

## The Effect of News Stories About UFOs on Readers' UFO Beliefs: The Role of Confirming or Disconfirming Testimony From a Scientist

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An experiment was designed to determine the impact of different versions of a news story on UFO beliefs. Of particular interest was the impact of story information that would either cast doubt upon the reality of UFOs or lend credence to their existence. The effect of including a scientific authority in the story was also examined. Results revealed that participants were more likely to express belief in UFOs when the story included a scientific authority who spoke in favor of UFOs' existence. A scientific authority who discredited the existence of UFOs did *not* produce lower levels of UFO beliefs.

■ One claim that consistently appears across much of the literature dealing with paranormal beliefs is that the mass media should accept a major responsibility for encouraging people toward uncritical acceptance of paranormal claims. Writing in *Time* magazine, Randi (1992) noted that the reason for the prevalence of "absurd beliefs" among the populaces of every culture ". . . is to be found in the uncritical acceptance and promotion of these notions by the media. . ." (p. 80). And many scholars have echoed Randi's assertions (e.g., Feder, 1984; Kurtz, 1985; Maller & Lundeen, 1932).

Until recently, there was almost no empirical research to substantiate or refute the view that media depictions of the paranormal influence people to believe in paranormal phenomena. This is somewhat surprising, given the fact that scientists, philosophers and skeptics often blame the media for disseminating scientifically unproven ideas about the paranormal. One would expect these same scientists to present scientific evidence for their own claim that the media play a powerful role in this domain.

Despite the relative lack of research, there have been some recent studies on this topic that support the notion that media depictions of the paranormal do influence audience beliefs (Sparks, Hensen, & Shah, 1994; Sparks, Nelson, & Campbell, in press; Sparks, Sparks, & Gray, 1995). The current study

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continues the investigation of potential media impact on paranormal beliefs. Our interest is with printed news stories about UFOs and the impact of such stories on UFO beliefs when they contain information presented by a scientist.<sup>1</sup>

#### Journalism, Science, and the Paranormal

The main complaint of journalistic accounts of scientific research is that they lack relevant and important information that is needed by the public to make informed judgments (Borman, 1978; Dunwoody, 1982; Pulford, 1976; Rich, 1981; Tankard & Ryan, 1974). Indeed Evans, Krippendorf, Yoon, Posluszny, and Thomas (1990) cited a list of "minimal details" that should be included in any comprehensive science news article. Included among these features is information specifying the names and institutional affiliations of the researchers. This information is deemed to be important for a number of reasons. First, the omission of such information is said to lead to an image of science and scientific research as disembodied and depersonalized (Evans et al., 1990). Perhaps more important, however, inclusion of information that identifies a specific scientist and their institutional affiliation, and connects him or her to a research effort, helps to put a news event into a scientific context (Borman, 1978). This seems especially important when one considers that the public assents to the authority of scientists and recognizes science as a legitimate way of knowing and understanding the world around us (Evans, 1995). To the extent that a news account about a paranormal event is similar to a persuasive message, then stories that include such affirming statements by a scientist might be conceptualized in terms of a message delivered by a high credibility source. And of course, high credibility sources are generally regarded to be more persuasive (Eagly & Chaiken, 1993).

#### Theoretical Expectations

Based on the preceding logic, when participants are presented with a news story about UFOs, it seemed reasonable to expect that subsequent beliefs about UFOs would vary as a function of the scientist's perspective on the UFO events. If the events were essentially affirmed as real by the scientist, then we expected that subsequent beliefs in UFOs would be significantly higher than if the UFO events were disconfirmed by the scientist. Moreover, we expected that versions of the UFO story that contained affirming or disconfirming statements, but no mention of scientists, would not affect UFO beliefs to the same extent. While these predictions are not novel in the context of existing theory and research on attitude change, the study does represent one of the first experimental attempts to address the issues in the literature on scientific reporting outlined above. In addition, the results of this study should add to the relatively few empirical studies on media impact on paranormal beliefs.

## METHOD

## Sample

Students enrolled in a communication class at a large midwestern university served as respondents in this study (N = 122; males = 56, females = 65).<sup>2</sup> Participation was part of a voluntary in-class activity and students were told that the purpose of the activity would become clear in a subsequent lecture.

## Design

Participants were randomly assigned to one of five experimental conditions. In each condition, participants were asked to read three news stories that were provided in a booklet that was stapled together. The stories were presented in type-written text and their original source was not evident. In order to maximize the experiment's external validity, all of the stories were adapted from actual stories that appeared in national circulation magazines. Two of the stories that all participants received were "filler" stories designed to deflect suspicion about the actual purpose of the study. One of these stories was about emotional intelligence and the other was about discrimination in the workplace due to AIDS. In one of the five experimental conditions (the control group), the third story was about effective communication in interpersonal relationships. In each of the other four conditions, the third story was about UFOs and alien abductions.

The UFO story was manipulated so that it appeared in one of four versions. The first five paragraphs of the story were identical across the four versions and focused on a story about an alien abduction. The last three paragraphs of the story were manipulated to create one of four conditions:<sup>3</sup>

*No Scientist; UFO Abductions Affirmed:* The text of this version of the story discussed reasons why abduction accounts were likely to be true, even though no scientific authority was cited.

*Scientist; UFO Abductions Affirmed:* The text of this version of the story discussed reasons why abduction accounts were likely to be true, and this interpretation was affirmed by a Pulitzer Prize-winning psychiatrist at Harvard University.

*No Scientist; UFO Abductions Disconfirmed:* The text of this version of the story discussed reasons why abduction accounts were likely to be false, even though no scientific authority was cited.

*Scientist; UFO Abductions Disconfirmed:* The text of this version of the story discussed reasons why abduction accounts were likely to be false, and this interpretation was affirmed by a psychologist who headed a university research team that had just published an article on the topic in the *Journal of Abnormal Psychology*.

The four versions of the UFO story and the control group story were balanced in terms of their position in the final booklet. Each version of the story appeared equally often as the first, second, or third news story that was read. The length of each story in total words was also equivalent. The distribution of booklets to the class was totally random.

### Participants' Responses

After the participants finished reading each of the three stories, they encountered a brief questionnaire about their reactions to the story content. After completing the questionnaire, the booklet instructed them to move on to the next story. In the case of the two "filler" stories, the questionnaire was included to further disguise the true purpose of the study.

The questionnaire that appeared after the UFO story contained eight items that were designed to assess beliefs about UFOs and alien abductions. These items were randomly distributed among a total of 20 items that participants responded to after reading the UFO story. The items that did not deal with UFO beliefs were included to disguise the purpose of the study and included questions about the level of interest the story had generated, how well written it was, and so forth. Participants responded to all items on the questionnaire by indicating the extent to which they either agreed or disagreed with the statement. Responses were made by placing a circle around the appropriate number on a scale that ranged from 7 (strongly agree) to 1 (strongly disagree). After completing the questionnaires, participants sat quietly until their booklets were collected. There was no interaction among the participants after the distribution of the booklets until all booklets had been collected.

### Measure of UFO Beliefs

As additive index of the eight items about UFOs and alien abductions served as the dependent measure. Table 1 displays these eight items along with their means and standard deviations. When the index was submitted to a factor analysis, no clear multiple factor structure emerged. Consequently, we retained the entire set of items as a single index. Cronbach's alpha for the index was .75, indicating an acceptable level of internal consistency.

## RESULTS

### Effect of News Story Version on UFO Beliefs

Preliminary analyses revealed that sex of participant and order of UFO story (first, second, or third) had no main effect on the UFO Beliefs index. Likewise, there was no interaction between the experimental manipulation and either of these variables. Consequently, sex of participant and story-order were dropped from the main analysis. The responses on the UFO Beliefs index were submitted to a one-way ANOVA for unequal cell sizes with the experimental manipulation as the major factor. This analysis produced a significant main effect for experimental condition [ $F(1,117) = 3.57, p < .009; \eta^2 = .11$ ].

Inspection of the means associated with each condition revealed that the highest level of UFO beliefs was found among respondents assigned to read the UFO story in which a scientist affirmed the reality of alien abductions

TABLE 1  
*Means and Standard Deviations for Items on the UFO Belief Index*

Item	Mean	SD
I believe that many people really have been captured by space aliens.	3.18	1.72
I think that most people who report seeing UFOs are probably sincere, but their reports can be explained without accepting the fact that alien spacecraft really exist.	3.93	1.43
I think that most scientists probably believe that alien abductions have actually happened.	3.47	1.55
I think that the similarity in the details of people's UFO "abduction stories" indicate that the stories are true.	3.53	1.43
The majority of American adults probably believe that some people have actually been abducted by space aliens.	3.56	1.51
I simply do NOT believe that anybody has actually been abducted by space aliens.	3.91	1.51
Attempts to explain away stories of alien abductions seem to me to be pretty weak attempts by scientists to preserve their beliefs that space aliens don't exist.	4.04	1.38
I believe that there is no hard evidence for the existence of space aliens.	3.58	1.65

Note. Mean values are on a scale ranging from "strongly agree" (7) to "strongly disagree" (1). The center point on the scale (4) indicated neither agreement nor disagreement. Values are based on 122 participants.

TABLE 2  
*Means on UFO Beliefs Index in Five Experimental Conditions*

No Scientist		Scientist		Control Group
Disconfirm UFO Beliefs	Affirm UFO Beliefs	Disconfirm UFO Beliefs	Affirm UFO Beliefs	
27.46 <sub>a</sub>	27.95 <sub>a</sub>	29.70 <sub>ab</sub>	32.72 <sub>b</sub>	25.95 <sub>a</sub>

Note. Means having no subscript in common differ at  $p < .05$  according to the Newman-Keuls post-comparison procedure.

( $M = 32.72$ ). The lowest level of UFO beliefs was found among respondents assigned to the control group (effective communication story;  $M = 25.95$ ). Post-hoc analyses of the means revealed that the UFO beliefs in the "scientist-affirmed" condition were significantly higher than in either of the "no scientist" conditions or in the control groups. Interestingly, UFO beliefs in the "scientist-disconfirmed" condition were not significantly lower than any of the other conditions. Table 2 displays the means of the UFO Beliefs index in each condition as well as the results of the post-hoc mean comparisons.

## DISCUSSION

The results of this experiment revealed that after reading the UFO news story that contained affirming comments by a scientist, respondents ex-

pressed significantly stronger beliefs in UFOs than they did after reading either the affirming or disconfirming story that made no reference to a scientist. Moreover, these beliefs were also significantly stronger than those expressed by respondents who read a story unrelated to UFOs. It is significant to note that the experimental manipulation of the UFO story accounted for 11% of the variance in the UFO Beliefs index.

Contrary to expectation, when respondents read the UFO news story that contained disconfirming comments by a scientist, it did not result in significantly weaker beliefs in UFOs when compared to any of the other four conditions, including the control group (see Table 2). The reason for this finding is not yet clear and needs to be explored in subsequent studies. One possibility is that by simply mentioning a scientist in a story about the paranormal, there is a tendency for the events in the story to be perceived as more legitimate, regardless of the explicit nature of the scientist's comments.

Of course, there are a number of caveats that must be mentioned in connection with the interpretation of these data. First, as in the case of many experiments on message effects, the dependent measure was examined immediately following message exposure. While one experiment in this domain (Sparks et al., 1994) found that the effects of exposure to a single 30-minute television program produced effects that persisted for at least three weeks, there is no way to know in the present case if the reported effect had any longevity. It is also the case that whenever the dependent variable is measured immediately after the message presentation, the possibility exists for participants to become aware of the explicit purpose of the study and to respond out of some motivation to either confirm or disconfirm the hypothesis that they perceive is being tested. As described earlier, a number of steps were taken in the present design to minimize this possibility by disguising the true purpose of the research. Moreover, given the general similarity of the UFO stories across the experimental conditions, it is highly unlikely that the participants in one condition could have had a significantly different notion of the hypothesis being tested than participants in the other conditions. Thus, the results, which revealed differences between these conditions, remain difficult to account for by appealing to any speculated transparency in the experimental design. It seems much more likely that the results are due to actual cognitive differences produced by the content of the news stories themselves.

In the absence of more data, it is difficult to know to what extent these results might generalize to other types of news stories. Like many experiments of this type, the results must be interpreted cautiously until additional message manipulations can be tested that operationalize the concepts employed here. Future studies also need to investigate several variables that may have been influential in this particular experiment. For example, one reason for the different effects of the affirming and disconfirming scientist could have been the fact that the affirming scientist was from Harvard, while the disconfirming scientist did not have such a prestigious institutional affiliation. Rather than control this aspect of the manipulation, we chose to

maximize external validity and use real scientists as they appeared in real stories about UFOs. However, differences in institutional affiliation may have some impact upon media consumers as they attempt to process the information in a news story.

Finally, while replication and extension of these results will be important, the data from this study do suggest that there may be merit in the persistent claims of scientists and skeptics that the media exert considerable influence in the domain of paranormal beliefs. This study draws particular attention to the way journalistic accounts of UFOs and alien abductions are reported to the public. The results suggest that the impact of a UFO news story on subsequent beliefs about UFOs may be very different, depending upon whether the news story includes comments from a scientist that either affirm or disconfirm the legitimacy of the phenomenon.

Scholars of mass communication should be concerned in future investigations with increasing our understanding of the role of media messages in determining the public's beliefs about reality. Hopefully, the study presented here will serve as a step toward a more comprehensive understanding of how journalistic accounts of paranormal events function to influence our judgments about the events that actually do take place in the real world.

#### ENDNOTES

1. When the term, "UFO" (unidentified flying object) is used, it does not necessarily imply that the object is a flying saucer from outer space. However, the label is commonly used with this implication. Thus, when we refer to "UFO beliefs" or "beliefs in the existence of UFOs," we mean to imply a belief in the existence of flying craft that do not originate from earth and are the product of some intelligent, extra-terrestrial life form.

2. One participant failed to indicate biological sex. Responses of this participant were still used for all analyses where sex was not a factor.

3. The text of the story, along with the four different versions of the last three paragraphs is available upon request from the first author.

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