Defining near-death experiences

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ABSTRACT *Researchers have failed to distinguish definitions of near-death experiences (NDEs), criteria for identifying them and tests of those criteria. Few researchers specify criteria or apply standard tests; those who do often use those tests inappropriately. Tests of NDEs may either describe their common features, measure their depth, or 'diagnose' their occurrence; all three have been used to define NDEs, although they serve different purposes. Since we do not have a dichotomous diagnostic test for NDEs, researchers define NDEs by scales summing characteristic elements, a circular definition that uses intervening variables in place of NDEs themselves, and begs questions of different elements' sensitivity and specificity for NDEs. Researchers need to identify the critical dimension(s) to be assessed in determining depth of NDEs and develop an accepted definition of the phenomenon and a fixed-interval scale with which to measure it.*

A review of the literature on near-death experiences, or NDEs, suggests that there is lack of consensus among researchers not only on how best to study NDEs, but also on what it is they are studying. Researchers have used the term 'near-death experience' to refer to any experience of clinically dead persons who return to life, any experiences of individuals who are judged to be near death, and any similar experience that leads to personal transformation, whether or not the individual was near death (Smith, 1991). Ring, an early pioneer of near-death research, expressed concern about confounding medication effects with NDEs, and concluded that 'instead of routinely labeling virtually any surgical or other drug-related occurrence that is associated with an unusual otherworldly state of consciousness an NDE, we should begin to specify and use more carefully certain criteria that would serve to define an NDE more precisely' (1996, p. 23). The lack of consensus on a definition of the near-death experience has made it difficult to compare research findings of different investigators and has handicapped the acceptance of near-death research by the academic community.

Some of this ambiguity in the definition of the NDE is akin to our confusion over how to define death itself. Bernat *et al.* (1981) attributed much of that confusion to the failure to distinguish three separate elements: the

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definition of death, the medical criterion for determining that death has occurred, and the operational tests to prove that the criterion has been met. The definition is primarily a philosophical or linguistic matter; the criterion is primarily a medical issue; and the tests selected to prove that the criterion has been met are solely a medical matter.

With regard to death, Bernat *et al.* maintained that the common usage of the term 'death' dictates its definition as the permanent cessation of functioning of the organism as a whole, including the integrated functioning of its component systems and the organism's interaction with the environment. They suggested that the traditional criterion for knowing that death has occurred, permanent termination of heart and lung function, was no longer valid in the era of cardiopulmonary resuscitation and artificial life support, and should be replaced by permanent loss of brain function. Correspondingly, the traditional test of whether death has occurred, absence of heartbeat and respiration, is no longer useful, and should be replaced by tests of brain function such as unresponsiveness, absent pupillary reflexes and an isoelectric or 'flat' electroencephalogram.

Applying this rigour to a definition of the near-death experience, we must differentiate between the definition of the NDE, the abstract, philosophical–linguistic statement of its essence; the criterion for deciding whether or not a given incident is a near-death experience, an objectification of the abstract definition; and the tests for establishing whether or not that criterion has been met, a pragmatic operationalization of the definition.

Linguistic definitions of NDEs

The near-death experience was first named by Moody in 1975. His original definition of the term, which must be given considerable weight because of its precedence, was 'any conscious perceptual experience which takes place during a near-death encounter', which in turn he defined as 'an event in which a person could very easily die or be killed (and may even be so close as to be believed or pronounced clinically dead) but nonetheless survives, and continues physical life' (1977, p. 124). Moody later added to that definition the stipulation of a spiritual component: 'Near-death experiences (NDEs) are profound spiritual events that happen, uninvited, to some individuals at the point of death' (Moody & Perry, 1988, p. 11). Writing in *The Encyclopedia of Psychology* I have joined Moody in including the transcendental or mystical element in defining the NDE as 'a profound subjective event with transcendental or mystical elements that many people experience on the threshold of death' (Greyson, 1994, p. 460).

In the absence of consensus, many near-death researchers have developed their own working definitions that allow for considerable ambiguity in both the phenomenology and the circumstances of the experience. Some near-death researchers, wishing to avoid biasing their findings by their own preconceptions,

have defined the near-death experience as virtually any conscious experience an individual can recall following a close brush with death (Sabom, 1981; Morse *et al.*, 1986; Schnaper & Panitz, 1990; Pasricha, 1993). But studies employing such a definition have included experiences that are typical of organic hallucinations and quite atypical of what is customarily thought of as a near-death experience. The definition of NDEs as encompassing *all* perceptions of *all* persons in a near-death state is clearly at odds with the common usage of the term, in which only a minority of persons who come close to death actually have an NDE. Smith suggested rooting the definition of the NDE in the common usage to avoid further confusion:

> The words 'near-death experience' conjure up in the mind of the knowledgeable scenes of the light, an out-of-body experience, a tunnel, a life review, and so on. These generally form an experience that leads to a changed life for the experiencer ... I suggest, therefore, that we use the term 'NDE' for this category of incident, whether the experiencer was clinically dead, near death, or neither. (1991, pp. 208–209)

Abstract, philosophical–linguistic definitions of medical conditions often include some reference to their aetiology. However, because NDEs occur unpredictably, research into their aetiology has been handicapped by the difficulty of obtaining direct evidence bearing on plausible explanatory hypotheses. Psychological models can be tested only indirectly, for example by examining personality traits and cognitive styles of experiencers, which may not be relevant to the psychological mechanisms operating at the time of the experience; and the neurophysiological hypotheses that have been proposed so far have been highly speculative and largely untestable in terms of our current methodological sophistication (Greyson, in press).

Criteria and tests for NDEs

Moving from a definition of the NDE to criteria for deciding that an event fits the definition, and thence to tests to establish that the criteria are met, raises further sources of confusion. Ideally a criterion would objectify the definition, such as by specifying the features an experience should include to be considered an NDE; and a test should offer an operational procedure for identifying those features, such as by prescribing experiencers' responses to a standardized interview protocol. However, many authors fail to specify their criteria, and few apply any standard test to their data.

Furthermore, investigators who have studied NDEs with some rigour have often used assessment tools for purposes other than those for which they were designed. This misapplication of techniques has limited their utility and may have led to some misinterpretations of their results. Phenomenological tests and measures of NDEs have at least three distinct purposes (Weiss, 1992). One is to describe features that are more common in near-death experiences than in

other events. This often involves listing a cluster of 'symptoms' yielding what medical science calls a syndromatic diagnosis. A syndromatic diagnosis of the NDE is not definitive, since it will usually include symptoms that are hardly specific to the NDE, such as a sensation of being in a tunnel (Chari, 1982) or a sense of timelessness (Hartocollis, 1983).

A second purpose of a test is to measure the degree or depth of an NDE, in order for example to chart its association with particular causes or after-effects. The third purpose is to classify qualitatively by separating individuals who have had NDEs from those who have not, or to 'diagnose' the occurrence of an NDE. Such a 'diagnostic test' may also function as an operational definition of the NDE; unlike the syndromatic diagnosis, it includes, at least theoretically, items unique to the NDE.

To illustrate these three types of assessments, consider the medical example of a case of influenza. A description of influenza might include fatigue, muscle aches, headache, fever and chest pain with breathing, with less prominent sore throat, runny nose, cough and sneezing. These symptoms can be contrasted to a description of the common cold, which might include a prominent stuffy and runny nose, sneezing and scratchy throat, but no chest pain and little or no fever. While this list of symptoms provides a 'syndromatic diagnosis' of influenza that allows us to compare it with other conditions, it does not define features that are unique to influenza, nor does it tell us how serious the case is. The severity of a bout of influenza is most often measured by taking the patient's temperature, while the criterion for making a definitive diagnosis of influenza is the presence of the influenza virus, and the test to determine whether that criterion has been met is usually the presence of antibodies against the virus.

The description of influenza allow us to compare it with the common cold, but does not allow us to assess its severity or to say definitively that this is in fact a case of influenza. On the other hand, taking the patient's temperature tells us how severe the case is, but does not allow us to contrast it with other conditions, nor does it help us diagnose the case as influenza. Finally, identifying antibodies to the influenza virus tells us categorically that this is a case of influenza; but it does not help us compare the illness with other respiratory infections or tell us how severe this case is. The three assessment strategies—description, measurement and diagnosis—each serve a different assessment purpose, and they should not be used interchangeably.

Because there has been no consensually agreed upon definition of the near-death experience, various investigators have defined the NDE in terms of its common features, some measure of its depth, or its differentiation from other experiences. Without consensus about its definition or its aetiology, the NDE has the medical status of a 'syndrome', a cluster of common 'symptoms', such as a life review, a sense of being out of the body and an apparent encounter with a 'being of light'. As with any syndrome, the question remains as to whether the NDE is merely a cluster of such features that often happen to go together, or whether it is a single entity.

Descriptions of NDEs

As noted above, the description of the NDE includes common features that may be important in understanding the experience, but which may be neither necessary nor sufficient to make the diagnosis of an NDE. Since much near-death research has been directed towards describing the common features of the experience, many researchers have defined it by a list of those features. But a descriptive definition is circular unless there are independent criteria to define the NDEs that the research describes. Morey (1991) has argued that using a list of descriptive characteristics as the sole criterion for defining a condition inappropriately uses an 'intervening variable'—the descriptive characteristics—in the place of a 'hypothetical construct'—the condition being defined (MacCorquodale & Meehl, 1948). Ideally a definition should state the nature or cause of an experience rather than merely summarize its observable features.

In coining the term 'near-death experience', Moody wrote that 'the similarities among various reports are so great that one can easily pick out about fifteen separate elements which recur again and again' (1975, p. 21). These 15 common elements Moody described were ineffability, hearing oneself pronounced dead, feelings of peace and quiet, unusual noises, a dark tunnel, being out of the body, meeting other spiritual beings, a very bright light experienced as a 'being of light', a panoramic life review, a border or limit, coming back into the body, frustrating attempts to tell others about the NDE, subtle 'broadening and deepening' of one's subsequent life, elimination of fear of death and corroboration of events witnessed while out of the body. Moody added that no two accounts in his collection were precisely the same, that no one experience included more than 12 of these 15 elements, that no one element appeared in every narrative, that the order in which elements appeared varied from one experience to another and that some people who were pronounced dead and resuscitated reported no recollection. Two years later, having collected a considerably larger sample, Moody cautioned against taking his description as prescription: 'I want very much for others to avoid taking my list of common elements as being a fixed, exhaustive model of what a near-death experience *must* be like ... Such a list is only intended as a rough-and-ready theoretical model, and one ought to avoid any temptation of making it into a fixed ideal' (1977, p. 87).

Several investigators have attempted to classify the common features of NDEs into phenomenologically discrete components. Noyes (1979), following a factor analysis of features reported by near-death experiencers, classified them into (a) mystical elements, such as a feeling of great understanding, vivid images and revival of memories; (b) depersonalization elements, such as loss of emotion, separation from the body and feeling strange or unreal; and (c) hyperalertness elements, such as vivid and rapid thoughts and sharper vision and hearing. My own cluster analysis of reported NDE elements classified them into (a) cognitive features of time distortion, thought acceleration, a life review and revelation; (b) affective features of peace, joy, cosmic unity and an encounter

with light; (c) paranormal features of vivid senses, apparent extrasensory perception and precognitive visions, and an out-of-body experience; and (d) transcendental features of otherworldly encounters with mystical beings, visible spirits, and an uncrossable border (Greyson, 1983).

Other classifications of the NDE have assumed that the experience unfolds in a consistent temporal pattern. Noyes (1972) described the developmental stages of the NDE as (a) resistance, terminated by surrender and tranquility; (b) review, including an out-of-body and panoramic memory experiences; and (c) transcendence, involving a non-temporal dimension of existence. Ring (1980) classified the unfolding stages of the NDE into (a) peace and well-being; (b) separation from the physical body; (c) entering a transitional region of darkness; (d) seeing a brilliant light; and (e) entering, through the light, another realm of existence.

Still other classifications of NDEs have assumed that there are discrete phenomenological *types* of experience. Sabom (1982) classified NDEs into (a) autoscopic experiences involving self-visualization from a position of height; (b) transcendental experiences involving apparent passage into a foreign realm or dimension; and (c) combined experiences with both autoscopic and transcendental features. Twemlow *et al.* (1982), on the basis of a multivariate cluster analysis of phenomenological features, suggested a classification of experiences into those associated with pre-existing conditions of (a) low stress; (b) emotional stress; (c) intoxicant; (d) cardiac arrest; or (e) anesthetic. Atwater (1994) classified experiences developmentally as (a) initial experiences of loving nothingness; (b) unpleasant or hell-like experiences; (c) pleasant or heaven-like experiences; and (4) transcendent experiences involving revelation of greater truths. I have found that NDEs can be classified into distinct types dominated by one of three phenomenological components described above, namely (a) cognitive; (b) affective; and (c) transcendental types (Greyson, 1985); and I have found that the rarer distressing type of NDE can be categorized into (a) experiences phenomenologically like the blissful type but interpreted as terrifying; (b) experiences of nonexistence or eternal void; and (c) experiences with blatant hellish imagery (Greyson & Bush, 1992).

Despite the richness of the data examined in these various classifications, to date none of them has been shown to have significant predictive validity or clinical usefulness.

Depth of NDEs

Measures of the depth of an NDE would differ from both definition and diagnostic criteria in that they quantify the experience. Definitions and diagnostic criteria constitute *tests*, which are quite different from *measures* in that they tell us only whether something is present or absent in an absolute sense, but not to what degree. It is possible to use a measure as a test, as we do when we use temperature measurements to determine the presence of a fever; but a test

cannot be used as a measure because its outcome is dichotomous rather than quantified. For example, the *test* for Down's syndrome is the presence of three versions of chromosome #21 rather than the usual two; but that test does not measure the severity of the disorder. The *measure* of the disorder's severity is the individual's IQ; but that measure is not a specific test for Down's syndrome (Weiss, 1992).

All scientific near-death researchers would agree that their measures should be repeatable and reliable, but they do not necessarily agree on *what* variables are valid and useful measures of an NDE. Rating scales such as Ring's (1980) Weighted Core Experience Index (WCEI) and my own NDE Scale (Greyson, 1983) are broad-based, not only because the NDE has numerous features, but because none of those features has been established as defining the NDE. Such broad-based scales are useful in comparing individuals with very different experiences, with the assumption that some underlying core experience is common to them all. Thus we can use them to compare an individual who encountered a brilliant light but no life review with one who had a life review but no out-of-body experience, and a third who had an out-of-body experience but did not see the light.

Measurements are usually not defining characteristics, because the elements measured are often not unique to one condition. Nevertheless, despite their lack of specificity, measures of the depth of the NDE may be quite useful. Ring (1980) constructed his Weighted Core Experience Index (WCEI) as a weighted measure of the depth of a near-death experience, on the basis of Moody's analysis of the principal features of NDEs. The WCEI included a subjective sense of being dead (1 point); a feeling of peace, painlessness or pleasantness (2 points, or 4 if strong); a sense of bodily separation (2 points, or 4 if a clear out-of-body experience); a sense of entering a dark region (2 points, or 4 if perception was accompanied by a sense of movement); encountering a presence or hearing a voice (3 points); taking stock of one's life (3 points); seeing or being enveloped in light (2 points); entering into the light (4 points); seeing beautiful colours (1 point); and encountering visible 'spirits' (3 points). As a continuous score, the WCEI could vary from 0 to 29, the higher scores indicating deeper or richer experiences.

Ring also suggested that what he called 'the basic thanatomimetic narrative—the experience of (apparent) death in its developmental form' (1980) unfolded in a characteristic sequence of five stages described above, each stage reported by fewer experiencers than the previous one. Although he acknowledged that these stages do not always unfold in that strict sequence (Ring, 1980), he and other researchers have used this model to measure depth of NDE. For example, Serdahely (1990) classified experiences in increasing depth from 'Ring stage 1' to 'Ring stage 5' NDEs.

My own NDE Scale (Greyson, 1983) was developed to identify NDEs, and therefore non-specific elements such as the tunnel experience were deleted from the scale. That deletion may have been appropriate for an instrument intended to differentiate NDEs from other experiences that may also include tunnels, but

the tunnel experience may also be an important element to include in an instrument intended to measure depth of an NDE.

Scales developed to describe an experience may be nominal, ordinal or interval. Nominal scales yield mutually exclusive categories, such as Sabom's (1982) classification of NDEs into autoscopic, transcendental and combined experiences or Atwater's (1994) classification of NDEs into initial, unpleasant, pleasant and transcendent experiences. Nominal scales are appropriate measures of an NDE regarded as categorical, so that one either has had an NDE (or a certain type of NDE) or not. On the other hand, if we regard the NDE as dimensional, so that one can have an NDE of a certain *depth*, then we need a measure that can rank varying degrees of the experience.

Ordinal scales yield a rank along some variable, but the absolute distances between ranks are ambiguous rather than fixed and equal. Ring's WCEI (1980) and my NDE Scale (Greyson, 1983) are ordinal measures of the depth of an experience. We can say that an NDE scoring 20 points on one of these scales is more profound than one scoring only 10 points, but we cannot say that it is twice as profound. Nor can we say that the difference between two NDEs scoring 20 and 15 is of the same magnitude as the difference between two NDEs scoring 10 and 5.

Interval scales yield ranks along a variable in equal units, but an interval scale to measure depth of NDE has yet to be developed. Even if we had one, we could not necessarily use it to define the NDE. A condition can have degrees of severity measured by an interval scale and still be defined categorically, such as the example given above of influenza being defined categorically by presence of viral antibodies yet having its severity measured by temperature.

Furthermore, there are problems with summing characteristic elements to achieve a measure of the 'depth' of an NDE. First, the elements might not be equally representative of severity. Some features may be seen only in extreme cases, and would therefore be good measures of severity, while others may be seen in both extreme and mild cases, and thus would not be particularly good measures of severity. For example, precognitive visions are reported only rarely in NDEs (Ring, 1982), and thus may be sensitive indicators of depth, whereas feelings of peace are reported by the large majority of near-death experiencers (NDErs) (Ring, 1980; Greyson, 1983) and thus are not sensitive indicators of depth.

Second, each item on the scale may not be equally specific to the phenomenon being measured. Some features, such as the rapid life review, are unusual outside of the NDE (Noyes & Kletti, 1977), and thus may be relatively specific indicators of an NDE, while other items, such as time distortion (Hartocollis, 1983) or the tunnel phenomenon (Chari, 1982), may be rather common in depersonalization or other conditions, and thus are not specific indicators of an NDE.

Third, individual items may have different sensitivities and specificities in different populations, so that features that may be good indicators of depth in one group of persons may not be good indicators of depth in another group. For

example, persons who have given considerable thought to their imminent death or even planned it are less likely to report a life review in the NDE than persons who come close to death unexpectedly (Greyson, 1985). Furthermore, comparisons of NDE accounts from different cultures suggest that prior beliefs have some influence on the kind of experience a person will report following a close brush with death: the life review and tunnel sensation, for example, are primarily reported in NDEs from Christian and Buddhist cultures, but are rare among native populations in North America, Australia and the Pacific islands (Kellehear, 1993). It might be argued that tunnels are absent from NDEs in those cultures simply because they are not technologically advanced enough to be familiar with physical tunnels; however, NDErs in more modern societies sometimes describe the long, dark, enclosed space in non-technological terms, such as a cave, and those descriptions are equally absent from NDEs in non-Western cultures.

Diagnosis of NDEs

Some human conditions are easily classified because they have a unique biological marker not found in any other condition, such as an identifiable virus or antibody, a chromosomal abnormality or some characteristic laboratory values. Many infections, genetic conditions and degenerative diseases allow this kind of all-or-none distinction, with tests that are either positive or negative. The occurrence of certain events can also be defined by an all-or-none criterion. For example, whether or not a person has graduated from university can be defined by the presence of absence of a diploma.

There are other human conditions that are not diagnosed by the absolute presence or absence of a marker, but are defined by an unusual degree of some trait. For example, a person with a blood pressure above a certain value can be classified as having hypertension; and a person with an IQ below a certain value can be classified as having mental retardation. Likewise, the occurrence of certain events can be diagnosed by a value along a continuum. For example, a person who correctly answers a certain percentage of questions on an exam can be classified as having passed the exam. In this case, even though there is no true all-or-none criterion (assuming the exam has more than one question), we can specify a diagnostic threshold along a continuous variable and diagnose a condition or event as occurring if a value falls above or below that threshold.

However, no matter how precise and objective this measurement is, it is quite different from a true all-or-none measure, and in that sense only gives us the illusion of a diagnostic test. No matter how rationally we arrive at our threshold, the classification into those who fall above or below that threshold is inherently artificial. The reliability of such a quantitatively defined diagnosis depends on consensus as to what is being measured, how it should be measured, the availability of precise measuring tools, and normative data that permit us to establish a reasonable cut-off point.

Zubin (1989) speculated that as science develops the technology to mea-

sure more objectively, things that were once defined by all-or-none categories come to be measured along a continuum. He implied that the classification into types is often the result of lack of technology to measure a dimension. The implication for near-death studies is that our attempts to classify NDEs into types, such as those described above, may reflect our primitive state of knowledge. If Zubin's hypothesis applies here, the development of new technologies may eventually allow us to grade NDEs along one or more dimensions instead of simply assigning them to categories.

It is not at all clear at this point whether NDEs are an all-or-none event or whether there are 'degrees' of having an NDE. Researchers' assumptions about the nature of NDEs may determine whether they are more interested in measuring the 'depth' of an NDEr's experience or in classifying survivors of a close brush with death categorically as either experiencers or non-experiencers. Researchers who view the NDE as an all-or-none event will use assessment tools that assume there are two categories of survivors: experiencers and non-experiencers. They also assume that, on some variable that defines the NDE, these two groups would have scores that are normally distributed around different means, with little overlap. Either group's variance around its mean is assumed to be 'noise' in the data, reflecting unreliability of the measuring tool, variability over time, or difference between individuals. Researchers' emphasis on finding reliable differences between experiencers and non-experiencers reflects this implicit assumption that individuals can be assigned to one of these two populations. As long as we lack some continuous measures of the characteristics of an NDE or an NDEr, our concept of an NDE must remain categorical rather than dimensional.

Ring's WCEI, as noted above, was intended as a measure of the depth of an NDE and not as a diagnostic test. Nevertheless, Ring identified threshold scores that could be used to divide experiences into three categories: 0–5 points indicated absence of an NDE, 6–9 points indicated a moderate experience, and 10–29 points a deep experience. Though he used the WCEI in this way to define the NDE, he acknowledged its arbitrariness: 'This undoubtedly eliminates some people who might have been counted as positive instances by Moody (indeed, it was my impression that this index failed to include some interviewees who probably *did* experience some aspects of the Moody pattern)' (Ring, 1980, p. 33).

Likewise, my NDE Scale is a quantitative measure of the depth of an NDE rather than a true diagnostic index. Nevertheless, I have found helpful for research purposes an empirically derived criterion of a score of 7 or higher, one standard deviation below the mean for NDErs, for the identification of NDEs. I, too, however, acknowledged that such diagnostic criteria, while helpful for research, are not necessarily a reflection of the experiencers' reality: 'For clinical use, a minimum cut-off point for the determination of a NDE may be unnecessary; dismissing a patient's claim of having had a NDE on the basis of an arbitrary criterion score would be countertherapeutic' (Greyson, 1983, p. 375).

Until researchers know enough about the aetiology or mechanism of

NDEs to propose an all-or-none diagnostic test, we will have to use threshold scores on some dimensional variable. But consensus on such a variable remains elusive, and currently used broad-based rating scales do not serve this function well.

Conclusion

As noted above, lack of consensus on a definition of NDEs has made it difficult to compare research findings of different investigators and has handicapped the acceptance of near-death research by the academic community. While a definition would ideally state the aetiology or essential nature of NDEs, research into their aetiology has been handicapped by the difficulty in obtaining evidence for plausible explanatory hypotheses, which have tended to be speculative and largely untestable.

Researchers have generally failed to distinguish between the abstract philosophical definition of NDEs, the objectified criterion for determining that an NDE has occurred, and the operational test to establish that the criterion has been met. Few near-death researchers have specified their criteria; fewer still have applied any standard test of their criterion; and those who have, have often used those tests for purposes other than those for which they were designed. Phenomenological tests and measures of NDEs may be designed either to describe features that are more common in near-death experiences than in other events, to measure the degree or depth of an NDE, or to distinguish individuals who have had NDEs from those who have not—that is, to 'diagnose' the occurrence of an NDE. These three assessment strategies—description, measurement, and diagnosis—each serve a different assessment purpose, and should not be used interchangeably; yet investigators have variably defined the NDE in terms of its common features, some measure of its depth or its differentiation from other experiences

Since we do not yet know enough about the aetiology or mechanism of NDEs to propose an all-or-none diagnostic test, many researchers have defined NDEs by threshold scores on some scale composed of characteristic elements. But a definition of NDEs by the sum of their features is a circular definition that inappropriately uses an intervening variable, the characteristic features, in the place of the hypothetical construct, the NDE itself. Furthermore, the summation of phenomenological features to obtain a threshold score ignores whether those individual features differ in terms of their association with 'deep' versus 'shallow' experiences, their specificity for NDEs, and their susceptibility to psychological or cultural influences.

Attempts to classify NDEs into types reflect our primitive state of knowledge: despite the richness of the data examined in various phenomenological classifications, none of them has been shown to have significant predictive validity or clinical usefulness. It is possible that future technological developments may allow us to grade NDEs along one or more dimensions instead of simply assigning them to categories.

I join other researchers in calling for more precision in our definition of NDEs, and specifically for including a transcendental or mystical element in that definition. In addition to defining NDEs, I have found that common NDE elements can be classified into cognitive, affective, paranormal and transcendental features; and furthermore that NDEs can be classified into discrete types dominated by one of these phenomenological components. Based on these studies, I have developed an NDE Scale designed to identify NDEs. That scale is a quantitative measure of the depth of an NDE rather than a true diagnostic index, and admittedly suffers from the limitations of summed scales described above. Nevertheless, until we have learned enough about the etiology or mechanisms of NDEs to propose a true diagnostic test, our research must rely on threshold scores on empirically derived scales for the identification of NDEs. The challenge for researchers is to identify the critical dimension(s) to be assessed in determining depth of NDEs and to develop both an accepted operational definition of the phenomenon and a fixed-interval scale with which to measure it.

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