

# Dissociation in people who have near-death experiences: out of their bodies or out of their minds?

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## Summary

**Background** Some people who come close to death report having experiences in which they transcend the boundaries of the ego and the confines of time and space. Such near-death experiences (NDEs) share some features with the phenomenon of dissociation, in which a person's self identity becomes detached from bodily sensation. This study explored the frequency of dissociative symptoms in people who had come close to death.

**Methods** 96 individuals who had had self-reported NDEs, and 38 individuals who had come close to death but who had not had NDEs completed a mailed questionnaire that included a measure of "depth" of near-death experience (the NDE scale) and a measure of dissociative symptoms (the Dissociative Experiences Scale). Median scores in the two groups were compared with Mann-Whitney *U* tests. The association between depth of NDE and dissociative symptoms was tested by Spearman's rank-order correlation between scores on the NDE scale and the dissociative experiences scale.

**Findings** People who reported NDEs also reported significantly more dissociative symptoms than did the comparison group. Among those who reported NDEs, the depth of the experience was positively correlated with dissociative symptoms, although the level of symptoms was substantially lower than that of patients with pathological dissociative disorders.

**Interpretation** The pattern of dissociative symptoms reported by people who have had NDEs is consistent with a non-pathological dissociative response to stress, and not with a psychiatric disorder. A greater understanding of the mechanism of dissociation may shed further light on near-death and other mystical or transcendental experiences.

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## Introduction

Dissociation is the separation of thoughts, feelings, or experiences from the normal stream of consciousness and memory.<sup>1</sup> Examples range from the common non-pathological experiences of daydreaming, to psychogenic amnesia and the "multiple personalities" seen in dissociative identity disorder.<sup>2</sup> Although Janet,<sup>3</sup> who coined the term dissociation (*désagréations psychologiques*), viewed it as a discontinuity in awareness caused by stress but rarely experienced by healthy persons, his contemporaries James<sup>4</sup> and Prince<sup>5</sup> argued that dissociation is a continuous variable present to some degree in everyone. Most modern writers regard dissociation as an adaptive response to intolerable physical or emotional trauma common in otherwise normal people and not necessarily causing high levels of distress.<sup>6</sup> The relation between this common traumatic dissociation and the pathological traits seen in dissociative disorders is controversial.<sup>7</sup> The 4th edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders cautioned that "Dissociation should not be considered inherently pathological and often does not lead to significant distress, impairment, or help-seeking behaviour".<sup>8</sup>

Dissociative symptoms have been described in disparate groups of trauma victims, including prisoners, hostages, and rape victims.<sup>9</sup> Spiegel and Cardeña<sup>2</sup> concluded that 25–50% of trauma survivors experience a sense of detachment. In extreme cases, this dissociated perception may lead to amnesia for the trauma or a distorted memory of it.

The dissociative experiences scale (DES)<sup>1</sup> is the most widely used screening instrument for dissociation. The DES is a 28-item visual analogue scale on which respondents are asked to indicate the percentages of time during which they have different types of dissociative experiences (excluding experiences under the influence of alcohol or drugs). Examples range from the common and non-pathological experience of becoming so absorbed in watching television that the person is unaware of what is happening in the room, to the rare and pathological experiences of having no memory for important past events, or feeling that his or her body belongs to someone else. Individuals with diagnosed dissociative disorders typically have DES scores of 30 or higher; most other groups have scores that are very low, often near zero.<sup>7</sup>

Researchers can calculate the percentage of individuals who score 30 or higher on the DES, using this as a cutoff for dividing a sample into "high dissociators" and "low dissociators".<sup>10</sup> Although the DES includes items relevant to both normal and pathological dissociation, an eight-item subset of the DES, the DES-T, has been developed as a sensitive measure of purely pathological dissociation. Any score on the DES-T indicates a pathological case of dissociation.

Some people who come close to death report having had a profound experience in which they believed they

|                                 | Total (n=134)  | Individuals who had had NDEs (n=96) | Individuals who had not had NDEs (n=38) | Statistical test | p     |
|---------------------------------|----------------|-------------------------------------|---|------------------|-------|
| <b>Demography</b>               |                |                                     |   |                  |       |
| Number of men                   | 50 (37%)       | 33 (34%)                            | 17 (45%)                                | $\chi^2=1.25$    | 0.264 |
| Median (range) age (years)      | 50.0 (22–82)   | 49.0 (22–82)                        | 58.5 (24–75)                            | $U=1440.5$       | 0.058 |
| <b>Near-death experiences</b>   |                |                                     |   |                  |       |
| Median (range) NDE scale score  | 13.0 (0–31)    | 17.0 (7–31)                         | 0.0 (0–6)                               | ..               | ..    |
| <b>Dissociative experiences</b> |                |                                     |   |                  |       |
| Median (range) DES score        | 9.0 (0.2–83.2) | 10.7 (0.2–83.2)                     | 7.3 (2.1–38.2)                          | $U=1404.5$       | 0.008 |
| Median (range) DES-T score      | 2.5 (0–70.0)   | 4.4 (0–70.0)                        | 1.9 (0–40.0)                            | $U=1438.5$       | 0.054 |
| Number of high dissociators     | 19 (14%)       | 17 (18%)                            | 2 (5%)                                  | $\chi^2=3.465$   | 0.063 |

Table 1: Characteristics of individuals who had come close to death

left their physical bodies and transcended the boundaries of the ego and the ordinary confines of time and space. These experiences, often called near-death experiences (NDE)s, include cognitive elements such as accelerated thought processes and a “life review”, affective elements such as intense feelings of peace and joy, purportedly paranormal elements such as a sensation of being out of the body or visions of future events, and transcendental elements, such as an experienced encounter with deceased relatives or what is interpreted as an unearthly realm.<sup>11–13</sup> Although the term near-death experience was not coined until 1975, transcendental experiences near death were reported in the medical literature of the 19th century,<sup>14,15</sup> and the phenomenon had been described as a discrete syndrome in 1892, when Heim<sup>16</sup> published a collection of such cases. A review of all the published estimates concluded that NDEs probably happen to between 9% and 18% of people who have been demonstrably near death.<sup>17</sup>

Several hypotheses have been proposed to explain NDEs; these hypotheses encompass both physiological mechanisms<sup>18,19</sup> and sociopsychological factors,<sup>20,21</sup> but the cause remains unclear. Nevertheless, there is a consistent pattern of change in beliefs, attitudes, and values after these experiences.<sup>13,22,23</sup> The NDE scale is a 16-item, self-scoring, multiple-choice questionnaire which has documented reliability and validity, and which differentiates NDEs from other responses to a close encounter with death.<sup>12</sup> A score of 7 or higher (of a possible 32) defines an experience as an NDE.

Retrospective studies of people who report NDEs have shown that these individuals are psychologically healthy.<sup>24,25</sup> However, some people who have NDEs report distress or psychosocial impairment that may be related to difficulty in integrating the experience and its sequelae into their lives.<sup>26</sup>

In the first attempt to understand NDEs psychologically, Pfister<sup>27</sup> proposed that people faced with potentially inescapable danger attempt to avoid this unpleasant reality through pleasurable fantasies. This interpretation was elaborated by Noyes and Kletti,<sup>11</sup> who viewed the NDE as a type of depersonalisation. However, NDEs differ from depersonalisation on a number of critical points.<sup>24</sup> Irwin<sup>28</sup> argued that what is altered is not the person’s sense of identity, but the association of this identity with bodily sensation. Therefore, he suggested that the NDE is not a type of depersonalisation but one of dissociation of the self identity from bodily sensation and emotions.

Many NDEs include features that are suggestive of dissociation; such features include the partial or total disconnection of the individual’s perception experiences, cognitive functioning, emotional state, and sense of identity from the mainstream of the individual’s

conscious awareness.<sup>29</sup> The epitome of disconnection between the self and the body is the sensation of existing outside the physical body and observing it from another spatial location; this so-called “out-of-body experience” is common in NDEs,<sup>12,13</sup> and is also described by trauma victims in whom it is seen as a defence against overwhelming physical threat.<sup>9</sup>

Irwin<sup>28</sup> speculated that people who have NDEs may develop a tendency to dissociate in response to very stressful unforeseen events, and Ring<sup>22</sup> proposed a developmental theory of sensitivity to extraordinary experiences such as NDEs, in which childhood trauma stimulates the development of a dissociative response as a means of psychological defence. Both authors noted, however, that people who have NDEs do not develop a general dissociative defence which they used to cope with everyday stressors, nor do they have a dissociative disorder. The mental health of most such individuals suggests that NDEs are in fact unrelated to clinical dissociative disorders, which are characterised by persistent, recurrent, or chronic dissociation.<sup>8</sup> Although individuals who do meet diagnostic criteria for dissociative disorders may benefit from specific treatments for dissociation, the majority do not have dissociative disorders but nevertheless report dissociative symptoms. Do these individuals have sufficient distress or impairment to warrant similar therapeutic interventions? This study examines the frequency and type of dissociation among a sample of people who had NDEs, and among individuals who came close to death but did not have NDEs.

## Methods

Participants were recruited from among individuals who contacted me in order to share accounts of their close brushes with death. Prospective participants were told that the study involved the completion of questionnaires on the specific NDE features that they experienced, and on “several kinds of experiences frequently reported by persons following NDEs . . . so we can determine whether these experiences are more common among people who have NDEs than among other people.” The term dissociation was not used either in the explanatory letter or on the questionnaire itself. After the description of the study was mailed to the participants, written informed consent was obtained.

Volunteers were then given a number, and were mailed questionnaires that included the NDE scale<sup>12</sup> and the DES.<sup>1</sup> Questionnaires were completed anonymously, and were identified only by number. Scores on the NDE scale were used as a measure of depth of near-death experience; a score of 7 or greater was used as a criterion for the presence of an NDE. Scores on the DES were used as measures of dissociation. Respondents who scored 30 or greater were defined as high dissociators, and those who scored below 30 as low dissociators.<sup>10</sup> In addition, scores on the DES-T were used as a measure of pathological dissociation.<sup>7</sup>

|                                 | NDE scale (n=96) | DES (n=134)   | DES-T (n=134) |
|---------------------------------|------------------|---------------|---------------|
| <b>Demography</b>               |                  |               |               |
| Age                             | -0.31 (0.002)    | -0.17 (0.046) | -0.17 (0.055) |
| <b>Near-death experiences</b>   |                  |               |               |
| NDE scale score                 | ..               | 0.27 (0.008)  | 0.27 (0.008)  |
| <b>Dissociative experiences</b> |                  |               |               |
| DES score                       | 0.27 (0.008)     | ..            | ..            |
| DES-T score                     | 0.27 (0.008)     | ..            | ..            |

Data are Spearman's rank-order correlations (p).

Table 2: **Correlation between NDE scale scores and DES scores**

The distribution of scores on the NDE scale, like that of the DES, is skewed, often with an SD similar to the mean. For these reasons, only non-parametric statistical tests were used: Mann-Whitney *U* tests to compare the median scores of two groups; Spearman's rank-order correlation to measure the association between two continuous variables; and Pearson's  $\chi^2$  test to assess frequency distributions.

## Results

The study sample included 134 individuals who claimed to have come close to death. 96 (72%) claimed to have had NDEs and described experiences that scored 7 or greater on the NDE scale, and 38 (28%) denied having had NDEs and described experiences that scored less than 7. The two groups were not significantly different in gender distribution, but the individuals who had had NDEs tended to be younger than those who had not (table 1).

The DES scores of the individuals who had had NDEs were significantly higher than those of the individuals who had not, although they were only a third as high as those seen in clinical dissociative disorders.<sup>7</sup> Scores on the DES-T, which identifies a pathological dissociative disorder, tended to be higher among those who had had NDEs than among those who had not. The proportion of participants who could be categorised as high dissociators on the basis of DES scores of 30 or higher also tended to be greater among those who had had NDEs than among those who had not. Both of these differences were of borderline significance (table 1).

Younger age was significantly associated with depth of near-death experience and with degree of dissociation; the association of younger age with pathological dissociation was of borderline significance. Gender bore no significant association with scores on the NDE scale, the DES, or the DES-T. Among participants who reported NDEs, NDE scale scores were positively correlated with scores on both the DES and DES-T, suggesting that individuals who described more elaborate NDEs also report more dissociation and more pathological dissociation (table 2). When age was controlled for, the partial correlation between NDE scale score and DES score was 0.26.

There was a higher proportion of women in the high dissociators group than in the low dissociators, but the two groups were similar in age. The proportion of high

dissociators tended to be greater among those who reported NDEs than among those who did not; NDE scale scores among high and low dissociators were similar (table 3).

## Discussion

Because dissociation is often related to previous experiences of trauma<sup>2,6</sup> and has been linked to "otherworldly" altered states similar to those experiences in NDEs,<sup>22,28</sup> some have suggested that people who have come close to death, and in particular those who have NDEs, might show high levels of dissociation. This sample of individuals who had had NDEs scored significantly higher on the DES than individuals who had come close to death without having had NDEs, but substantially lower than patients with dissociative disorders.

The profile of people who had had NDEs on the DES is suggestive of a non-specific response to stress with a low specificity for dissociative disorders. This profile is consistent with clinical observations that such individuals tend to describe the occurrence of dissociative phenomena during their experience, but do not as a group suffer the degree of distress or impairment that patients with dissociative disorders do. Although they report higher rates of non-pathological dissociation than do individuals who have not had NDEs, these symptoms are insufficient to suggest the presence of a dissociative disorder.

A variable possibly confounding the association between NDE scale and DES score in this sample was the participant's age, which was inversely correlated with both NDE scale scores and DES scores. To adjust for this factor, the partial correlation coefficient was calculated. The result was still highly significant.

The retrospective design of this study does not allow us to say whether NDEs occur more frequently in people with previously established dissociation in response to trauma<sup>22,28</sup> or whether such experiences induce dissociation in people who were previously not prone to dissociation. Although dissociative experiences and NDEs seem to be positively correlated, the question of cause and effect can be answered only by a prospective study in which dissociative experiences are assessed in individuals before and after their NDEs.

A weakness of the current study is its reliance on self-selected participants. People who have near-death experiences who do not come forward voluntarily may possibly experience dissociative symptoms different from those who do. For example, people who score highly on the DES may have more difficulty recalling their NDEs, or alternatively, people who have low DES scores may be less interested in exploring their experiences in research. Furthermore, no attempt was made to corroborate individuals' claims that they had been close to death. Individuals whose medical records document proximity

|   | High dissociators (n=19) | Low dissociators (n=115) | Statistical test | p     |
|---|--------------------------|--------------------------|------------------|-------|
| <b>Demography</b>                       |                          |                          |                  |       |
| Number of men                           | 3 (16%)                  | 47 (41%)                 | $\chi^2=4.385$   | 0.036 |
| Median (range) age (years)              | 42.0 (24-70)             | 52.0 (22-82)             | $U=860.0$        | 0.138 |
| <b>Near-death experiences</b>           |                          |                          |                  |       |
| Number of individuals who reported NDEs | 17 (89%)                 | 79 (69%)                 | $\chi^2=3.465$   | 0.063 |
| Median (range) NDE scale score*         | 15.0 (8-31)              | 17.0 (7-31)              | $U=624.0$        | 0.648 |

\*Among individuals who reported NDEs.

Table 3: **Characteristics of high dissociators and low dissociators**

to death report somewhat different NDEs from those whose records provide no such confirmation.<sup>30</sup> For these reasons, it may be valuable to repeat this study with an unselected cohort of people who have come close to death or, preferably, a random sample of people who are likely to come close to death.

Although NDEs are usually regarded as positive experiences, emotional problems may arise from the difficulty in integrating them into the individual's usual consciousness.<sup>26</sup> Although there have been speculations about the neurochemical mechanisms of NDEs, such speculations have not been supported by empirical data.<sup>23</sup> The unrelated question of the personal meaning of NDEs, of whether they permit a personal or mystical insight into the afterlife, is beyond the scope of this study; indeed, some have argued that it is beyond the scope of science.<sup>31</sup> The conclusion reached here that NDEs are a normal psychophysiological response to stress does not argue either for or against that position.

This study supports the view that NDEs involve a shifting of attention from the physical environment to an altered state of consciousness in which perception, cognitive functioning, emotional states, and sense of identity may be partly or completely disconnected from the mainstream of conscious awareness.<sup>29</sup> NDEs do not seem to be a pathological type of dissociation or a manifestation of dissociative disorder; they seem to be a non-pathological experience that involves the psychological mechanism of dissociation as a normal response to intolerable trauma. A greater understanding of the dynamics and pathophysiology of dissociation might therefore shed further light on NDEs and, by extension, on other mystical or transcendental states of consciousness.

#### Contributors

Bruce Greyson was responsible for all aspects of the study.

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