

## **“FALSE POSITIVE” CLAIMS OF NEAR-DEATH EXPERIENCES AND “FALSE NEGATIVE” DENIALS OF NEAR-DEATH EXPERIENCES**

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*Some persons who claim to have had near-death experiences (NDEs) fail research criteria for having had NDEs (“false positives”); others who deny having had NDEs do meet research criteria for having had NDEs (“false negatives”). The author evaluated false positive claims and false negative denials in an organization that promotes near-death research and in psychiatric outpatients. The frequency of false positives and negatives varied in samples that differed in prevalence of, and knowledge about, NDEs. The influence of participants’ knowledge about NDEs on the findings of near-death research makes it critically important to use standardized criteria for identifying NDEs.*

The past quarter century has seen increasing clinical and popular interest in what have come to be called “near-death experiences” (NDEs), profound subjective experiences with transcendental or mystical elements, in which persons close to death may believe they have left their physical bodies and transcended the boundaries of the ego and the confines of space and time. The interpretation of NDEs has been a matter of considerable controversy (Lundahl, 1981). Rodabaugh (1985) suggested that metaphysical, physiological, and social psychological approaches to the understanding of NDEs are not necessarily mutually exclusive, and he concluded that ruling out alternative explanations was problematic. However, Kelly (2001) argued that the various explanatory interpretations,

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including hypotheses about the prospect of surviving bodily death, make predictions about the data that can be tested empirically. For example, Serdahely and Walker (1990) presented a case of an NDE occurring at birth, which they suggested precluded any role of acculturation in the shaping of the experience.

Despite the ongoing uncertainty about their etiology, the relevance of NDEs to clinical thanatology has been recognized since the first issue of this journal (Sabom & Kreutziger, 1977). For example, altered cognitive orientations toward death are associated with having had NDEs, but not with having come close to death in the absence of an NDE (Greyson, 1992). Health professionals are increasingly confronted by patients' reports of such experiences and by the need to respond to those reports with therapeutic interventions (Walker, 1989). Surveys of physicians, nurses, and clergy suggest considerable interest in learning more about NDEs (Hayes & Waters, 1989).

Scientific study of NDEs has been impeded by the difficulty in identifying when an NDE has occurred, that is, by lack of consensus on criteria to determine which experiences should be considered NDEs (Smith, 1991). Early near-death researchers often used idiosyncratic criteria for deciding what is and is not an NDE, resulting in widely divergent estimates of the incidence of NDEs and findings that could not be compared meaningfully across studies (Greyson, 1998, 1999). Ultimately, two standardized measures were developed for identifying and quantifying NDEs: the Weighted Core Experience Index (WCEI; Ring, 1980) and the NDE Scale (Greyson, 1983).

Regardless of the criteria used, in many studies of NDEs there were research participants who had NDEs by those criteria, whether or not they themselves claimed to have had NDEs; and there were research participants who claimed to have had NDEs, whether or not their experiences met the research criteria for NDEs. In many studies, the group of respondents who had NDEs (as defined by study criteria) was not identical to the group that claimed to have had NDEs, and the group that did not have NDEs (as defined by the study criteria) was not identical to the group that denied having had NDEs.

Did respondents who claimed to have had NDEs but did not meet research criteria "really" have NDEs? The answer to that question remains mired in our muddy definitions and criteria for

what constitutes an NDE. In the absence of a biological marker for NDEs, most researchers have defined these experiences on the basis of scores on the NDE Scale or the WCEI. For example, an experience must score at least 6 out of a possible 29 points on the WCEI (Ring, 1980), or at least 7 out of a possible 32 points on the NDE Scale (Greyson, 1983), to be labeled an NDE. If a person near death were to have a profound encounter with a divine entity that transformed his or her life, but no other features typically reported in NDEs, that encounter alone would not be enough to qualify as an NDE on either the WCEI or the NDE Scale. However, it would make little clinical sense to insist that that person, transformed by a near-death divine encounter, did not have an NDE.

Nevertheless, for research purposes, it may be helpful to distinguish between those persons who claim to have had NDEs and meet standardized criteria for having had NDEs, from those who claim to have had NDEs but do not meet standardized criteria. For example, at least some of the profound aftereffects attributed to NDEs have been found to be associated with meeting NDE Scale criteria for NDEs, but not with claiming to have had an NDE in the absence of meeting those standardized criteria (Bonenfant, 2004; Greyson, 1993). That is, research participants whose claims of having had NDEs were not substantiated by high scores on the NDE Scale did not show the profound aftereffects that participants who had high scores on the NDE Scale did. Following convention, we may call those who claim to have had NDEs but do not meet research criteria “false positive” claimants; that is, their claims are not supported by a standardized measure of their experience. A Rasch scaling validation documented that the experiential hierarchy of these “false positive” claimants does not show the same probabilistic progression as do true NDEs (Lange, Greyson, & Houran, 2004).

What about participants who deny having had NDEs, but whose experiences do score high enough on research criteria to be labeled NDEs? Again, it makes little clinical sense to insist on calling such persons near-death experiencers (NDErs) in light of their denials. However, again for research purposes, it may be helpful to distinguish those persons who deny having had NDEs but do meet criteria for having had NDEs, from those who deny having had NDEs and do not meet the scale criteria. Research participants who have high scores on the NDE Scale do show

profound aftereffects, whether or not they claim to have had NDEs (Greyson, 1993). Again following convention, we may call those who deny having had NDEs but who do meet research criteria “false negative” deniers; that is, their denials of having had an NDE are contradicted by a standardized measure of their experience. Rasch scaling of the experiential hierarchy of these “false negative” deniers was also distinct from the probabilistic progression of true NDEs (Lange, Greyson, & Houran, 2004).

The present study investigated the frequencies of “false positive” claims of NDEs and “false negative” denials of NDEs. It was anticipated that both false positive claims and false negative denials would be relatively uncommon, and that their frequencies, like the frequency of NDEs themselves, might vary with the population being studied. For that reason, I sampled two distinct populations: volunteers from an organization founded to promote near-death research, a group that included a large proportion of NDErs and was presumably knowledgeable about NDEs; and an unselected cohort of outpatients presenting to a psychiatric clinic, a group that presumably included a smaller proportion of NDErs and was less knowledgeable about NDE.

## **Methods**

### *IANDS Sample*

Volunteers for this study were recruited through the newsletter of the International Association for Near-Death Studies (IANDS) and personal contacts at IANDS conferences. IANDS is an organization of approximately 1,000 members founded to promote near-death research. Its members presumably are fairly knowledgeable about NDEs, and a large proportion of them, compared with the general public, have had NDEs themselves. Those volunteers who gave informed consent to participate in this study were mailed questionnaires that included the questions, “Have you ever come close to death?” and, if so, “When you came close to death, did you have a near-death experience or NDE?” The questionnaires also included the NDE Scale (Greyson, 1983), which participants were asked to complete regardless of whether or not they claimed to have had an NDE.

### *Clinic Sample*

The IANDS sample was unlike the general population in that it included a disproportionately large number of NDErs and was disproportionately knowledgeable about NDEs. Because those differences may influence the occurrence of false positive claims and false negative denials in that population, I also conducted a study of NDEs among outpatients presenting for the first time to a psychiatric clinic.

As part of the clinic screening procedure, before their first contact with a psychiatrist, patients completed a computer-based questionnaire intended to gather preliminary demographic and clinical information for use in their intake. Those who gave informed consent to participate in this study were also asked, as part of their computer-based questionnaire, "Have you ever come close to death?" and, if so, "When you came close to death, did you have a near-death experience or NDE?" The computer-based questionnaire also included the NDE Scale (Greyson, 1983), which participants were asked to complete if they had ever come close to death, regardless of whether or not they claimed to have had an NDE.

### **NDE Scale**

The presence or absence of NDEs was determined by participants' responses on the NDE Scale (Greyson, 1983), a 16-item multiple-choice instrument that significantly differentiates NDEs from other experiences during a close brush with death (Greyson, 1990). It includes questions about cognitive processes (e.g., altered sense of time and involuntary memory recall), affective processes (e.g., feelings of peace and of "cosmic unity"), purportedly paranormal experiences (e.g., sense of separating from the physical body and apparent precognitive visions), and experienced transcendence (e.g., sense of being in an unearthly realm or dimension of existence and encounter with a mystical being). The NDE Scale was developed from an initial pool of 80 phenomenological features characteristic of NDEs, refined by an iterative process until it demonstrated good internal consistency, split-half reliability, test-retest reliability, and high correlation with the WCEI (Greyson, 1983). Each of its 16 items significantly differentiates NDEs from close encounters with death without NDEs (Greyson, 1990).

A recent Rasch rating-scale analysis established that the NDE Scale yields a unidimensional measure with interval-scaling properties, invariant across NDErs' gender, age, intensity of experience, or time elapsed since the experience (Lange, Greyson, & Houran, 2004). A score of 7 or higher on the NDE Scale is generally used as a criterion for an NDE because that is one standard deviation below the mean score among near-death experiencers (Greyson, 1983).

## Results

A total of 262 of the approximately 1,000 IANDS members participated in this study and reported that they had been close to death at some time in their lives. A total of 272 of the 832 outpatients presenting to the psychiatric clinic in the course of one year participated in this study and reported that they had been close to death at some time in their lives.

There was considerable concordance in both samples between the group who had NDEs, based on the NDE Scale, and the group who claimed to have had NDEs. Cohen's kappa was used as a measure of agreement between claims of NDEs and determination of NDEs by the NDE Scale. For the IANDS sample, kappa = .656, which is generally accepted as implying substantial agreement (Landis & Koch, 1977), and for the clinic sample, kappa = .445, generally regarded as implying moderate agreement (Landis & Koch, 1977).

Table 1 presents the numbers and proportions of participants in the IANDS sample who did and did not claim to have had NDEs, and those who did and did not have NDEs as determined by their scores on the NDE Scale. Among the 194 IANDS mem-

**TABLE 1** Near-Death Experiences (NDEs; as Determined by NDE Scale Scores) and Claims of NDEs in the IANDS Sample

| Variable            | NDE claim  | No NDE claim | Total      |
|---------------------|------------|--------------|------------|
| NDE <sup>a</sup>    | 178 (92%)  | 19 (28%)     | 197 (75%)  |
| No NDE <sup>b</sup> | 16 (8%)    | 49 (72%)     | 65 (25%)   |
| Total               | 194 (100%) | 68 (100%)    | 262 (100%) |

<sup>a</sup>NDE Scale score  $\geq 7$ ; <sup>b</sup>NDE Scale score  $< 7$ .

bers who claimed to have had NDEs, 178 (92%) were “true positives” who had NDEs by standardized criteria, and only 16 (8%) were “false positives” who did not. Among the 68 IANDS members who denied having had NDEs, 19 (28%) were “false negatives” who actually did have NDEs by standardized criteria, and 49 (72%) were “true negatives” who did not. Mean NDE Scale scores for the IANDS sample were 17.00 ( $SD = 6.26$ ) for the “true positive” experiencers, 9.21 ( $SD = 2.32$ ) for the “false negative” deniers, 4.53 ( $SD = 1.23$ ) for the “false positive” claimants, and 1.68 ( $SD = 2.03$ ) for the “true negative” deniers. Mean differences among these groups were significant ( $F = 128.60$ ,  $p < .001$ ).

Table 2 presents the numbers and proportions of participants in the psychiatric clinic population who did and did not claim to have had NDEs, and those who did and did not have NDEs as determined by their scores in the NDE Scale. Among the 78 patients who claimed to have had NDEs, 41 (53%) were “true positives” who had NDEs by standardized criteria, and 37 (47%) were “false positives” who did not. Among the 194 patients who denied having had NDEs, only 20 (10%) were “false negatives” who actually did have NDEs by standardized criteria (“false negatives”), and 174 (90%) were “true negatives” who did not. Mean NDE Scale scores for the clinic sample were 13.73 ( $SD = 4.95$ ) for the “true positive” experiencers, 10.35 ( $SD = 3.20$ ) for the “false negative” deniers, 3.61 ( $SD = 2.01$ ) for the “false positive” claimants, and 1.66 ( $SD = 1.25$ ) for the “true negative” deniers. Mean differences among these groups were also significant ( $F = 270.14$ ,  $p < .001$ ).

The proportion of false positive claimants who did not have NDEs by standardized criteria was significantly greater in the clinic sample than in the IANDS sample ( $\chi^2 = 58.48$ ,  $df = 1$ ,  $p < .001$ ).

**TABLE 2** Near-Death Experiences (NDEs; as Determined by NDE Scale Scores) and Claims of NDEs in the Clinic Sample

| Variable            | NDE claim | No NDE claim | Total      |
|---------------------|-----------|--------------|------------|
| NDE <sup>a</sup>    | 41 (53%)  | 20 (10%)     | 61 (22%)   |
| No NDE <sup>b</sup> | 37 (47%)  | 174 (90%)    | 211 (78%)  |
| Total               | 78 (100%) | 194 (100%)   | 272 (100%) |

<sup>a</sup>NDE Scale score  $\geq 7$ ; <sup>b</sup>NDE Scale score  $< 7$ .

The proportion of false negative deniers who actually did have such NDEs by standardized criteria was significantly smaller in the clinic sample than in the IANDS sample ( $\chi^2 = 12.23$ ,  $df = 1$ ,  $p < .001$ ).

### Discussion

The high percentage of NDErs (75%) and of NDE claimants (74%) in the IANDS sample, compared to their frequency in the general population, likely reflects the increased propensity of NDErs and of people who believe they have had NDEs to join IANDS, compared with non-NDErs, and perhaps their increased propensity to volunteer to participate in near-death research.

The lower percentage of NDErs (22%) and of NDE claimants (29%) in the clinic sample came closer to (but was still larger than) the proportion of the public who have NDEs (Gallup & Proctor, 1982). It is possible that the context of a psychiatric clinic might have influenced both claims of having had NDEs and NDE Scale responses, although equally plausible cases could be made that the psychiatric context would have exaggerated or would have minimized positive responses.

An alternative interpretation of the difference in NDErs and NDE claimants between the two samples is that people who join IANDS are more inclined than comparison populations to (mis)interpret their experiences as NDEs. However, the proportion of "false positive" claims of NDEs was actually statistically smaller in the IANDS sample than in the comparison sample. That hypothesis is further contradicted by the higher concordance in the IANDS sample between those who claimed to have NDEs and those who actually did have them. Although 90% of NDErs in the IANDS sample acknowledged their experiences, only 67% of NDErs in the clinic sample did so; and whereas 92% of the NDE claimants in the IANDS sample actually had NDEs, only 53% in the clinic sample did.

In addition to having been drawn from populations that differed in frequency of NDEs and knowledge about NDEs, the two samples in this study differed in the method by which they were studied. The IANDS sample consisted of self-selected volunteers, whereas the clinic sample included all outpatients presenting for initial intakes at a psychiatric clinic. Furthermore, the IANDS



sample completed the study questionnaire by mail at their leisure, aware that the purpose of the study was to investigate experiences that occur near death. By contrast, the clinic sample completed the questionnaire on computers at the clinic prior to intake; although they were aware that these questions were for research purposes and gave informed consent to participate, the study questions were imbedded in a much longer computer-based questionnaire that was part of the clinical intake information-gathering procedure. It is possible that these differences in sampling and data collection may have influenced the findings of this study, in addition to the inherent differences between the two populations sampled.

Comparing the psychosocial and psychospiritual backgrounds of those NDErs who claim to have had NDEs with those NDErs who deny having had such experiences might shed light on why some people do not acknowledge their mystical or transcendental experiences. Likewise, comparing the psychosocial and psychospiritual backgrounds of those nonNDErs who claim to have had NDEs with those who deny having had NDEs might shed light on why some people put forth unsupported claims of having had such experiences.

These data highlight the importance of using standardized criteria for identifying the presence or absence of NDEs, rather than relying on participants' claims or denials of having had NDEs. Researchers who have used ambiguous or vague criteria for NDEs, including relying solely on participants' reports of having had NDEs, have reported incidences of NDEs ranging from 0% to 100% of patients coming close to death (Greyson, 1998). By contrast, researchers who have used standardized criteria have uniformly reported an incidence of between 9% and 18% of patients coming close to death (Greyson, 2003; Parnia, Waller, Yeates, & Fenwick, 2001; Schwaninger, Eisenberg, Schechtman, & Weiss, 2002; van Lommel, van Wees, Meyers, & Elferich, 2001).

The present data also highlight the role of research participants' knowledge of NDEs in eliciting reports and descriptions of their experiences. This factor may influence differences in findings among samples derived from differing geographic or demographic populations, and it may influence differences in findings over time, as knowledge about NDEs permeates the general population. For these reasons, it is critical for the advance of near-death

research that investigators not take participants' claims or denials of having had NDEs at face value, but base their research on standardized measures of NDE.

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