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Does Television News About UFOs Affect Viewers' UFO Beliefs?: An Experimental Investigation

Glenn G. Sparks, Marianne Pellechia, and Chris Irvine

Many recent surveys indicate that belief in paranormal events is widespread among Americans. While scientists and skeptics have frequently bemoaned the obvious role that the mass media play in misleading people to accept paranormal events uncritically, there has been remarkably little research evidence to substantiate media impact in this realm. In the experiment reported in this paper, viewers were exposed to one of two different news stories about UFOs. The two stories differed according to the extent to which the existence of UFOs was discredited by some scientific authority. Because the stories were naturally occurring segments from a network newscast, they also differed in terms of the topic of focus, the people featured, etc. The results revealed that subsequent UFO beliefs were affected by the story manipulation. The story that included discrediting information from a scientific authority discouraged UFO beliefs.

KEY CONCEPTS 1- versus 2-sided messages, TV news, UFO beliefs, paranormal content, media effects

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A casual perusal of the mass media over the last few years reveals an overwhelming interest in content themes that are best described as dealing with the "paranormal." On television, this trend can be seen in the frequent cable advertisements for "psychics" who advertise their product by cautioning viewers to avoid the many "phony" psychics that are also peddling their wares. But the trend goes far beyond the infomercials. Entertainment programs like, "Unsolved Mysteries," "Beyond Reality," "In Search Of...," "The Other Side," "X-Files," "Sightings," "Encounters," "Psi-Factor: Chronicles of the Paranormal," among

others, have surfaced in prime-time. Hollywood has also contributed to the surge in paranormal media content with movies such as, "Ghost," "Hocus Pocus," "Matilda," and the 1996 summer blockbuster, "Independence Day."

This outpouring of mass media with paranormal content has not gone unnoticed. Concern among scientific skeptics for the widespread acceptance of paranormal claims led to the formation of the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). This organization publishes a journal, *The Skeptical Inquirer*, which regularly serves as a watchdog and debunker of paranormal claims. In a recent letter to its members and subscribers, CSICOP called attention to a variety of popular TV programs that routinely feature paranormal themes and, in their view, constitute, "a fast-growing TV genre that rivals the most irrepressible supermarket tabloids in promoting pseudoscience and the paranormal." Concern for this promotion of pseudoscience has prompted CSICOP to begin a media division that is equipped to counter popular media claims with their own media productions.

CSICOP is not alone in raising concern about the possible impact of the media on paranormal beliefs. In a guest essay for *Time* (April 13, 1992), James Randi, a magician and skeptic who is currently offering over one million dollars to anyone who can demonstrate a legitimate paranormal event, blames the media for widespread paranormal beliefs. He wrote that, "uncritical acceptance and promotion of these ideas by the media. . ." are responsible for "absurd beliefs" (p. 80).

The general claim that the mass media should accept a major responsibility for encouraging people toward uncritical acceptance of paranormal claims is a very interesting one, given the relatively little research that exists on the topic. 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 unsupported 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. In one experiment, Sparks, Hansen and Shah (1994) reported that the nature of a truth claim or disclaimer that was presented prior to the entertainment program "Beyond Reality," affected viewers' subsequent paranormal beliefs. Those viewers who watched the program after hearing a disclaimer about the fictional nature of the material were significantly less likely to endorse paranormal beliefs after the program than viewers who heard no disclaimer. In another experiment, Sparks, Sparks, and Gray (1995) found that subjects who viewed a video segment on UFOs from "Unsolved Mysteries" were more likely to express belief in UFOs than were subjects who watched an unrelated video. Finally, Sparks, Nelson, and Campbell (1997) conducted a random sample survey and reported that paranormal beliefs were positively correlated with viewing of TV programs that dealt with the paranormal. Of course, the direction of causality in these survey data was not certain, but taken together, these three studies seem to indicate that the media may have some impact on paranormal beliefs.

The present study seeks to continue the recent line of research on media impact and paranormal beliefs by investigating the possible impact of news reports about UFOs on subsequent UFO beliefs. UFOs and possible space aliens have received very wide exposure in the media. In one of the more dramatic episodes of coverage, the FOX network recently broadcast a movie that some claimed featured an actual "alien

autopsy" that was supposedly conducted on the bodies of dead space aliens recovered in the now infamous report of a flying saucer crash in Roswell, New Mexico in 1947.¹

The notion of space aliens visiting earth is an especially troublesome theme to some scholars. Writing in *American Antiquity*, Feder (1984), lamented the findings of a survey reported by Bainbridge (1978) that revealed widespread acceptance of the notion that, "human physical and cultural evolution was directed by extraterrestrial aliens" (pp. 525-26). Regarding these findings, Bainbridge concluded that, "Apparently our university does not give students the knowledge to protect them from intellectual fraud" (p. 39).

One reason why students may not be so quick to dismiss claims of the existence of UFOs and space aliens is because they witness these claims being taken seriously by what many would call our most trustworthy media sources. On April 20, 1994, the CBS network did an entire 1-hour episode of "48 Hours" on the UFO phenomenon. Dan Rather hosted. The content of the program ranged widely from the testimony of a Harvard psychiatrist who claimed his patients had been abducted by space aliens, to interviews from people who allegedly witnessed space aliens being dragged from the saucer crash in the New Mexico desert near Roswell in 1947. Some of the segments were "two-sided," in that they included testimony that tended to support the existence of flying saucers, as well as testimony that tended to discredit their existence. Other segments, like the one on the Roswell, New Mexico incident, were strictly one-sided, in that no testimony was offered to discredit the idea that space aliens actually crashed in the desert.

In this paper, we were interested in determining whether a one-sided versus a two-sided news report about UFOs would affect UFO beliefs differently among college students. If students are less likely to express belief in the existence of UFOs and space aliens after watching a two-sided news segment than after a one-sided report that supports the existence of UFOs, then there may be important implications for how the media deals with UFO reports and other paranormal themes. The results of the experiment may also hold theoretical implications for how news content is processed and integrated into beliefs about social reality. We chose to use the "48 Hours" episode with Dan Rather to examine how various segments of this program might affect UFO attitudes.

If the literature on attitude change is clear about any single proposition, it is clear that high credibility sources are more persuasive than low credibility sources. Various theories integrate this finding into their respective frameworks, but the heuristic-systematic model developed by Chaiken (1980, 1987) has received a great deal of support in recent studies. According to Eagly (1993), credibility effects can be explained well by this theory by assuming that when people process a "credibility cue," they form expectancies about the subsequent validity of the message. These expectancies, in turn, bias the "systematic processing of ambiguous message content in a positive or negative manner, depending upon whether the source was high or low in credibility" (p. 337). In studies designed to test this view, the medium or surrounding context for a message has been shown to function as a credibility cue that encourages the formation of certain expectancies about the message. For example, Chaiken and Maheswaran (1992) manipulated source credibility by attributing a written message to either *Consumer Reports* or to a promotional pamphlet from Kmart, the discount department store. This manipulation of credibility affected attitudes toward the message according to the theoretical expectations.

One difference between prior research in this vein and the current study has to do with the nature of the message. While prior research has dealt predominantly with messages that have a clear, recognizable intent to *influence* receivers, the messages used in the current study were associated with a broadcast news program that is more likely to be associated with an overall attempt to *inform*. Of course, informative messages also persuade. The distinction between “normative influence” and “informational influence” is a classic one in the attitude change literature (see Eagly & Chaiken, 1993, pp. 628-630). In this study, we posited that the fundamental dynamics of the credibility cue would extend to influence beliefs subsequent to exposure to a newscast, despite the fact that such a message is typically not designed to persuade people of anything in particular.

In this study, we chose the “48 Hours” episode with Dan Rather because we wanted the source of the UFO messages to be processed as a high credibility cue. We assumed that the perceived credibility of this program would encourage the formation of expectancies that the information in the program would be believable. We then focused on the two particular segments mentioned earlier that contained either a one-sided or two-sided message about the existence of UFOs. We edited the segments so that each one was preceded by the same general program introduction by Dan Rather. Given the presumed high credibility of the program, we hypothesized that both of these segments would be processed similarly and would tend to be believed by subjects. Thus, the one-sided segment would tend to convince subjects to believe in the existence of UFOs and the two-sided segment would tend to encourage subjects to disbelieve their existence. The main hypothesis we tested then was:

- H1: Subjects who view a high credibility, one-sided news report that supports the existence of UFOs will, subsequently, express greater belief in the existence of UFOs than will subjects who view a two-sided news report from the same program.

The practical significance of testing this hypothesis should be evident. If the way in which news stories about paranormal events are reported can affect the paranormal beliefs that viewers form after viewing, then news organizations might want to think carefully about the ways in which stories about paranormal events are handled. Certainly the scholars associated with *CSICOP* would argue that most reports of paranormal events have at least two sides, and that mass media sources ought to depict both sides in any report if they are interested in responsible journalism. On the theoretical front, confirmation of H1 would also be consistent with the recent findings of the heuristic-systematic model of attitude change.

While we had no particular theoretical expectations regarding the role of subject sex in the design, we did employ both male and female subjects. Consequently, on the possibility that male and female beliefs in UFOs would be differentially affected by the manipulation, we included sex of subject as a variable in the design.

METHOD

Participants

Students enrolled in an introductory communication class at a large Midwestern university served as participants in the study ($N = 68$; males: $n = 25$, females: $n = 43$).² Participation in the experiment was one way for discharging a course research

requirement.

Procedure

Two weeks prior to the laboratory session, participants completed a personality inventory that was used for a phase of the investigation that was unrelated to this study. In addition, each participant completed an 8-item questionnaire that was designed to measure the extent to which beliefs in UFOs and space aliens were endorsed. Responses to each of the 8 items were made on a 7-point scale, ranging from "7" (strong agreement) to "1" (strong disagreement). Each of the 8 items on this scale appears in Table 1. Prior to summing across all 8 items to form an additive index for UFO beliefs, items that expressed disbelief were reverse-coded. This produced a final index on which high scores indicated greater belief in the existence of UFOs and space aliens. Cronbach's alpha for the 8-item scale was .88.

TABLE 1
Means for Items on the UFO Belief Index Before and After Viewing

Item	Mean-1	Mean-2
At least some of the Unidentified Flying Objects (UFOs) that have been reported over the years are probably space ships from other planets.	3.8	3.5
I believe that space ships from other planets have actually landed on earth.	3.4	3.2
There is no convincing evidence to show that living creatures from outer space actually exist.	3.5	3.2
People who report that they have been captured by space aliens are either badly mistaken or they are deliberately not telling the truth.	3.8	3.7
I think that there is now sufficient evidence to show that aliens from outer space have indeed visited our planet. . . .	3.6	3.2
The reports that claim that the government has actually collected the wreckage from the crash of a flying saucer from outer space are probably FALSE.	3.7	3.8
I think there is little doubt at this point that space aliens have visited earth in some sort of flying saucer.	3.7	3.6
Despite the many personal testimonies, I do not believe there is any strong reason to think that our planet has ever been visited by alien life forms from outer space.	3.8	3.6

Note: The means reported for each item are on a 7-point scale with 7 indicating strong agreement and 1 indicating strong disagreement. A "4" on the scale is theoretically neutral with respect to agreement and disagreement. Across all subjects, the mean for the scale prior to viewing (Mean-1) was 29.3. After viewing (Mean-2), it was 27.6. There were no missing values on either administration of the belief index.

When participants reported for the laboratory phase of the study, they were randomly assigned to one of two experimental conditions in a single-factor experiment. Each participant was run through the procedure individually. After being seated at a table that was approximately 5-feet away from a 27" color monitor, participants in both conditions viewed a videotape that contained a few minutes of nature films, followed by a 20-minute segment from a suspenseful movie that was used for another study. Prior to viewing, each participant had several physiological electrodes placed on the fingers of the non-writing hand. These electrodes were designed to measure arousal responses to the suspenseful movie and were deactivated by computer (but not removed from the fingers) for the second video segment which was of interest for this study.³ Following a period in which the participants responded to some questions about their emotional reactions to the suspenseful film, one of two different video segments was viewed, depending upon random assignment. In one condition (males: $n = 13$; females: $n = 20$) the introduction to the program "48 Hours" was followed by a 5-minute segment in which various people told of their involvement in the alleged flying saucer crash in Roswell, New Mexico, nearly 50-years ago. This segment appeared exactly as it was originally broadcast and contained no testimony from people that served to discredit anything that was said about the existence of the flying saucer crash or the alien bodies that were supposedly recovered.

In the second condition (males: $n = 12$; females: $n = 23$), participants viewed a video segment from the same program that featured a group of adults who regularly searched for UFOs in the desert. The segment showed the group actually filming a UFO and the interviews with the people showed them to be intelligent and sincere (the leader of the search party was a medical doctor). However, unlike the first video, scientists commented on the film that the group had made and showed a computer enhancement of the UFO image that had been captured on film. The scientists concluded that the image was nothing more than a conventional jet aircraft. It was also noted that there was a major airport within 40-miles of the site where the film had been made. The length of the two different video segments was identical. Following the UFO video segment, all participants responded to the same 8-item questionnaire on UFO beliefs that they had completed two weeks earlier (See Table 1). Cronbach's alpha on this measure taken after the video viewing was .90. All instructions pertaining to completion of the questionnaires appeared on the videotape in order to minimize experimenter interaction with the participants during the laboratory session. After completing the questions on UFO beliefs, participants were debriefed and dismissed.⁴

RESULTS

Manipulation Check

In a separate manipulation check study, 26 respondents (13 males, 13 females) from an introductory communication class were randomly assigned to view the introduction of either "48 Hours," hosted by Dan Rather, or "Unsolved Mysteries," hosted by Robert Stack, another program that frequently depicts UFO reports. After viewing the introduction, the respondents provided a rating on a 7-point scale of the extent to which they thought the information that followed would be "credible." The results of a 2-tailed t -test [$t(24) = 2.43$; $p < .03$] revealed that respondents thought "48 Hours" ($M = 3.54$) would be more credible than "Unsolved Mysteries" ($M = 2.31$).

Main Analysis

A preliminary ANOVA with video condition and sex of participant as factors revealed that random assignment to conditions was successful in that the means for the UFO Belief Index on the preliminary administration were equivalent for the two conditions (ONE-SIDED PRO-UFO: $M = 24.2$, TWO-SIDED: $M = 25.6$; $F(1,64) = .04$, $p = .84$). Moreover, preliminary UFO Beliefs were not different as a function of the sex of the participant. Scores on the first administration of the UFO Beliefs Index were subtracted from scores on the post-viewing administration of the Index to form a change score. A positive change score represented an increase in UFO beliefs; a negative change score represented a decrease in UFO beliefs.

The change score was submitted to a 2×2 ANOVA with sex of participant and video version as the two factors. The results revealed a significant main effect for both video version [$F(1,64) = 15.26$, $p < .0003$; $\eta^2 = .24$] and sex of participant [$F(1,64) = 5.65$, $p < .03$; $\eta^2 = .09$]. The interaction effect was not significant. For video version, an inspection of the means revealed that participants who viewed the segment that featured testimonies about the saucer crash in New Mexico (ONE-SIDED PRO-UFO) increased their UFO beliefs ($M = +2.30$) significantly more than those participants who viewed the segment (TWO SIDED) that featured discrediting testimony of a scientist ($M = -3.62$). Participants in the TWO-SIDED condition believed *less* in UFOs after the video, while participants in the PRO-UFO condition believed *more* in UFOs.

Inspection of the main effect for sex of participant revealed that females ($M = -2.46$) were more likely to decrease their beliefs in UFOs after the video while males were more likely to increase their beliefs ($M = +1.14$). Table 2 displays the cell means associated with the analysis.

TABLE 2
Cell Means for Changes on the UFO Belief Index

	One-Sided Message	Two-Sided Message	
Males	3.69 (n = 13)	-1.42 (n = 12)	(1.14)
Females	.90 (n = 20)	-5.83 (n = 23)	(-2.46)
	(2.30)	(-3.62)	

Note: Means indicate the average change in UFO beliefs. Positive means indicate that belief in UFOs increased. Negative means indicate that belief in UFOs decreased. The four means in parentheses indicate the marginals associated with each of the two main effects.

DISCUSSION

As the means in Table 1 reveal, participants expressed beliefs that were very close to the neutral point on the 1-7 scales. Thus, belief in the existence of UFOs and space aliens was an area of relative uncertainty for this particular group of students. This finding is consistent with other surveys based upon random samples of the population (Gallup, & Newport, 1991; Sparks, Nelson, & Campbell, 1995). These surveys generally

reveal that a substantial portion of the population (roughly one-third) endorses UFO beliefs, while equal proportions of the population either disbelieve or express uncertainty about these beliefs. The relative uncertainty about the existence of UFOs and space aliens may be important in terms of understanding the potential impact of the media on beliefs in this domain. Media messages about issues on which people are relatively certain may be expected to have less impact than messages that deal with uncertain issues. The fact that, on average, people are relatively uncertain about the existence of UFOs, may point to the importance of understanding how particular media messages may affect what people believe in this domain.

The main hypothesis of the study was confirmed. The participants who viewed the one-sided news segment containing testimony about the saucer crash in Roswell, New Mexico, increased their beliefs in UFOs significantly more than those who viewed the two-sided news segment about UFOs. The main effect for sex was not anticipated. The fact that females appeared to be less willing to endorse UFO beliefs in both conditions may indicate an area for future investigation. Any attempt to explain this finding post-hoc would be purely speculative.

It would appear that the heuristic-systematic processing model may help to explain the sort of effect uncovered in this experiment. A program source like "48 Hours" with Dan Rather may function as a credibility cue and encourage viewers to adopt expectancies for believable content. According to this view, these expectancies serve to bias the information processing that takes place during viewing such that viewers decide that what they have seen should be accepted without further critical scrutiny. If this is the case, then the burden upon broadcasters is to present a balanced, thorough account of the phenomenon being addressed.

While one might argue that overall, the particular episode of "48 Hours" used for this study did contain such a balanced treatment, there were various segments in the broadcast that were less balanced than others. Considering the fact that many viewers may only see portions of a program, the unbalanced segments might have effects like that which emerged in this experiment. Of potential theoretical importance, the results of this study suggest that the impact of a credibility cue may extend beyond the traditional context of persuasive messages (i.e, messages that are specifically designed to change one's attitude or behavior) to the context of messages that are simply designed to inform.

In support of the interpretation of the results that highlights the importance of a credibility cue, the manipulation check revealed that Dan Rather's "48 Hours" was perceived as significantly more credible than Robert Stack's "Unsolved Mysteries." But, this analysis might be called into question due to the fact that the data also reveal that neither program was perceived as being particularly high in credibility. This may be partially due to the fact that the subjects used for the manipulation check were students in an introductory communication class who, because of the nature of their curriculum, tended to be critical of television news in general. An anonymous reviewer of this study noted that it could also be the case that college students do not assign the same level of credibility to Dan Rather that older adult viewers might assign. Of course, in the main experiment, Dan Rather was the host of both versions of the video, so the fact that he was not perceived with extremely high credibility does not shed any particular light on the differences that emerged between the two conditions.

The fact that subjects in the one-sided condition increased their belief in UFOs, despite the fact that Dan Rather and "48 Hours" may not have been perceived as very

high in credibility, serves to underscore the fact that even media presentations that are perceived as moderate-to-low in credibility can still influence viewer beliefs. While we may not have been correct in assuming that Dan Rather was very high in source credibility, we were at least able to demonstrate that he was higher in credibility than some other contrasting news source. This finding suggests that future studies should focus on the nature of the specific cognitive processes that may lead to attitude change even after exposure to a fairly low credibility source.

One possible limitation of these results has to do with experimental demands. Because the post-viewing questionnaire on UFO beliefs was administered immediately after viewing, it was possible that participants saw through the purpose of the study and gave answers in each condition that they believed the experimenter expected them to give. Along these lines, it also seems possible that subjects could have recalled their reports of UFO beliefs from the preliminary questionnaire and, consequently, attempted to alter their post-viewing responses in some way. However, upon closer scrutiny, it seems unlikely that these factors can account for the results in this study. First, the period of several weeks between the preliminary questionnaire and the post-viewing questionnaire, combined with the fact that the preliminary questionnaire included a variety of different items made recall of earlier responses unlikely.⁵ Most importantly, the final question that each participant was asked in the experiment had to do with the perceived purpose of the study. Since the majority of the viewing time in the lab had been devoted to a lengthy segment that was filled with suspense and had included physiological monitoring of arousal, the participants tended to focus on this part of the investigation to explain their hunches about the purpose of the study.⁶ Only three participants mentioned that the study had to do with the effects of the program on UFO beliefs. These participants were subsequently eliminated from the experimental design and all analyses reported earlier. Thus, it is unlikely that the results of the study can be attributed to some experimental demand or transparency in the design.

It is also important to recognize that the appeal in terms of ecological validity of using stimulus materials from naturally occurring broadcasts, does, in this case, introduce a measure of caution in the interpretation of the results. It might be argued that the two video segments differed in a number of ways besides the "sidedness" of the message. For example, a recent study by Sparks and Pellechia (1997) found that the presence of a scientific authority in a news report about UFOs can influence beliefs of the news consumer. In the present study, the two-sided version of the video clearly included a scientific authority, where the one-sided version did not. To the extent that the inclusion of such an authority might increase the credibility of the program segment, it might be argued that the actual manipulation in the experiment was a *credibility* manipulation instead of a manipulation of the *number of sides* to the message. Message sidedness, in this case, might be confounded with source credibility. To a certain extent, this is a problem with any experimental manipulation in mass communication that attempts to use naturally occurring stimulus materials. In this case, it might also be that sidedness and credibility are naturally confounded. When two sides of a message are presented, the report may almost always seem more responsible and believable. As a practical matter, then, the possible natural confounding of message credibility and sidedness of the message may not alter the main analysis or interpretation of what happened in the experiment. Future studies should attempt to build on the initial results of this study and isolate more carefully the

precise stimulus attributes that may have brought about the differences observed in this experiment.

The results of this experiment converge with the few other studies mentioned earlier on media influence upon paranormal beliefs. After reflecting on the possibility of the media to shape paranormal beliefs, it is apparent that there is a great deal at stake in the research in this domain. The ability to correctly determine the validity of any claim about a phenomenon strikes at the very heart of human endeavor. In our current age of electronic communication, the possibility exists to present compelling video segments that have the effect of swaying beliefs among uncritical viewers who may tune in for entertainment or for "infotainment." If this possibility is actually supported by the data, then it is important for mass communication scholars to understand these effects. One implication of the present results is that the failure for a news program to include a two-sided version of a story may result in viewers forming very different beliefs about the content of that story. Such a finding may hold theoretical and practical implications that future research should seek to explore in more depth.

NOTES

- ¹ The movie was broadcast on August 28th and September 4th, 1995. Since that date FOX has also broadcast other segments of the "autopsy" on various occasions.
- ² Three participants who were originally included in the design were eliminated because they correctly guessed what the experimenter was studying.
- ³ The electrodes were left on the fingers so as not to disrupt the viewing session unnecessarily. Subjects were unaware that the computer had deactivated the electrodes so they still believed their body physiology was being monitored.
- ⁴ All procedures reported in this study received prior approval by a University Human Subjects Committee.
- ⁵ The time interval we used between pre- and post-viewing was the same interval used in studies of test-retest reliability that are designed to minimize the problem of sensitivity to the first measure.
- ⁶ There was no theoretical basis to expect that responses to the suspenseful movie would affect UFO beliefs to the news segment. Since participants were randomly assigned to the news segments, any differences in the participants as a result of the suspenseful film were theoretically equalized. Moreover, a response- questionnaire-period after the suspenseful film, followed by another brief waiting period (nearly 10 minutes total) was sufficient for any physiological arousal to subside prior to the viewing of the news segment. Despite our best attempts, we were unable to construct any kind of possible scenario under these circumstances that would indicate a possibility for the suspenseful film to interact with the news segments used in this experiment

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