

The Near-Death Experience Scale

Construction, Reliability, and Validity

BRUCE GREYSON, M.D.¹

Near-death experiences (NDEs) have been described consistently since antiquity and more rigorously in recent years. Investigation into their mechanisms and effects has been impeded by the lack of quantitative measures of the NDE and its components. From an initial pool of 80 manifestations characteristic of NDEs, a 33-item scaled-response preliminary questionnaire was developed, which was completed by knowledgeable subjects describing their 74 NDEs. Items with significant item-total score correlations that could be grouped into clinically meaningful clusters constituted the final 16-item NDE Scale. The scale was found to have high internal consistency, split-half reliability, and test-retest reliability; was highly correlated with Ring's Weighted Core Experience Index; and differentiated those who unequivocally claimed to have had NDEs from those with qualified or questionable claims. This reliable, valid, and easily administered scale is clinically useful in differentiating NDEs from organic brain syndromes and nonspecific stress responses, and can standardize further research into mechanisms and effects of NDEs.

Descriptions of the experiences of persons who almost die in the course of severe illness or injury, or who are believed dead but subsequently revive or are resuscitated, have been preserved in writings dating back to antiquity. Recent reviews of such accounts have been collected from the literature of medicine and psychology (18), of parapsychology (15), and of religion and folklore (8), and a recent Gallup Poll estimated that 8 million Americans have had such an experience (4).

These near-death experiences (NDEs), which characteristically include strong positive affect, dissociation from the physical body, and transcendental or mystical elements, have been variously attributed to physiological derangement (14) psychological defense mechanisms (6), or an alternate reality beyond current scientific explanation (13). Clearly, if the latter is true, then NDEs are important phenomena to study. However, even if NDEs are physiological or psychological states without exogenous cause, they are unique among such states by virtue of their profound and lasting transformations of personality (3, 5, 7, 9). The investigation of NDEs and their effects, however important, has been handicapped so far by the lack of accepted criteria for their occurrence and amplitude.

Ring (13) constructed a Weighted Core Experience Index (WCEI), based on the presence of 10 arbitrarily weighted items, for the rating of NDE accounts. The

selection of the items on this useful first scale was made before his data collection, and derived from the phenomenological studies published previously. Although Ring developed the WCEI as a measure of depth of a NDE and proposed cut-off points for moderate and deep experiences, as might be expected from a pioneering effort, the index was not based on statistical analysis and has never been tested for internal coherence or reliability.

Although it has face validity as a rating scale for NDE reports already collected, the discriminative validity of the WCEI in screening for or identifying NDEs among unselected patients is weak. Many suicide attempters, for example, acknowledge reviewing their lives and a feeling of peace or relief after making an attempt. These two items alone yield a WCEI score of 5 or 7, depending on the intensity of the peaceful feeling. Adding the common, though often metaphoric, statement of suicide attempters that they went through a region of darkness, the WCEI jumps to 9 or 11, rating the experience as a deep NDE without any transcendental or out-of-body experiences having been described.

Ring also proposed, as an additional indicator of depth of a NDE, an ordered temporal sequence of five stages: peace and contentment; detachment from the physical body; entering a transitional region of darkness; seeing a brilliant light; and entering, through the light, another realm of existence (13). Noyes (10) had earlier described three successive phases of resistance, life review, and transcendence, in the response to a threat of death. Neither temporal schema has yet been rigorously delineated or validated.

These attempts to measure the NDE treat the ex-

¹ Assistant Professor of Psychiatry and Chief, Psychiatric Emergency Service, Box 54, University of Michigan Hospital, 1405 E. Ann St., Ann Arbor, Michigan 48109.

This study was carried out with the cooperation of the International Association for Near-Death Studies, U-20, University of Connecticut, Storrs, Connecticut 06268.

perience as a unitary phenomenon, a theoretical assumption that appears increasingly troublesome to those attempting explanations of the NDE. The NDE may comprise discrete parallel experiences with differing mechanisms and effects (6). If further study confirms the impressive reports of personality transformations following a NDE, then isolation of the particular components of the experience that are associated with positive outcomes may lead to significant therapeutic insights (7).

Several investigators have attempted preliminary classification of NDEs. Sabom (16) impressionistically classed NDEs into three types: out-of-body,² involving self-visualization from a position of height; transcendental, involving apparent passage of the consciousness into a foreign region or dimension; and a combined out-of-body and transcendental type, involving both components. The validity and significance of this classification of NDEs have not been explored.

Noyes and his co-workers have attempted a formal analysis of the response to life-threatening danger, although the symptom clusters they have concentrated on overlap incompletely with those manifestations commonly considered prototypical of NDEs. Starting with a conception of depersonalization as a nonspecific syndrome accompanying various psychopathological and normal states, Noyes *et al.* (11) elicited symptom profiles from accident victims and from psychiatric patients. They then identified by factor analysis three clinically meaningful factors among the depersonalization symptoms: detachment, common in both samples; alertness, relatively more common among the accident victims; and mental clouding, more common among the psychiatric patients. Manifestations of mystical consciousness were added to a subsequent questionnaire administered to victims of life-threatening accidents or illnesses, and emerged as a third factor, distinct from the more common depersonalization and hyperalertness factors (12). As evidenced by these complementary studies by the same investigators on similar samples, the factors isolated depend upon the items included in the analysis. Because Noyes and his co-workers were investigating subjective responses to life-threatening danger in general, and not NDEs as one specific response, they derived their list of symptoms from classical descriptions of psychiatric syndromes and not from clinical descriptions of NDEs. Consequently, their analyses included some depersonalization symptoms that may rarely occur in NDEs, and omitted quite common NDE elements that are not included in traditional syndromes.

² Sabom labeled this type of NDE "autoscopy," although it differs in several important regards from the psychiatric syndrome of autoscopy.

The essential phenomenology of NDEs has been described in sufficient detail and with sufficient consistency to justify now a more quantitative approach to further near-death research. Although the WCEI has proven useful in quantifying accounts of those who claim to have had a NDE, it yields false positives when used to elicit NDE features from unselected individuals. A valid screening instrument for the NDE and its components would permit investigation into possible causative factors, as well as clinical assessment of the reported effects of these experiences. The present paper reports the development of a Near-Death Experience (NDE) Scale for investigative and clinical quantification of near-death experiences.

Method

Subjects

Subjects who claimed to have had near-death experiences were solicited from among members of the International Association for Near-Death Studies, an organization for the promotion of research into NDEs. Subjects who believed they had had NDEs as described in the phenomenological literature were used, rather than unselected individuals who had come close to death, in order to increase the frequency of positive responses to the questionnaire, to reduce the confounding of NDE elements with symptoms of other stress-related syndromes, and to provide a criterion group with which to validate the scale. Data collected from subjects included present age, age at the time of the NDE, sex, and conditions of the close brush with death.

The Preliminary Questionnaire

An initial list was compiled of 80 manifestations described prominently in the phenomenological literature as characteristic of NDEs. These 80 elements included 21 affective states (*e.g.*, a feeling of peace), 11 items of thought content (*e.g.*, life review), 11 items of thought process (*e.g.*, thinking unusually fast), 10 items of perceptual content (*e.g.*, hearing music), seven features of perceptual processing (*e.g.*, colors seeming unusually vivid), five bodily sensations (*e.g.*, sense of weightlessness), and 15 miscellaneous items (*e.g.*, seeming to enter a tunnel-like dark region). From this list of 80 items, a true-false questionnaire was developed containing the 40 items most commonly mentioned, including all the criterion items of Noyes and Slymen's three factors (12) and of Ring's WCEI (13). On the basis of pilot studies with this questionnaire administered to 100 unselected persons who had come close to death, seven items were eliminated because of redundancy or ambiguity, and the remaining 33 items were reworded into questions with 3-

point scaled answers, to permit the scoring of each item as definitely present, questionable or atypical, and definitely absent.

Procedure and Data Analysis

The 33-item scaled-response preliminary questionnaire was mailed to those subjects from whom prior consent was obtained. A second copy of the questionnaire was mailed to the first 50 respondents 2 months following completion of the first copy, to assess test-retest reliability.

Frequency counts were made of responses to the 33 questionnaire items, and Pearson product-moment correlation coefficients were computed to test the association between each item and the remaining 32 items as a whole. Those items that had a correlation coefficient of at least .35 with the rest of the questionnaire were grouped into clinically meaningful clusters, with the condition that each item must also have a correlation coefficient of at least .35 with the rest of its cluster. The final Near-Death Experience (NDE) Scale was constructed by the summation of these clusters.

A modified version of Ring's WCEI was derived from the preliminary questionnaire responses. The maximum possible score on this modified WCEI was 23, rather than 29 as on Ring's original version, because the 33-item questionnaire did not include items describing a sense of movement within a dark region (2 points on the original WCEI) or entering into the brilliant light (4 points).

Averaged data are presented as means $\pm$ SD. Associations between individual questionnaire items, and subjects' sex and conditions of the near-death events, were evaluated by χ^2 tests. Associations between questionnaire items, and subjects' age and elapsed time since the NDE, were tested by one-way analyses of variance, as were associations between the NDE Scale and WCEI, and subjects' sex and conditions of the near-death event. Associations between the NDE Scale and the WCEI, and between these two indices and subjects' age and elapsed time since the NDE, were measured by Pearson product-moment correlation coefficients. A p of .01 was taken as the level of significance.

Results

Subjects

Questionnaires were received from 67 individuals, describing 74 NDEs (an 81 per cent response rate). For the purposes of this study, the 74 individual NDEs were each considered to be a separate case. Retest questionnaires were completed 15.3 weeks $\pm$ 3.6 (range = 9 to 25 weeks) after the initial questionnaire.

Subjects' age at the time of the study was 49.9 years $\pm$ 15.2 (range = 24 to 91 years). Subjects' age at the time of the NDE was 32.0 years; hence, the elapsed time between the NDE and the study was 17.9 years $\pm$ 16.3 (range = 9 months to 72 years). Thirty-one of the subjects were male (42 per cent) and 43 were female (58 per cent).

Conditions of the close brush with death were specified in 69 cases: 23 near-death events (33 per cent) occurred as a complication of surgery or childbirth; 16 near-death events (23 per cent) occurred as an exacerbation of ongoing illness or complication of pregnancy; 15 near-death events (22 per cent) occurred in the course of unanticipated accidents; seven near-death events (10 per cent) occurred in the course of identified sudden natural events (e.g., unexpected cardiac arrest, anaphylactic reaction); four near-death events (6 per cent) occurred in the course of sudden loss of consciousness of unidentified etiology; and four near-death events (6 per cent) occurred in the course of a suicide attempt.

Preliminary Questionnaire Responses

Table 1 lists the frequencies of "present," "ambiguous/atypical," and "absent" responses to the 33 preliminary questionnaire items, and the correlation of each item with the rest of the preliminary questionnaire. None of the individual items was significantly correlated with subjects' age or sex, with elapsed time since the NDE, or with conditions of the close brush with death.

Final NDE Scale

The final NDE Scale derived from these responses consisted of 16 questions, grouped into four psychologically meaningful clusters; these 16 items are listed in Table 2. The four clusters were empirically assembled based on interitem correlations, and were retrospectively designated as reflecting a Cognitive Component, an Affective Component, a Paranormal Component, and a Transcendental Component.

The mean score on the final NDE Scale was 15.01 $\pm$ 7.84 (range = 2 to 31). Scores on each of the four component subscales ranged from 0 to 8; mean scores were as follows: Cognitive Component, 2.35 $\pm$ 2.51; Affective Component, 5.50 $\pm$ 2.67; Paranormal Component, 3.31 $\pm$ 2.30; and Transcendental Component, 3.85 $\pm$ 2.67. Pairs of components all had moderate positive correlations (all $p < .01$), lowest between the Affective and Paranormal Components ($r = .37$) and highest between the Affective and Transcendental Components ($r = .59$). The total NDE Scale score was highly correlated with each of the four components, most highly with the Transcendental Component (r

TABLE 1
Item Analysis of Preliminary Questionnaire (N = 74)

NDE Feature	No. (%) Present	No. (%) Ambiguous/ Atypical	No. (%) Absent	r ^a
1. Feeling of peace	57 (77%)	11 (15%)	6 (8%)	.39
2. Feeling of joy	47 (64%)	14 (19%)	15 (20%)	.51
3. Time stopped, lost meaning	47 (64%)	6 (8%)	21 (28%)	.15
4. Unearthly realm of existence	43 (58%)	13 (18%)	18 (24%)	.67
5. Feeling of cosmic unity	42 (57%)	17 (23%)	15 (20%)	.58
6. Out-of-body experience	39 (53%)	22 (30%)	13 (18%)	.41
7. Controlled by external force	36 (49%)	3 (4%)	35 (47%)	.37
8. Mystical or unearthly being	35 (47%)	4 (5%)	35 (47%)	.55
9. Thoughts unusually vivid	34 (46%)	18 (24%)	22 (30%)	.33
10. Unnaturally brilliant light	32 (43%)	13 (18%)	29 (40%)	.58
11. Meaningful visions	28 (38%)	20 (27%)	26 (35%)	.50
12. Senses unusually vivid	28 (38%)	13 (18%)	33 (45%)	.49
13. Strange bodily sensations	25 (34%)	6 (8%)	43 (58%)	.25
14. Tunnel-like dark region	24 (32%)	11 (15%)	39 (53%)	.17
15. Sudden understanding	22 (30%)	19 (26%)	33 (45%)	.54
16. Thoughts or movements not under conscious control	20 (27%)	34 (46%)	20 (27%)	.10
17. Feeling of being dead	20 (27%)	8 (11%)	46 (62%)	.51
18. Border or point of no return	19 (26%)	27 (37%)	28 (38%)	.45
19. Detached from surroundings	19 (26%)	25 (34%)	30 (41%)	.19
20. Saw deceased or religious spirits	19 (26%)	9 (12%)	46 (62%)	.43
21. Extrasensory perception	17 (23%)	13 (18%)	44 (60%)	.40
22. Meaningful sounds	16 (22%)	10 (14%)	48 (65%)	.34
23. Loss of emotions	16 (22%)	6 (8%)	52 (70%)	.05
24. Events seemed instantaneous	16 (22%)	3 (4%)	55 (74%)	.40
25. Life review	16 (22%)	2 (3%)	56 (76%)	.35
26. Self felt unreal	14 (19%)	20 (27%)	40 (54%)	.04
27. Thinking unusually fast	14 (19%)	14 (19%)	46 (62%)	.51
28. World seemed unreal	13 (18%)	20 (27%)	41 (55%)	.17
29. Visions of the future	12 (16%)	5 (7%)	57 (77%)	.45
30. Judged, held accountable	9 (12%)	13 (18%)	52 (70%)	.26
31. Senses blurred or dull	6 (8%)	3 (4%)	65 (88%)	.02
32. Subject of another's extrasensory perception	5 (7%)	12 (16%)	57 (77%)	.24
33. Thinking blurred or dull	0 (0%)	4 (5%)	70 (95%)	.14

^a Correlation between individual item and rest of questionnaire.

= .83) and least highly with the Cognitive Component ($r = .72$).

Neither the NDE Scale, nor any of its components, was significantly correlated with subjects' age or sex, with elapsed time since the NDE, or with conditions of the close brush with death.

The mean score on the modified WCEI was 12.0 ± 5.4 (range = 3 to 23). WCEI scores were not significantly correlated with subjects' age or sex, with elapsed time since the NDE, or with conditions of the close brush with death.

Reliability and Internal Consistency of the NDE Scale

Internal consistency of the NDE Scale was maximized by the inclusion in the scale of only those items

TABLE 2
Composition of Final NDE Scale

Component and Question	Weighted Response
Cognitive	
1. Did time seem to speed up?	2 = Everything seemed to be happening all at once 1 = Time seemed to go faster than usual 0 = Neither
2. Were your thoughts speeded up?	2 = Incredibly fast 1 = Faster than usual 0 = Neither
3. Did scenes from your past come back to you?	2 = Past flashed before me, out of my control 1 = Remembered many past events 0 = Neither
4. Did you suddenly seem to understand everything?	2 = About the universe 1 = About myself or others 0 = Neither
Affective	
5. Did you have a feeling of peace or pleasantness?	2 = Incredible peace or pleasantness 1 = Relief or calmness 0 = Neither
6. Did you have a feeling of joy?	2 = Incredible joy 1 = Happiness 0 = Neither
7. Did you feel a sense of harmony or unity with the universe?	2 = United, one with the world 1 = No longer in conflict with nature 0 = Neither
8. Did you see or feel surrounded by a brilliant light?	2 = Light clearly of mystical or other-worldly origin 1 = Unusually bright light 0 = Neither
Paranormal	
9. Were your senses more vivid than usual?	2 = Incredibly more so 1 = More so than usual 0 = Neither
10. Did you seem to be aware of things going on elsewhere, as if by ESP?	2 = Yes, and facts later corroborated 1 = Yes, but facts not yet corroborated 0 = Neither
11. Did scenes from the future come to you?	2 = From the world's future 1 = From personal future 0 = Neither
12. Did you feel separated from your physical body?	2 = Clearly left the body and existed outside it 1 = Lost awareness of the body 0 = Neither

TABLE 2—Continued

Component and Question	Weighted Response
Transcendental	
13. Did you seem to enter some other, unearthly world?	2 = Clearly mystical or unearthly realm 1 = Unfamiliar, strange place 0 = Neither
14. Did you seem to encounter a mystical being or presence?	2 = Definite being, or voice clearly of mystical or other-worldly origin 1 = Unidentifiable voice 0 = Neither
15. Did you see deceased spirits or religious figures?	2 = Saw them 1 = Sensed their presence 0 = Neither
16. Did you come to a border or point of no return?	2 = A barrier I was not permitted to cross; or "sent back" to life involuntarily 1 = A conscious decision to "return" to life 0 = Neither

with acceptable item-component and item-scale correlations. Internal consistency of the resultant scale was evaluated by the determination of Cronbach's coefficient alpha (Kuder-Richardson Formula 20). Alpha for the entire NDE Scale was .88; for the Cognitive Component alone, .75; for the Affective Component, .86; for the Paranormal Component, .66; and for the Transcendental Component, .76.

Error variance due to content sampling was assessed by determination of the split-half (odd-even) reliability. Mean scores on the two halves were 7.64 ± 4.22 and 7.38 ± 3.94 ; the resultant Pearson product-moment reliability coefficient was .84, Spearman-Brown corrected to .92.

Error variance due to time sampling was assessed by having 50 subjects complete the NDE Scale a second time, 2 to 6 months later. The reliability coefficient between these two sets of scores was .92 for the entire NDE Scale; for the Cognitive Component, .79; for the Affective Component, .88; for the Paranormal Component, .72; and for the Transcendental Component, .95. The time interval between the two scale completion dates was not significantly correlated with any of these reliability coefficients.

Validity of the NDE Scale

Face validity of the NDE Scale was maximized by the process by which the questionnaire items were derived, and by refining the selection of items through pilot studies with persons who had come close to death, the population for which the NDE Scale is intended to be used.

Criterion validity of the NDE Scale was evaluated by determining its correlation with Ring's WCEI, and by examining the scores of the criterion sample who claimed to have had NDEs. NDE Scale scores were

highly correlated with the modified WCEI ($r = .90$), as were scores on each of the four components to a lesser degree (all $p \ll .0001$). The Transcendental Component was most highly correlated with the modified WCEI ($r = .83$), and the Cognitive Component least highly correlated ($r = .63$). Although the construct validity of the WCEI has not been thoroughly determined, it is the most adequate and most widely used instrument available for the quantification of NDEs. It should be noted that there was some criterion contamination of these validity coefficients, as six of the 16 items on the NDE Scale were included in the modified WCEI. However, this effect was small, as the remaining 10 NDE Scale items that were not included in the WCEI, when summed, also were highly correlated with the modified WCEI ($r = .79$).

The criterion sample of NDE reporters had a mean score of 15.01 on the NDE Scale out of a total possible 32 points; *i.e.*, they acknowledged the definitive presence of about half the scale items. The cut-off point on the NDE Scale for the determination of a NDE may vary with the purpose of making such a determination. A cut-off point 1 SD below the mean should include 84 per cent of all positive cases, assuming a normal distribution of scores of those with NDEs. This criterion would require a score of 7 or higher to establish the presence of a NDE; in the criterion sample, 62 subjects (83.8 per cent) had NDE Scale scores of 7 or higher. The 12 subjects in this sample designated as not having had a NDE by this criterion had a mean score on the WCEI of 4.2, below Ring's cut-off point of 6 for a NDE (their range on the WCEI was 0 to 8). In a retrospective review of the informed consent forms signed for participation in this study, seven of the 12 subjects (58.3 per cent) in this "non-NDE" group had qualified their claim to having had a NDE in some manner (*e.g.*, "I'm not sure it was a NDE," "not too clear, may be mixed with dreams," "NDE of sorts"). By contrast, of the 62 subjects designated as having had a NDE by scoring 7 or higher on the NDE Scale, only one so qualified her experience (1.6 per cent). This one individual who qualified her claim scored 9 on the NDE Scale and 6 on the modified WCEI.

Data on the construct validity and predictive validity of the NDE Scale are currently being collected in longitudinal studies. It should be noted that the lack of correlation between NDE Scale scores and subjects' age, sex, and elapsed time since the NDE, as well as the low correlation between NDE Scale items and depersonalization symptoms on the preliminary questionnaire, support the discriminative validity of the scale.

Discussion

The extent to which near-death experiencers who are members of the International Association for

Near-Death Studies are representative of near-death experiencers in general has not been explored. Although their interest in the organization and reasons for joining vary, they share a familiarity with at least the lay literature, and in many cases the scientific literature, on NDEs. This knowledge of the phenomenological literature may conceivably have influenced their questionnaire responses regarding their own NDEs, although those responses still showed considerable variability. As noted above, for the purpose of developing the NDE Scale, this selected sample was preferred over a sample of unselected individuals who had come close to death; use of the selected sample maximized positive responses and thereby facilitated interitem correlations, and reduced the number of elements characteristic of other stress-related syndromes not peculiar to the NDE.

The final format of the NDE Scale, in which all 16 questions receive high scores for positive responses, resulted not from preselection of items but from the empirical analysis of the preliminary questionnaire responses: questions that received high scores for negative responses were eliminated from the final NDE Scale due to their low correlation with the rest of the questionnaire. The resultant unipolar wording of the final NDE Scale raises the question of response bias related to subject acquiescence; this matter should be explored in further studies, controlling for acquiescence and social desirability.

The NDE Scale as developed in this study is a self-scoring series of 16 questions prefaced by the instruction to mark the answer to each question that best describes the respondent's experience. The author has subsequently used this 16-item questionnaire as an interviewer-rated scale with similar results, although interviewer- and self-scored versions of the scale have not been rigorously compared. In scoring ambiguous responses, questions for which a respondent endorses two answers should receive the higher of the two scores, while questions for which a respondent fails to endorse any answer definitively should be scored 0.

The lack of correlation between any measures of NDEs and subject's age or sex or conditions of the close brush with death replicates previous findings (13, 16). Elapsed time since the NDE has been conjectured to "convert the unpleasant to the pleasant" in the recollection of NDEs (17), although no data have been published to support this speculation. In fact, in a study of out-of-body experiences (including NDEs), Twemlow *et al.* (19) noted that 83 per cent of persons having such experiences reported a sense of calm, peace, or quiet during the experience, and a comparable 81 per cent felt, long after the experience, that the experience had been very pleasant. The present study found no significant correlation between elapsed

time and the Affective Component; the nonsignificant correlation between these variables was in the opposite direction ($r = -.13$), suggesting that elapsed time, if it has any effect, may reduce the pleasantness of the recollection.

Frequencies of positive responses to the individual questionnaire items also replicate previous reports of NDEs (7, 13, 16), while diverging from descriptions of general responses to life-threatening danger (11, 12): Affective and Transcendental Component items were most frequently reported, and Paranormal and Cognitive Component items, along with depersonalization symptoms, less frequently. The extremely low correlation between depersonalization symptoms and the rest of the preliminary questionnaire supports the conception of the NDE as a discrete syndrome distinct from nonspecific stress responses.

The "purification" of the final NDE Scale by eliminating items not significantly correlated with the rest of the syndrome resulted in the omission of some items quite common among NDE reports and often considered integral parts of the NDE. For example, the sense that time had stopped or become meaningless was reported by 64 per cent of the present sample, yet was only weakly correlated with the other 32 preliminary questionnaire items ($r = .15$). Thus, this feature, while quite common in "deep" NDE reports, was also common in the absence of other NDE items, and was therefore not specific to the NDE. Visions of the world's future, on the other hand, were reported by only 16 per cent of the sample, yet were strongly correlated with the other 32 items ($r = .45$). Thus this feature, while relatively infrequent, was even rarer in the absence of other NDE items, and was therefore more specific to the NDE.

The impression of passing through a tunnel-like dark region, a prominent feature in contemporary descriptions of NDEs (7, 13) and in historical accounts (8), was reported by 32 per cent of the present sample; yet this common experience was not significantly correlated with any other single NDE item, nor with the other 32 items collectively ($r = .17$). Although the tunnel experience may be a part of the NDE, its presence does not help differentiate depth of NDE, and therefore was not included in the quantitative NDE Scale. The deletion of the tunnel experience as a general experience not peculiar to the NDE is supported by the recent reviews by Drab (2) and by Chari (1) of tunnel experiences from a wide variety of altered states of consciousness.

Conclusions

The NDE Scale is a reliable, valid, and easily administered instrument for the quantification of a near-

death experience and its Cognitive, Affective, Paranormal, and Transcendental Components. Clinicians may use the NDE Scale to differentiate near-death experiences from organic brain syndromes and non-specific stress responses following close brushes with death. 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. For investigative purposes, whereas the WCEI may be used to quantify depth of NDE reports, the NDE Scale would be preferred in screening a population in order to identify NDEs. The NDE Scale and its components may be used as independent variables to discriminate among individuals varying in degree and type of NDE, in the investigation of psychological and clinical effects of a near-death event. The scale may also be used as a dependent measure, to test hypotheses regarding causes and mechanisms of NDEs. For research purposes, the criterion of a score of 7 or higher (1 SD below the mean) seems a valid cut-off point for selecting a group of subjects with NDEs for further study.

References

1. Chari, C. T. K. Parapsychological reflections on some tunnel experiences. *Anabiosis*, 2: 110-131, 1982.
2. Drab, K. The tunnel experience: Reality or hallucination? *Anabiosis*, 1: 126-152, 1981.
3. Gabbard, G. O., Twemlow, S. W., and Jones, F. C. Do "near-death experiences" occur only near death? *J. Nerv. Ment. Dis.*, 169: 374-377, 1981.
4. Gallup, G., Jr. *Adventures in Immortality: A Look Beyond the Threshold of Death*. McGraw-Hill, New York, 1982.
5. Greyson, B. Near-death experiences and attempted suicide. *Suicide Life Threat. Behav.*, 11: 10-16, 1981.
6. Greyson, B. Toward a psychological explanation of near-death experiences. *Anabiosis*, 1: 88-103, 1981.
7. Greyson, B., and Stevenson, I. The phenomenology of near-death experiences. *Am. J. Psychiatry*, 137: 1193-1196, 1980.
8. Holck, F. H. Life revisited: Parallels in death experience. *Omega*, 9: 1-11, 1978.
9. Noyes, R., Jr. Attitude changes following near-death experiences. *Psychiatry*, 43: 234-242, 1980.
10. Noyes, R., Jr. The experience of dying. *Psychiatry*, 35: 174-184, 1972.
11. Noyes, R., Jr., Hoenk, P. R., Kuperman, S., and Slymen, D. J. Depersonalization in accident victims and psychiatric patients. *J. Nerv. Ment. Dis.*, 164: 401-407, 1977.
12. Noyes, R., Jr., and Slymen, D. J. The subjective response to life-threatening danger. *Omega*, 9: 313-321, 1979.
13. Ring, K. *Life at Death: A Scientific Investigation of the Near-Death Experience*. Coward, McCann & Geoghegan, New York, 1980.
14. Rodin, E. A. The reality of death experiences. *J. Nerv. Ment. Dis.*, 168: 259-263, 1980.
15. Rogo, D. S. Research on deathbed experiences. *Parapsychol. Rev.*, 9: 20-27, 1978.
16. Sabom, M. B. *Recollections of Death: A Medical Investigation*. Harper & Row, New York, 1982.
17. Schnaper, N. Comments germane to the paper entitled, "The reality of death experiences" by Ernst Rodin. *J. Nerv. Ment. Dis.*, 168: 268-270, 1980.
18. Stevenson, I., and Greyson, B. Near-death experiences. *J. A. M. A.*, 242: 265-267, 1979.
19. Twemlow, S. W., Gabbard, G. O., and Jones, F. C. The out-of-body experience: A phenomenological typology based on questionnaire responses. *Am. J. Psychiatry*, 139: 450-455, 1982.