your mind, you may contact IONS at research@noetic.org to remove your contact information from the data. If you do this, we will keep your anonymous data. If you refuse to join or withdraw from the study, there will be no penalty or loss of any benefits to which you are otherwise entitled.

If you have any questions, concerns, or complaints regarding this study now or in the future, or you think you may have been injured or harmed by the study, contact Dr. Wahbeh.

I have read and understood this consent form and agree to participate in the study.

How many years of formal education (school) have you completed? (For example, 12 years = high school diploma, 16 years = Bachelor's degree)

What is the primary field that you were trained in?

BASIC SCIENCES (Mathematics, Computer and information sciences, Physical sciences, Chemical sciences, Earth and related Environmental sciences, Biological sciences)

ENGINEERING AND TECHNOLOGY (Civil, Electrical, Electronic, and Information, Mechanical, Chemical, Materials, Medical, Environmental, Environmental biotechnology, Industrial biotechnology, Nano-technology)

MEDICAL AND HEALTH SCIENCES (Basic medicine, Clinical medicine, Health Sciences, Medical biotechnology)

AGRICULTURAL SCIENCES (Agriculture, Forestry, and Fisheries; Animal and Dairy science, Veterinary science, Agricultural biotechnology)

SOCIAL SCIENCES (Psychology, Economics and Business, Educational sciences, Sociology, Law, Political science, Social and economic geography, Media and communications)

HUMANITIES (History and Archaeology, Languages and Literature, Philosophy, Ethics and Religion, Arts (arts, history of arts, performing arts, music))

NONE OF THESE FIELDS

Which of the following best describes your current or past occupation?

Management Occupations

Business and Financial Operations Occupations

Computer and Mathematical Occupations

Architecture and Engineering Occupations

Life, Physical, and Social Science Occupations

Community and Social Service Occupations

Legal Occupations

Education, Training, and Library Occupations

Arts, Design, Entertainment, Sports, and Media Occupations

Healthcare Practitioners and Technical Occupations

Healthcare Support Occupations

Protective Service Occupations

Food Preparation and Serving Related Occupations

Building and Grounds Cleaning and Maintenance Occupations

Personal Care and Service Occupations
Sales and Related Occupations
Office and Administrative Support Occupations
Farming, Fishing, and Forestry Occupations
Construction and Extraction Occupations
Installation, Maintenance, and Repair Occupations
Production Occupations
Transportation and Materials Moving Occupations

How many years of experience do you have in this occupation?
How many peer-reviewed scientific or technical papers have you read?
0
1-10
11-100
>100

Age
Gender
Race
Country
US State

Please choose the religious or spiritual involvement that best applies to HOW YOU WERE
RAISED and your involvement NOW. (two ratings)
CHILDHOOD CURRENT
Not religious or spiritual
Non-practicing religious
Minimally practicing religious
Practicing religious
Spiritual but not religious

How sure are you that some form of consciousness survives the death of the physical body? (on a
slider scale ranging from -50 to 50)
Very sure it does not Don't Know Very sure it does

INTRODUCTION

Substantial collections of anecdotal reports and several classes of experimental evidence suggest that some aspect of consciousness survives bodily death. About half of the world's population believes that they have been in direct contact with one or more deceased persons. For those who have had such experiences first-hand, further evidence is not necessary. But for those who haven't, there is ample room for skepticism and a need for more persuasive evidence. Below you will find short descriptions of proposed experiments designed to provide that evidence.

Please rate how you feel the positive outcomes of each of the following ten studies would persuade you that some form of consciousness survives bodily death. After each question, answer the question: How persuasive would this experiment's positive results be for you to believe in the survival of consciousness after death? (on a slider scale from -50 to 50, anchored by Not at all persuasive ---Neutral---Very persuasive.)

What is your assessment of how likely this experiment would have positive results?

Too unlikely to even assign an odds (Impossible)

About 1 in a million

About 1 in a thousand

About 1 in ten

About 1 in 1 (Very likely)

Descriptions of the 10 proposed experiments are reproduced in the "Proposed Experiments" section in the main body of this essay.