

# Do Prevailing Societal Models Influence Reports of Near-Death Experiences?

## *A Comparison of Accounts Reported Before and After 1975*

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**Abstract:** Transcendental near-death experiences show some cross-cultural variation that suggests they may be influenced by societal beliefs. The prevailing Western model of near-death experiences was defined by Moody's description of the phenomenon in 1975. To explore the influence of this cultural model, we compared near-death experience accounts collected before and after 1975. We compared the frequency of 15 phenomenological features Moody defined as characteristic of near-death experiences in 24 accounts collected before 1975 and in 24 more recent accounts matched on relevant demographic and situational variables. Near-death experience accounts collected after 1975 differed from those collected earlier only in increased frequency of tunnel phenomena, which other research has suggested may not be integral to the experience, and not in any of the remaining 14 features defined by Moody as characteristic of near-death experiences. These data challenge the hypothesis that near-death experience accounts are substantially influenced by prevailing cultural models.

**Key Words:** Near-death experience, culture, cross-cultural variation, societal beliefs.

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Transcendental or mystical experiences that occur on the threshold of death have been described sporadically in Western medical literature since the 19th century (Cullen, 1894; Donnet, 1866; Munk, 1887; Wiltse, 1889). Such experiences are of interest to psychiatrists because they may resemble psychopathological states but often have profoundly different sequelae requiring different therapeutic approaches (Greyson, 1997; Noyes et al., 1977). The DSM-IV (American Psychiatric Association, 1994) included a V Code for “Reli-

gious or Spiritual Problem” in part to address such experiences in clinical practice (Turner et al., 1995). Recent research suggests that transcendental experiences in near-death settings are reported by 12% to 18% of cardiac arrest survivors (Greyson, 2003; van Lommel et al., 2001) and that they are more consistent with a normal response to stress than with a pathological disorder (Greyson, 2000).

Although transcendental and mystical experiences can occur without the threat of death, those occurring on the threshold of death differ in their phenomenology and aftereffects (Alvarado, 2001; Gabbard and Twemlow, 1991; Gabbard et al., 1981; Stevenson and Cook, 1995). While there is some evidence of societal influences on accounts of these experiences from disparate cultures (Kellehear, 1993; Pasricha and Stevenson, 1986), it is unclear whether cultural beliefs affect the experience itself, its recall and retelling, or the collection of the accounts. A plausible expectancy hypothesis postulates that these transcendental experiences are shaped by a dying individual's cultural and personal constructs (Ehrenwald, 1974; Greyson, 1983b; Irwin, 1981; Rodin, 1980).

In 1975, Moody introduced the term *near-death experiences* (NDEs) for these phenomena, and outlined 15 characteristic features commonly reported by American survivors (Moody, 1975). These 15 features, which have come to define near-death experiences both among the academic community and in the popular imagination, were (1) ineffability, difficulty describing the experience linguistically; (2) hearing the news of their death from medical personnel, family, or others; (3) overwhelming feelings of peace; (4) noise, variously described as beautiful music or as unpleasant buzzing or ringing; (5) a tunnel or dark enclosed space; (6) a sensation of being out of the body, sometimes accompanied by apparent perception of the physical body from an external location, and sometimes accompanied by a sense of a distinct, non-physical body with different properties and senses; (7) meeting nonphysical beings, sometimes unidentified but sometimes identified as deceased acquaintances or religious figures; (8) a “Being of Light,” often described as a loving entity manifesting as a supernaturally brilliant light; (9) a life review, sometimes under the guidance of the “Being of Light” and sometimes accompanied by a sense of judgment; (10) a border or limit demarcating the boundary between terrestrial and postmortem life; (11) coming back, variously described as making a decision to return to life or as being sent back

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involuntarily; (12) telling others, and often receiving negative responses to recounting their experience; (13) effects on lives, often described as renewed focus on spirituality, increased appreciation for life, and love for others; (14) new views of death, specifically decreased fear of death and belief in postmortem survival; and (15) corroboration, in which family and/or medical personnel verify the experimenter's knowledge of events that was unlikely to have been acquired through normal perception.

Although Moody warned against using his synopsis as definitive for NDE accounts (Moody, 1977), the widespread popularity of his book, of which more than 10 million copies have been sold, and ubiquitous acceptance of his description raise the question of whether contemporary NDE accounts have been influenced by Moody's conceptual model. A scholarly review of the sociological influences on accounts of near-death experiences concluded of Moody's synopsis that "this narrative has become a template against which to measure future near-death reports" (Zaleski, 1987, p. 103), and the entry on "near-death experiences" in the *Encyclopedia of Death* noted that "it is in fact this pattern of recurring features that has come to define the NDE" (Ring, 1989, p. 193). Long and Long (2003) attempted to assess the influence of Moody's work by comparing accounts of NDEs occurring before and after his book was published. Although their research found virtually no differences between NDEs that occurred before and after 1975, their NDE accounts were all collected since 1998, thus leaving open the question of whether their accounts of NDEs that occurred before 1975 might still have been influenced by the prevailing societal model subsequently developed by Moody. To explore the impact of Moody's model, we compared NDE accounts that were collected before and after 1975. If the expectancy hypothesis is valid and Moody's description can be taken as the prevailing societal model among Western societies, then NDE accounts collected from experiencers in Western cultures since 1975 should include higher frequencies of features included in Moody's synopsis than do accounts collected prior to his introduction of the term.

## METHODS

### Source Material and Procedures

This study was a retrospective phenomenological comparison between NDE accounts that were collected by us before 1975, when Moody coined the term "near-death experience" and described the characteristic features, and matched NDE accounts collected after 1975, which may have been influenced by Moody's model. NDE accounts were obtained from participants who had contacted us to describe their unusual experiences. The stimuli for these initial contacts were usually scientific publications or reports in the popular media about our previous research into unusual subjective experiences. Accounts varied in their length and detail, and included written narratives supplemented when possible by personal interviews and written questionnaires. The initial narratives were prepared independently by experiencers, prior to any conversation or correspondence with the

authors that would have permitted any investigator influence over their content.

We included in this analysis all 24 NDE accounts we had collected before 1975 for which we had sufficient information to code. Because there was no consistent name prior to 1975 for what Moody called "near-death experiences," our pre-1975 cases had been collected variously as examples of "out-of-body experiences," "panoramic memory," or "experiences before dying." To obtain an appropriate comparison sample of more recent NDE accounts, we constructed a list of matching variables ranked in order of relevance. These variables on which post-1975 NDE accounts were matched with the pre-1975 accounts were (1) age at the time of the experience (within 5 years), (2) gender, (3) race, (4) cultural background/geographic region of ancestry, (5) condition causing the near-death event, (6) closeness to death during the event, (7) religion at the time of the experience, and (8) religious tradition of the experimenter's family of origin.

Each of the 24 accounts selected for the post-1975 comparison sample matched its index pre-1975 account for at least the first five of these eight matching variables; however, for some accounts collected prior to 1975, information on closeness to death or religion had not been collected. In those instances in which more than one post-1975 account matched an index pre-1975 account on all eight variables, we selected for the match the most recently collected account to maximize the difference from the pre-1975 cases.

Each of the 48 accounts was coded on all variables initially by one author (G. K. A.) and subsequently by another (B. G.) who was blind to the first author's ratings. Our intent was to submit any discrepancies in the first two authors' rating to the third author (I. S.) for resolution, but no such discrepancies occurred.

This study was approved by the Institutional Review Board for the Social and Behavioral Sciences at the University of Virginia. Research participants who participated in this study since the creation of that institutional review board gave informed consent.

### Statistical Analysis

All data were encoded into a standardized computer database for subsequent analysis using SPSS 10.1 for Windows. Pearson  $\chi^2$  tests and odds ratios were used to evaluate differences between the pre-1975 group and the post-1975 group on all of the 15 features described in the Moody model. A value of  $p = 0.05$  was used as the criterion for significance.

## RESULTS

The 24 NDE accounts in the pre-1975 group were collected between 1961 and 1974 (median year = 1968), and the 24 NDE accounts in the post-1975 group were collected between 1984 and 2002 (median year = 1992). The median word count of the accounts in the pre-1975 group was 802 words, and in the post-1975 group, 729.5 words. A Wilcoxon matched-pairs signed-ranks test showed the length of the accounts in the two groups to be statistically equivalent ( $W+ = 176$ ,  $W- = 124$ ,  $z = -.743$ ,  $N = 24$ ,  $p = 0.473$ ).

Demographic characteristics of those participants for whom data were available and situational variables of those

near-death experiences for which data were available are presented in Table 1. The pre-1975 and post-1975 groups were matched identically on gender, race, cultural background, and condition leading to the near-death event. They did not differ significantly on age at the time of the experience, closeness to death as reported by the participant, religion at the time of the experience, religious tradition of the participant's family of origin, or on marital status, education, or employment at the time of the experience. Both groups were predominantly female, and overwhelmingly Caucasian, of European background, and Christian. The major conditions leading to the near-death event were illnesses, complications of childbirth or gestation, and surgery.

Percentages of participants in the two groups who described each of Moody's 15 characteristic NDE features

are presented in Table 2. Multiple variables are presented for the features of coming back to life, telling others, effect on lives, and new views of death, to accommodate Moody's multifactorial descriptions of these features. None of the  $\chi^2$  values or odds ratios (for dichotomous variables) contrasting the pre-1975 and post-1975 groups were statistically significant, with the single exception of the tunnel experience: reports of a tunnel were significantly more common in NDEs reported after 1975 than before.

## DISCUSSION

The results of this comparative analysis provide little evidence of the Moody model's influence on subsequent NDE accounts. Only one of the 15 features described by

**TABLE 1.** Demographic and Situational Variables in NDEs Reported Before and After 1975

	Pre-1975	Post-1975	<i>t</i>	<i>p</i>	
Age at time of NDE: <i>y</i> ( <i>SD</i> )	25.50 (11.66)	25.96 (10.93)	0.140 ( <i>df</i> = 46)	0.889	
Gender			$\chi^2$	<i>p</i>	Odds ratio (95% CI)
Male	9 (37.5%)	9 (37.5%)	0.000 ( <i>df</i> = 1)	1.000	1.000 (.311–3.218)
Female	15 (62.5%)	15 (62.5%)			
Race			0.000 ( <i>df</i> = 1)	1.000	1.000 (.059–16.970)
Caucasian	23 (95.8%)	23 (95.8%)			
Mixed	1 (4.2%)	1 (4.2%)			
Cultural background			0.000 ( <i>df</i> = 1)	1.000	1.000 (.059–16.970)
European	23 (95.8%)	23 (95.8%)			
Mixed	1 (4.2%)	1 (4.2%)			
Condition leading to NDE			0.000 ( <i>df</i> = 5)	1.000	
Illness	7 (29.2%)	7 (29.2%)			
Gestational complication	6 (25.0%)	6 (25.0%)			
Surgery	5 (20.8%)	5 (20.8%)			
Allergic reaction	2 (8.3%)	2 (8.3%)			
Accident	2 (8.3%)	2 (8.3%)			
Other	2 (8.3%)	2 (8.3%)			
Closeness to death			4.333 ( <i>df</i> = 3)	0.228	
Loss of vital signs	10 (41.7%)	12 (50.0%)			
Near death but vital signs intact	4 (16.7%)	7 (29.2%)			
Serious but not near death	1 (4.2%)	2 (8.3%)			
Unknown	9 (37.5%)	3 (12.5%)			
Religion at time of NDE			0.186 ( <i>df</i> = 1)	0.666	0.600 (.058–6.213)
Christian	6 (85.7%)	18 (78.3%)			
Non-Christian	1 (14.3%)	5 (21.7%)			
Religious tradition of family			0.007 ( <i>df</i> = 1)	0.933	1.111 (.097–12.750)
Christian	6 (85.7%)	20 (87.0%)			
Non-Christian	1 (14.3%)	3 (13.0%)			
Marital status at time of NDE			0.758 ( <i>df</i> = 2)	0.684	
Single	9 (45.0%)	7 (36.8%)			
Living with partner	9 (45.0%)	11 (57.9%)			
Separated/divorced/widowed	2 (10.0%)	1 (5.3%)			
Education at time of NDE			0.762 ( <i>df</i> = 1)	0.383	0.480 (.091–2.523)
Up to high school	10 (62.5%)	4 (44.4%)			
Beyond high school	6 (37.5%)	5 (55.6%)			
Employment at time of NDE			0.442 ( <i>df</i> = 1)	0.506	1.633 (.383–6.968)
Employed	7 (58.3%)	16 (69.6%)			
Unemployed	5 (41.7%)	7 (30.4%)			

**TABLE 2.** Features of the Moody Model in NDEs Reported Before and After 1975

	Pre-1975	Post-1975	$\chi^2$	<i>p</i>	Odds Ratio (95% CI)
Ineffability	4.2%	12.5%	1.091 ( <i>df</i> = 1)	0.296	3.286 (.317–34.084)
Hearing the news of death	20.0%	20.0%	0.000 ( <i>df</i> = 1)	1.000	1.000 (.150–6.671)
Peace	77.8%	89.5%	0.682 ( <i>df</i> = 1)	0.409	2.429 (.283–20.818)
Music or noise	15.4%	19.0%	0.074 ( <i>df</i> = 1)	0.785	1.294 (.202–8.306)
Tunnel	15.8%	63.6%	9.616 ( <i>df</i> = 1)	0.002	9.333 (2.065–42.180)
Out-of-body experience	95.8%	81.9%	2.327 ( <i>df</i> = 1)	0.196	0.196 (.020–1.906)
Meeting others	40.9%	45.0%	0.072 ( <i>df</i> = 1)	0.789	1.182 (.347–4.019)
“Being of Light”	20.0%	37.5%	0.442 ( <i>df</i> = 1)	0.506	2.400 (.175–32.879)
Life review	6.3%	9.1%	0.103 ( <i>df</i> = 1)	0.748	1.500 (.124–18.129)
Border or limit	38.5%	30.0%	0.254 ( <i>df</i> = 1)	0.614	0.686 (.158–2.985)
Coming back to life			1.924 ( <i>df</i> = 1)	0.165	0.317 (.061–1.644)
Voluntarily	64.3%	36.4%			
Involuntarily	35.7%	63.6%			
Telling others					
Told others	93.3%	100.0%	1.102 ( <i>df</i> = 1)	0.294	
Felt need to talk	100.0%	69.2%	1.231 ( <i>df</i> = 1)	0.267	
Fear of talking	100.0%	42.9%	4.935 ( <i>df</i> = 1)	0.026	
Effect on lives					
Attitude changes	100.0%	100.0%			
Lifestyle changes	100.0%	66.7%	0.933 ( <i>df</i> = 1)	0.334	
New views of death					
Decreased fear	100.0%	91.7%	0.702 ( <i>df</i> = 1)	0.402	
Belief in survival	90.9%	80.0%	0.509 ( <i>df</i> = 1)	0.476	0.400 (.030–5.248)
Corroboration	4.2%	4.2%	0.000 ( <i>df</i> = 1)	1.000	

Moody as characteristic of NDEs, the tunnel experience, was reported significantly more often after his work was published than before. Thus, reports of this particular feature may have been influenced by Moody's book. We selected a liberal criterion of  $p = 0.05$  for significance due to the exploratory nature of this study; applying a Bonferroni correction for multiple simultaneous statistical tests would yield a more rigorous criterion value of  $p = 0.002$  for each of the 26 comparisons tested. By this more conservative standard, the tunnel experience remained the only feature that differentiated the two groups.

Despite Moody's selection of the tunnel as one of his 15 characteristic NDE features, subsequent researchers have questioned the centrality of the tunnel in these experiences. Drab (1981) described the tunnel experience as a secondary hallucinatory mental creation, and Chari (1982) noted that the experience was not unique to NDEs, but was common to a variety of altered states of consciousness. Greyson (1983a) deleted the tunnel experience from the NDE Scale after finding that that feature did not contribute statistically to differentiating “depth” of NDE. Some researchers have proposed neurophysiological models for the visual experience of a tunnel (Blackmore, 1993; Blackmore and Troscianko, 1989; Cowan, 1982). On the other hand, Kellehear et al. (1994) disputed the physiological model for the tunnel, suggesting instead that the tunnel sensation in NDEs was a culture-bound phenomenon confined largely to Western societies (Kellehear, 1993). The finding in the present study that tunnels were included more often in NDEs reported after Moody identified

them as a characteristic feature of NDEs (odds ratio = 9.333,  $p = 0.002$ ) is consistent with the culture-bound hypothesis, but not with a physiological model of the tunnel experience.

This study suggesting that the popularity of Moody's model of NDEs has not substantially influenced reports of such experiences complements a recent Rasch scaling analysis that provided construct validity for a core NDE (Lange et al., 2004). It was not possible to assess in any rigorous way whether the NDE narratives in this study collected prior to 1975 conformed to the scoring scheme for “true NDEs” reported by Lange et al. (2004) because these accounts were collected prior to the development of the quantitative NDE Scale (Greyson, 1983a) that provided the basis for the Rasch scaling analysis. Nevertheless, the item hierarchy of both groups of NDE accounts investigated in this study grossly appeared to follow the “true NDE” hierarchical structure derived from the Rasch analysis.

## CONCLUSION

This study found that NDEs reported after Moody's model had permeated societal notions of the phenomenon differed from NDEs reported before that time on only one of Moody's 15 core features. Furthermore, that one feature has been singled out by other researchers as a cultural contaminant not necessarily integral to NDEs. Thus, the findings suggest that the prevailing societal conception of NDEs does not significantly influence the phenomenology of these experiences, and by implication cast doubt on the expectancy

hypothesis that the content of NDEs is shaped largely by cultural and psychosocial constructs. The case for validity of these narratives would be stronger if the accounts studied had been determined to be “true NDEs” as validated by a Rasch analysis (Lange et al., 2004), but such a determination was not possible with the limited data available from the older accounts that predated the NDE Scale. It should further be noted that this study was limited to Western (American and British) NDEs. Studies of non-Western cases leave open the larger issue of cross-cultural differences in the interpretation of NDEs.

This study was concerned only with the manifest content of experiencers’ accounts of their NDEs. We did not investigate, nor do we draw any inferences about, the accuracy of these accounts—for example, participants’ claims of proximity to death or of corroboration of out-of-body perceptions. The study was limited by its small sample size, inasmuch as very few individuals had reported these experiences before Moody gave them a name and standardized structure. A related limitation is that the coding categories in our computerized database, originally developed independently of Moody’s work, did not correspond exactly with his descriptions of the 15 characteristic features. This limitation is perhaps ameliorated by the interrater reliability of the coding of the cases. A further weakness of this study is that there was no documentation of the post-1975 participants’ familiarity with the prevailing societal model popularized by Moody. We suggest that future researchers should test our assumption that post-1975 participants were familiar with the prevailing Moody model by assessing participants’ knowledge of specific phenomenological elements of that model.

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