

# CULTURAL DIVERSITY, SUPERSTITIONS, AND PSEUDOSCIENTIFIC BELIEFS AMONG ALLIED HEALTH STUDENTS

DAVID F. DUNCAN

*Division of Biology and Medicine  
Brown University  
Providence, Rhode Island 02912*

J. WILLIAM DONNELLY

*Department of Health, Physical Education and Recreation  
Hofstra University  
Hempstead, New York 11550*

THOMAS NICHOLSON

*Department of Public Health  
Western Kentucky University  
Bowling Green, Kentucky 42101*

ALICE J. T. HEES

*College of Technical Careers  
Southern Illinois University  
Carbondale, Illinois 62901*

Educators need to be aware of the cultural biases of their students. Pseudoscientific and paranormal beliefs among allied health students can be of particular importance. A survey of paranormal beliefs was administered to 133 allied health students at two universities. Substantial levels of belief in pseudoscience and the paranormal were reported. The allied health curriculum clearly must include a recognition of and response to the pseudoscientific beliefs of students along with education aimed at equipping students to make scientific evaluations of paranormal claims.

Research findings that reveal students' cultural biases assist the educator in achieving a fuller understanding of the student (Harris, 1991; Nel, 1991). The belief systems of allied health students and faculty govern their attitudes toward clients and their health conditions. It is commonly held that the enlightened scientific age has brought to an end the moralistic style of health education, in which it was common to label drunkenness and other drug abuse as "sinful" behavior and to explain mental and physical illnesses as the results of moral

weakness or even demonic possession. Heavy reliance on the "evil" nature of alcohol persisted in educational materials well into the 1970's (Health Education, 1985; Milgram, 1976). Today we like to think that we have put such non-scientific beliefs behind us.

Hees (1986; 1991) has found, nonetheless, that there is a persistent minority among nursing and allied health students and their teachers who believe that drunkenness is a sin, that any drinking is sinful or unhealthy, and that alcoholism is a moral

weakness. Such beliefs color the treatment of alcoholic clients and the willingness of educators to teach about alcohol, alcoholism and the alcohol-impaired nurse.

The educator needs to be aware that a lack of meaningful ties to one's religious support system may be one of the underlying factors in a student's immobilizing anxiety regarding test-taking and other aspects of the program of study (Grody, 1980). Muslim students, for instance, must be ritually clean to pray five times a day; using a campus restroom defiles the believer, requiring a stress for the Muslim student required to maintain a class and practicum schedule on a Western calendar. (Islamic Affairs Department, 1989)

Similar problems exist for students of other backgrounds. Charismatic Christian students may believe that prayer, rather than tutoring or improved study habits, is the means to improve on academic deficiencies. Students who believe in astrology may be either overconfident or hopeless as a result of their horoscope's prediction for an exam day.

Students who readily accept pseudoscientific theories or who adhere to traditional or "New Wave" superstitions show a deficiency in scientific judgement ability. Several authors (Bennett, 1991; McKenzie, 1986) have addressed the problems of teaching Fundamentalist students who believe that they already know the "truth" on all or many basic issues. Bennett (1991) even goes so far as to suggest that such students might be excluded from public higher education unless they are willing to open their basic cleansing ritual before the next prayers — a requirement that may be difficult to fit into a student's busy assumptions to question. The same problem is addressed by Farmer (1982) who urges that promoting an understanding of the epistemological assumptions underlying modern science should be one of

the priorities of higher education. This need is not limited to Fundamentalist students, or Muslim students, or any other specific cultural group, as is indicated by Dollar's (1989) finding that most students enter college as freshmen with low levels of scientific thinking and graduate four years later with no change. The present study was designed to examine one aspect of such beliefs, namely beliefs in the paranormal. Many of these beliefs may impact upon the learning and subsequent professional performance of allied health students.

### Methods

The sample for this study was drawn from the student bodies of two universities — a state university in a Southeastern state and a private university in a Northeastern state. Allied health students at both universities were sampled through a cluster sample in service courses which attracted diverse enrollments of students at all levels and from all majors. The final sample of 133 students included majors in health administration, medical records administration, physical therapy and medical laboratory technology.

The survey instrument was adapted from the interview schedule used by Gallup and Newport (1991) in the Gallup Mirror of America survey of Belief in Paranormal Phenomena Among Adult Americans. For purposes of this study, however, their interview schedule was converted into a three-page pencil-and-paper questionnaire. The survey was administered during regular class periods of the selected courses. Students were assured of their anonymity and that their participation was voluntary. Participation was virtually 100%. Human subjects regulations of both institutions were adhered to.

### Results

The total sample of 133 students included

6 freshmen, 23 sophomores, 30 juniors, 43 seniors and 30 graduate students. They ranged in age from 18 to 49, with a mean age of 24.1 years and a median of 22 years. There were 52 Protestants, 42 Catholics, 10 Jews, 25 of other faiths, and 4 of no religion. Asked, "how important is religion in your life?" 16 responded that it was very important; 67 that it was somewhat important; and 49 that it was not important.

Levels of belief in the paranormal included highs of 74% belief in *deja vu*, 56% in the Devil, 46% in extrasensory perception, 41% that vitamin C can prevent or cure the common cold, and 36% believing in chiropractic medicine. Claims of experience of the paranormal included highs of 88% reporting feelings of *deja vu*, 28% reporting having cured themselves of a cold by taking vitamin C, 25% claimed experience of telepathy and 25% reporting seeing a ghost.

Cross-tabulations of beliefs with religion revealed that Protestants were more likely to believe in the Devil ( $X^2 = 32.72$ , 4 d.f.,  $p < .001$ ) and in possession by the Devil ( $X^2 = 37.89$ , 4 d.f.,  $p < .001$ ) than were other denominations.

Catholics were most likely to believe in or be unsure about astrology and Protestants least likely to believe ( $X^2 = 20.65$ , 8 d.f.,  $p < .009$ ). Protestants were significantly less likely than other students to believe in reincarnation ( $X^2 = 19.79$ , 8 d.f.,  $p < .02$ ) or haunted houses ( $X^2 = 17.63$ , 8 d.f.,  $p < .03$ ) but were more likely to believe in witches ( $X^2 = 19.55$ , 8 d.f.,  $p < .02$ ).

In terms of reported experience, the only significant interaction with religion was for "talking to or being talked to by the Devil." Protestants were significantly more likely to report this experience ( $X^2 = 19.74$ , 8 d.f.,  $p < .02$ ).

Self-reported importance of religion was significantly inversely associated with belief in possession by the Devil ( $X^2 = 20.54$ , 4

d.f.,  $p < .001$ ), astrology ( $X^2 = 14.29$ , 4 d.f.,  $p < .007$ ), extrasensory perception ( $X^2 = 11.74$ , 4 d.f.,  $p < .02$ ), the Devil ( $X^2 = 10.53$ , 4 d.f.,  $p < .05$ ), and reincarnation ( $X^2 = 9.67$ , 4 d.f.,  $p < .05$ ). In each of these relationships, greater belief in the paranormal was associated with a lower self-reported importance of religion in the student's life.

### Discussion

Nearly two-thirds of allied health students have religious affiliations that are significant to them. A significant majority of our subjects believe in *deja vu* and in the embodiment of evil in a particular spiritual being — the Devil. Nearly half believe in extrasensory perception and one-quarter of the subjects report having seen a ghost. The profile of beliefs among the allied health students in this study reveals that many do not limit their beliefs to the realm of scientific knowledge. It follows, then, that perceptions of the human condition, concepts of disease and healing, and beliefs about the spiritual aspects of health and health behavior, all must be factored into lesson plans in the allied health curriculum.

The curriculum on disease processes must include an understanding of and response to the prevailing beliefs that are associated with them. Such beliefs as fatalism, "the Devil made me do it," or "God is punishing me," impact on the client's participation in his recovery (Duncan, 1987). The health care worker with knowledge of, and an accepting attitude toward, such personal beliefs can more easily give care in a non-judgemental and understanding manner. Student awareness of their own beliefs can be learned in tandem with learning about client attitudes. Such simultaneous education is time-efficient, thus addressing the excuse for inaction that "we don't have enough time" to teach it all. The educator might want to preface a discussion of treatment rationales

Table 1. Belief in the Paranormal by Allied Health Majors

Belief	Belief		
	Believe	Not Sure	Do Not Believe
Deja vu, or the feeling that you have been somewhere or done something before	99	26	5
The Devil	75	23	28
ESP, or extrasensory perception	61	51	17
Possession by the Devil	34	58	36
Psychic or Spiritual Healing	43	54	33
Telepathy	39	50	40
Haunted houses	42	45	42
Extraterrestrial beings have visited the Earth	38	43	48
Clairvoyance	36	50	44
Astrology	33	35	60
Ghosts	38	40	51
Reincarnation	15	53	61
Communication with the dead	13	51	64
Telekinesis	11	39	78
Witches	19	28	80
Channeling, or allowing a "spirit being" to assume control of a human body during a trance	13	38	77
Pyramids have a special healing power	4	37	86
Rock crystals have a special healing power	5	35	87
Chiropractic medicine is a useful holistic alternative to traditional medicine	48	46	35
Vitamin C can prevent or cure the common cold	55	36	41
Homeopathic medicine is a useful holistic alternative to traditional medicine	22	73	34

Table 2.  
Self-Reported Experience with the Paranormal by Allied Health Majors

Experience	Not		
	Yes	Sure	No
The feeling of deja vu or that you have been somewhere or done something before	117	9	7
That you were in touch with or getting a message from someone without using the five senses	33	20	80
Been able to heal your body using the power of your mind without traditional medicine	23	22	88
Felt that you were in touch with someone who has already died	22	9	102
Consulted a fortune-teller or psychic	18	3	112
Been in a house you felt was haunted	33	5	95
Felt you were talking to or being talked to by the Devil	12	6	115
Seen or been in the presence of a ghost	10	9	114
Felt that you were on Earth before in a previous life	6	8	118
Personally seen someone moving or bending an object using just mental energy	11	2	120
Consulted an astrologer	9	1	123
Bought or used a rock crystal for its healing powers	7	1	125
Been personally involved in channeling	2	1	130
Bought or used a pyramid for its healing powers	1	1	131
Been treated by a chiropractor	29	1	103
Cured yourself of a cold by taking vitamin C	37	19	77
Taken a homeopathic remedy for an illness	19	12	99

with the administration of an attitude scale regarding the disease, its causes and helps and hindrances to healing; the attitudes revealed can then be addressed in the following discussion. Another such prefatory activity could be a brief true-false quiz

over common fallacies about the disease. Yet another would be for the Instructor to have each student to take a few minutes to jot down all the word pictures and feelings that come to mind as they think about a particular disease or type of client. Any of

these exercises could lead to a brainstorming session exploring the impact these beliefs and feelings have on client recovery and caregiver performance as well as an examination of the scientific evidence which bears on those beliefs.

Whatever educational approach is taken, the allied health educator must respond to paranormal and pseudoscientific beliefs held by students. Awareness of these beliefs is a necessary starting point for whatever approach the educator will take. Hopefully this study will raise awareness among allied health educators and other college teachers of the need to examine the superstitious and pseudoscientific beliefs of their students in the context of cultural diversity.

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