

**Investigating the Relationship Between Exposure to Television Programs that Depict Paranormal
Phenomena and Beliefs in the Paranormal**

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Abstract

This paper seeks to continue a program of research that explores the possible relationship between exposure to media messages and paranormal beliefs. Following the work of Sparks, Nelson and Campbell (1997), who reported the results of a random sample survey taken in 1994, this study reports the findings of a second random sample survey taken in the same geographic area several years later. The results of the survey show that paranormal beliefs are prevalent in the population and that they are related to reports of television exposure to programs that regularly depict paranormal phenomena. Like the findings reported by Sparks, Nelson and Campbell (1997), this study found that the relationship between TV viewing and paranormal beliefs was contingent upon prior personal experience with a paranormal event. However, the form of this contingent relationship was directly opposite from that observed in the earlier survey. In this study, the relationship between TV exposure and paranormal beliefs emerged only for respondents who reported personal experience with the paranormal. Implications and suggestions for future research are discussed.

Investigating the Relationship Between Exposure to Television Programs that Depict Paranormal Phenomena and Beliefs in the Paranormal

Scholars across disciplines have devoted increasing attention over the last decade to the study of paranormal beliefs. Belief in the "paranormal" refers to belief in one or more extraordinary phenomena that defy explanation according to current scientific understanding of natural law. The range of these alleged phenomena is quite broad and includes things such as ESP, (extrasensory perception), haunted houses, ghosts, devils, angels, spirits, reincarnation, telekinesis (the ability of the mind to move or bend objects just by thinking), flying saucers from outer space, space alien abductions, astrology, astral-projection (one's spirit leaving the body, traveling some distance, and then returning), the abominable snowman, the Loch Ness monster, communicating with the dead, etc. In one national survey of over 1,000 adults, Gallup and Newport (1991) reported that paranormal beliefs were "widespread," with nearly 50% of the respondents reporting belief in ESP and almost 30% reporting belief in haunted houses. Jaroff (1995) reported the results of a Roper poll indicating that, "nearly a quarter of Americans believe in extraterrestrial UFOs and astrology..." (p. 75). Of some surprise to scholars, paranormal beliefs are not significantly lower among college students, even at institutions noted for science and engineering. For example, in one sample of students from Purdue University, a variety of different paranormal beliefs were endorsed by many of the respondents: the existence of ghosts (70%), accurate forecasting of the future by reading palms (40%), accurate predictions of the future made by psychics (37%), personal ability to use extra-sensory perception on occasion (44%), and astral-projection (30%) (Sparks, Hansen, & Shah, 1994).

The willingness of so many college students and adults to express belief in the paranormal has attracted attention from a number of different quarters (quarters that are more or less scholarly) and is usually treated with great concern. In a guest essay for Time (April 13, 1992), James Randi, a magician

and skeptic who has a standing, unclaimed, offer of one million dollars for anyone who can demonstrate the reality of a paranormal event under test conditions, wrote:

Acceptance of nonsense as a harmless aberration can be dangerous to us. We live in a society that is enlarging the boundaries of knowledge at an unprecedented rate, and we cannot keep up with much more than a small portion of what is made available to us. To mix our data input with childish notions of magic and fantasy is to cripple our perception of the world around us. We must reach for the truth, not for the ghosts of dead absurdities. (p. 80)

Concerns like those articulated by Randi have led to the formation of groups dedicated to skepticism and debunking unsupported claims of the paranormal. One of the best known groups of this type is the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). This organization publishes the journal, The Skeptical Inquirer, which is devoted to updating readers on the latest paranormal claims and why they should be discounted. According to Paul Kurtz (1985), a member of the journal's editorial board, the purpose of this journal is to reveal the many "wishful" and "exaggerated" claims frequently made about paranormal events and to provide the public with the opportunity, "to learn about dissenting scientific studies..." (p. 357).

In addition to the literature published by skeptics, the mainstream academic community has devoted increasing attention to the study of paranormal beliefs as a phenomenon in its own right. Recent studies have linked belief in the paranormal to various personality types like authoritarianism (Heard & Vyse, 1999) and external locus of control (Groth-Marnat & Pegden, 1998) as well as to psychological disturbances like schizophrenia (Thalbourne, 1994) and delusional fears (Lange, 1999). Some scholars have also studied paranormal beliefs in the context of expressing concern for the development of critical thinking skills among college students (Morgan & Morgan, 1998).

Media Messages and Belief in the Paranormal

Among scholars and skeptics, there is a common assumption that the mass media should take a major responsibility for the fact that so many people seem to accept paranormal claims uncritically. The rhetoric of Randi (1992) is quite typical when he wrote 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). Other scholars echo Randi's proclamation (Feder, 1984; Kurtz, 1985). Kurtz (1985) called attention to the, "dominant influence of the media in forming [paranormal] attitudes and beliefs," and charged that the media often "behave totally irresponsibly in treating 'paranormal' occurrences" (pp. 359-360). Feder (1984) blamed the media for the problems faced by archaeologists in their attempts to overcome the many reports of "unverified claims." In a recent analysis of a program in the "Science Frontiers" series that appeared on The Learning Channel, Maione (1998) wrote that:

Programs on major TV networks often present a misleading account of the scientific status of paranormal claims by failing to fairly present the skeptical side of the story...A program that misrepresents the evidence for a particular claim is bad, but one that misrepresents the scientific method in doing so is many times worse. (p. 21)

The program that drew Maione's wrath was one titled, "Put to the Test" and it purported to investigate paranormal claims in an objective fashion.

The scholarly analysis of media responsibility for widespread paranormal belief is predicated on the assumption that media messages about the paranormal have direct effects on consumers of those messages. Maller and Lundeen (1932) expressed this view nearly seventy years ago, but it appears to have gained many more adherents after the explosive growth of TV in the 1950s. Until very recently, the empirical evidence for the claim of media influence on paranormal beliefs was almost nonexistent. A few researchers reported results from surveys that indicated a tendency for respondents to cite media stories as the primary reason for their belief in some paranormal claims

(Alcock, 1981; Evans, 1973). And apparently, as many as fifty newspaper editors including ones from The Los Angeles Times and The Indianapolis Star believe that their daily horoscope columns might influence readers to believe in the accuracy of astrological forecasts. These editors are among the few that publish disclaimers next to the daily horoscope column (B. Karr, personal communication, April, 1993; also see Gersh, 1987).

The lack of empirical evidence to support the claim that media messages about the paranormal influence paranormal beliefs is a state of affairs that holds considerable potential to embarrass the scientific and skeptical community. Consider the fact that while simultaneously blaming the media for promoting unproven ideas about the paranormal, many scientists, philosophers and skeptics have little empirical evidence to cite for their own claim of media impact in this domain. Avoiding this potential embarrassment certainly constitutes a major practical reason for scholars to take up rigorous study of the relationship between media exposure to messages about the paranormal and paranormal beliefs. In addition to this practical reason, there are obvious theoretical reasons for such investigation. While the literature on television's impact is dense with studies on media violence (see National Television Violence Study, 1997), this density has produced gaps in understanding other kinds of media effects. Recent movies like The Sixth Sense, Ghost, Dogma, and The Blair Witch Project combined with a 1999 prime-time TV alignment that includes such programs as Roswell, Charmed, Touched by an Angel, Buffy the Vampire Slayer, and Unsolved Mysteries, suggests the prevalence of paranormal media content. Studies of such prevalent content have been sparse, however. Investigating this area may lend insight into how individual members of the audience use this type of media in their overall diet of entertainment.

Earlier in this decade, Sparks, Hansen and Shah (1994) published the first study in a line of investigations (see Sparks, 1998) about the relationship between exposure to paranormal media and paranormal beliefs. In a laboratory experiment, these authors manipulated the nature of a disclaimer that was presented to subjects prior to their viewing of the program, Beyond Reality. This program

appeared regularly on the USA network along with the claim at the outset that the scenes depicted in the show were based on actual reports. Subjects in the study who heard disclaimers that emphasized the fictional or impossible nature of the show's content were significantly less likely to endorse paranormal beliefs after the program than subjects who heard no disclaimer at all. In a second experiment, Sparks, Sparks, & Gray (1995) found that subjects who viewed a program depicting UFOs (unidentified flying objects) tended to increase their belief in the existence of UFOs from outer space. A third experiment (Sparks, Pellechia, & Irvine, 1998) exposed subjects to one of two different segments from a news program about UFOs. The segments differed according to the extent to which a scientific authority challenged the view that the alleged flying saucers were actually visitors from outer space. Subjects who viewed the story that included the challenge from scientific authority decreased their beliefs in UFOs; subjects who viewed the story that included no such challenge increased their beliefs. A fourth experiment (Sparks & Pellechia, 1997) investigated the role of a scientific authority in a magazine story about UFOs. Once again, the results showed that subjects expressed different UFO beliefs depending upon whether or not a scientist endorsed the existence of UFOs.

In addition to this small group of experiments, Sparks, Nelson, and Campbell (1997) reported the findings from a random sample survey of 120 respondents living in a mid-sized city in the Midwest. Their results showed that, as predicted, there was a significant relationship between exposure to TV programs that featured paranormal content and paranormal beliefs. These authors had predicted that in accord with the "resonance" hypothesis from cultivation theory (Gerbner, Gross, Morgan, & Signorielli, 1994), the relationship between TV exposure involving the paranormal and belief in the paranormal should be more likely among respondents who reported having a personal experience with the paranormal. According to the theory, resonance results when media consumers get a "double-dose" of the same message--media consumption and personal experience both communicate the same reality. In such a case, the influence of the media message is thought to be even greater. However, Sparks et al. found no evidence for resonance in their study. In fact, the exact opposite

finding emerged. The relationship between media exposure to the paranormal and paranormal beliefs was present only among respondents who reported that they had never had a paranormal experience. Surveys of this type add important information to the understanding of the relationship between media exposure and paranormal beliefs. In addition to providing a much stronger basis for generalizing findings to a larger population, they constitute an important replication of the experimental results using a different methodology. They also help to provide information about the robustness of any relationship since media exposure is measured very differently in experiments and surveys. Generally, because of the tight controls in laboratory experiments, media effects are more likely to emerge in the experimental context than in the survey context. Thus, when surveys are able to provide corroborating evidence of a media effect demonstrated in the laboratory, more confidence can be placed in the existence of the basic relationship that emerges. One additional advantage of the survey methodology is the ability to examine the relationship between media exposure and some dependent variable while simultaneously examining a host of other demographic variables.

In the study reported here, we were interested in continuing the investigation of potential media impact on paranormal beliefs by extending the available survey data on this topic. Following Sparks, et al. (1997), we examined the relationship between television exposure and paranormal beliefs through a larger random-sample telephone survey in the same mid-sized city in the Midwest. Of course, the survey method does not permit definitive statements about causal relationships, but it does permit generalization beyond a small sample and enables insight about the prevalence of paranormal beliefs and their relationship to TV consumption. In this case, we were particularly interested in revisiting the resonance hypothesis in order to see if the earlier disconfirmation could be replicated. In the final analysis, it seems highly desirable to proceed with investigating this area by calling upon both experimental and survey methods.

Theoretical Expectations

Our general theoretical approach to this study followed Sparks, et al. (1997) and calls upon the theory of media cultivation. According to the perspective, exposure to TV programming presents a particular reality about the world that is gradually adopted by viewers as an accurate representation of the world (Gerbner, Gross, Morgan, & Signorielli, 1986; Ogles, 1987). One of the criticisms of cultivation theory is that the particular mechanisms that might be responsible for the effect are not well specified or understood (see Hawkins, Pingree, & Adler, 1987). This weakness has encouraged some scholars to offer various explanations that go beyond Gerbner's original formulation, but might provide some plausible insights about how cultivation might work. For example, Ogles & Hoffner (1987) relied upon the notion of an "availability heuristic" (Tversky & Kahneman, 1973) in offering an explanation for media cultivation. The essence of this idea is that when viewers are called upon to make judgments about the real world, they draw heavily upon whatever is readily available in their memories that might be relevant to the judgment. Heavy and recent exposure to TV programs constitutes one likely source of information for viewers to incorporate in their judgments [Shrum (1996) tests this idea in the context of media cultivation]. As noted by Sparks, et al. (1997), a number of studies support the idea that people are more likely to accept something as true when they are exposed to the idea repeatedly (Arkes, Hackett, & Boehm, 1989; Bacon, 1979; Begg, Anas, & Farinacci, 1992; Begg & Armour, 1991; Hasher, Goldstein, & Toppino, 1977; Schwartz, 1982). Zaragoza and Mitchell (1996) go even farther in noting that the actual truth of the repeated statements appears to be irrelevant to their acceptance. Mere repetition leads to more acceptance. If this is the case, following Sparks, et al. (1997), it seems reasonable to expect that viewers who see repeated depictions of the paranormal on television might be influenced by these depictions in situations where they are called upon to express judgments about the reality of paranormal phenomena. Of course, this theoretical orientation assumes that exposure to TV will result in repeated exposure to paranormal depictions. While there appear to be no content analyses in the literature to substantiate this assumption, there is little question upon examining the TV schedule (see title mentioned earlier) that paranormal depictions

show up in abundance. It is also the case that Hollywood producers generally acknowledge that the writer's strike in the 1980's produced a heavy reliance on "reality" television, which led inevitably to more frequent presentations of reports of UFO sightings, psychics, and the like [R. Kiviat, personal communication, November 9, 1999].¹ Data from systematic content analyses would be a welcome addition to this literature.

We proceeded with the present study on the basis of the following: 1) frequent charges from scholars and skeptics that the media have much to do with the prevalence of paranormal beliefs, 2) casual examination and testimony from Hollywood indicating that TV programs featuring the paranormal are numerous, 3) prior results from laboratory experiments indicating that the nature of paranormal depictions on TV can influence paranormal beliefs, 4) the prior survey results indicating a relationship between TV exposure and paranormal beliefs, and 5) the general theoretical logic of media cultivation theory.

Our first expectation about the results of the survey followed Sparks, et al. (1997) and is supported by the literature reviewed to this point:

H1: Television viewing (particularly viewing of programs that contain paranormal events) will be positively correlated with the tendency to endorse beliefs in paranormal phenomena.

If this correlation did emerge, it need not indicate the presence of a media effect. Instead, it might indicate that individuals who tend to believe in the paranormal tend to seek out exposure to media containing these themes. Of course, the possibility of a reciprocal relationship between the two variables is also possible.

In the light of Sparks et al.'s (1997) failure to find evidence for the resonance hypothesis, in addition to H1, we had posed a research question:

RQ1: Would any relationship between television exposure and paranormal beliefs be stronger for individuals who report that they have had some personal life experience with paranormal events?

It seems clear that cultivation theory would predict such a finding, but the first survey to test this notion failed to uncover support for the idea.

Finally, we were generally interested in the possible impact of demographic variables on the relationship between TV exposure and paranormal beliefs. This led to the formulation of a second research question:

RQ2: What impact do demographic variables like age, sex, income, education and religious belief have on the relationship between TV exposure and paranormal beliefs?

METHOD

Respondents

Using randomly selected pages from the city phone directory, followed by randomly selected numbers from those pages, 200 telephone interviews were completed during the Fall of 1997 in a medium-sized city in the Midwest (males: $n = 93$; females: $n = 102$).² The interviewers were members of an advanced undergraduate course in mass communication theory. Each interviewer was trained in two sessions by the authors and sample interviews were conducted to heighten standardized procedures across the interviewers. In total, 284 individuals were contacted and 84 refused to participate (final response rate = 70%). The interviews took about 15-minutes to complete. All respondents were screened at the outset of the conversation to assure that they were at least 18 years of age.

Measurement

Television Viewing Habits. Following procedures used in past studies of this type (Sparks & Ogles, 1990; Sparks, et al. 1997), respondents were asked to estimate the amount of time they spent

watching television. Respondents were asked to estimate the total number of hours of television they watched on an average weekday, an average Saturday, and an average Sunday. The weekday total was multiplied by five and added to the two weekend day totals to yield an average viewing time for the week in hours.

Respondents were also asked about their exposure to several specific programs that routinely feature paranormal themes: Unsolved Mysteries, Sightings, The X-Files, Early Edition, Psychic Friends, Beyond the Paranormal Borderline, Touched By an Angel, Profiler, and Millennium. For each of these programs, they were asked to report if they had ever viewed the program. If a respondent indicated that he/she had seen the program before, a follow-up question asked for an estimate of how many times the program had been seen. The categories for this estimate were: "1-2 times", "3-5 times", "6-10 times", and "over 10 times". For purposes of coding, the maximum number in each category was recorded as the response. Responses in the maximum category were coded as "11."

Paranormal Beliefs. For purposes of comparison, the same twenty-item scale employed by Sparks, et al. (1997) was used to assess respondents' paranormal beliefs. This measure was based on other measures that have appeared in the literature but sought to improve on a number of problems with question wording and ambiguous referents (see Jones, Russell, and Nickel, 1977; Tobacyk & Milford, 1983). The measure assesses paranormal belief in ten different areas: 1) UFOs and space aliens, 2) astral-projection, 3) extrasensory perception (ESP), 4) astrology or the use of horoscopes, 5) supernatural physical healing, 6) palm reading, 7) ghosts or haunted houses, 8) prophetic dreams, 9) telekinesis or moving objects just by thinking, and 10) general psychic powers (e.g., precognition, and the ability to know the location of a crime scene only from objects belonging to the victim).

Interviewers asked respondents to listen to each belief statement, and to respond by indicating that they either agreed with the statement, disagreed with the statement, or were uncertain about the extent to which they either agreed or disagreed. Responses were coded for each item such that belief in the paranormal was coded as "2", uncertainty was coded as "1", and disbelief was coded as "0".

Consequently, scores on the measure could range from “0” to “40” with higher scores indicating greater belief in the paranormal. Two items were included on the measure for each of the ten areas listed above. One of these items was worded so that agreement reflected belief in the paranormal; the other was worded so that agreement reflected disbelief. These latter items were recoded so that high scores on the 20-item measure reflected the tendency to believe in paranormal phenomena. The complete 20-item measure along with the percentages of respondents who either agreed or disagreed with the items appears in Table 1. The items were presented in the order that they appear in the table, which was determined by random selection.³

Insert Table 1 About Here

Paranormal Experiences. At the end of the survey, respondents were asked if they had ever experienced anything that fell outside the realm of normal experience. Several examples were given to provide a context for this question when the interviewer said: "For example, some people say they've encountered ghosts or flying saucers, while others may claim that they've caught a glimpse of the future before it occurred. These events might be called paranormal. Has anything like this ever happened to you?" Responses of “yes” were coded with “1” and responses of “no” were coded as “0”.

Demographic Variables. Respondents were also asked to provide general demographic information, including their age, sex, level of education, income level, intensity of religious belief (scale of “1” to “10” with “10” being most intense) and whether or not they typically attended a weekly religious service. Responses of “yes” were coded with “1” and responses of “no” were as “0”.

RESULTS

Prevalence of Paranormal Beliefs

Table 1 displays the percentages of respondents who either agreed, disagreed, or were undecided about each item. These data show that belief in paranormal phenomena are quite common. For example, just under 50% of the respondents indicated a belief in ghosts. Nearly one-third of the respondents reported that sometimes they had been able to read another person's mind through extrasensory perception (ESP). Nearly 45% of the respondents believed in UFOs from outer space, and just under one-fifth of the respondents believed that some people could bend metal just by thinking. These results parallel those reported by Gallup and Newport (1991) in a random sample of Americans. They are also consistent with data reported from a convenience sample of college students (Sparks, Hansen, & Shah, 1994). Overall, these data provide a replication of the survey findings from Sparks, et al. (1997). The associated percentages for each item were very close to the results reported in their study and in most cases did not differ by more than what might be expected as a result of sampling error (95% confidence interval is $\pm 6.9\%$).

The Measure of Paranormal Beliefs

After recoding the items that were negatively worded, we combined the scores across the 20 items of paranormal beliefs to form an additive index. Cronbach's alpha on this index was .88. Evidence for the measure's validity is indicated by the fact that it was significantly correlated with the tendency for respondents to report that they had experienced a paranormal event in their own life [$r = .46$, $n = 190$; $p < .001$]. Sparks, et al. (1997) found the same correlation ($r = .47$) in their study. In order to determine if the structure of this measure was multi-dimensional, the 20 items were submitted to a maximum likelihood factor analysis with varimax rotation. As observed by Sparks, et al. (1997), five factors emerged initially from this analysis with eigenvalues greater than 1.0. However, in this case, the first factor accounted for 30% of the variance and none of the remaining factors accounted for at least 10% of the variance. Moreover, the items loading on this factor were not easily interpretable and the reliability of an additive index consisting of these items failed to meet the conventional minimum established for alpha (.70). Consequently, we decided to employ the entire 20-item measure as our

main measure of paranormal beliefs. It should be noted that the results of the factor analysis do diverge somewhat from those obtained by Sparks, et al. (1997), who found an interpretable, two-factor solution for this measure, both of which formed reliable sub-scales.

The Measures of Television Viewing

Two measures of viewing were constructed from the responses. The first measure was a "total viewing" measure in hours-per-week and is described above. Only six respondents in the sample (3%) reported viewing no television at all during a typical week. At the other extreme, one viewer reported viewing 74-hours of TV during a typical week (10+ hours per day). The median number of hours viewed per week was 18, or about 2-3 hours-per-day. A second viewing measure was designed to assess viewing of programs that were known to feature paranormal phenomena regularly. The number of times that respondents indicated seeing each of the programs was summed together to form a total measure for paranormal programming.

Testing the Hypothesis and Research Questions

In order to test the first hypothesis, we initially computed correlations between the measures of TV viewing and the measure of paranormal beliefs. The measure of total TV viewing was significantly correlated with paranormal beliefs [$r(190) = .19, p < .01$]. Consistent with H1's prediction that this relationship should be more likely for the viewing of paranormal TV programs, we found that the measure of paranormal TV viewing was significantly correlated with paranormal beliefs [$r(191) = .31, p < .001$]. Since the second research question sought information about the impact of demographic variables on the relationship between TV exposure and paranormal beliefs, we ran two regression equations to explore this issue—one for each of the two viewing measures. The independent variables for each equation were identical. Age, sex, income, education, weekly attendance at a religious service, and intensity of religious belief were all entered into the equation in a single block. This was followed by entering, in respective equations, either the total TV viewing measure, or the measure of paranormal viewing. This permitted us to examine how much variance in paranormal beliefs could be accounted

for by TV viewing after controlling for these demographic factors. Table 2 displays the results of the equation using the total TV viewing measure as a predictor variable; Table 3 displays the results using the measure of paranormal viewing.

Insert Tables 2 & 3 About Here

As Table 2 reveals, the demographic variables accounted for 16% of the variance in paranormal beliefs [$F(6,175) = 5.56, p < .001$]. Total TV viewing accounted for an additional 2% of the variance [$p < .07$]. The entire regression model accounted for 18% of the variance in paranormal beliefs [$F(7,174) = 5.31, p < .001$]. The similar equation for paranormal TV viewing (Table 3) shows that viewing of paranormal TV accounted for an additional 4% of the variance in paranormal beliefs [$p < .003$]. The entire regression model accounted for 20% of the variance in paranormal beliefs [$F(7,175) = 6.16, p < .001$].

The equations in Tables 2 and 3 reveal information pertinent to RQ2. Age, income, weekly attendance at a religious service, and intensity of religious belief proved to be unrelated to paranormal beliefs. However, sex and education did predict belief in the paranormal. The signs of the beta coefficients indicate that females were more likely to express belief in the paranormal than were males and people with lower levels of education were more likely to express belief than were people with higher levels. The effect associated with education is much stronger than the effect for sex.

In order to investigate the resonance hypothesis implied in RQ1, we ran regression equations separately for respondents who reported prior experience with a paranormal event ($n = 58; 29\%$) and for those who reported no prior experience ($n = 138; 69\%$). These equations were set up in exactly the same way as the ones reported in Tables 2 and 3. When we used the measure of total TV viewing, the regression analyses revealed that after considering the demographic variables, viewing was unrelated to paranormal beliefs for both groups of respondents. However, when

we used the measure of paranormal TV viewing, different results emerged for each group. Table 4 displays the results for the group who reported no prior experience with a paranormal event. Table 5 displays the results for the group who did report such an experience. As these tables reveal, viewing paranormal programs on TV was unrelated to paranormal beliefs for those who reported no prior experience with the paranormal. But for those who did report such an experience, viewing paranormal programs contributed an additional 11% of significant variance to the prediction of paranormal beliefs ($p < .007$).

Insert Tables 4 & 5 About Here

Discussion

Consistent with past research, Table 1 reveals that paranormal beliefs were certainly prevalent in the random sample we drew from the Midwestern city. If the influence of TV programs on an audience is likely to be greater among those who are undecided about a given phenomenon, then the percentages of respondents who expressed uncertainty about the paranormal are particularly important for the study of media impact. As the table shows, there are significant numbers of respondents in this category for most of the belief items. Of particular interest in Table 1 are the percentages of respondents who indicated uncertainty about various paranormal belief items. It seems reasonable to assume that in areas of uncertain belief, the mass media are potentially a more powerful source of influence. While the percentages of respondents who endorsed belief in the paranormal were relatively unchanged from the earlier survey reported by Sparks et al. (1997), the data continue to indicate widespread belief and uncertainty about the existence of paranormal phenomena. In such a

cultural environment, media messages about the paranormal would seem to hold considerable potential to reinforce and change what people believe.

The first hypothesis was that television viewing (particularly viewing of paranormal programs) would be positively correlated with paranormal beliefs. This hypothesis was supported. As the regression equations reported in Tables 2 & 3 reveal, viewing paranormal programs accounts for a significant portion of variance in paranormal beliefs even after controlling for age, sex, income, education, and two different measures of religiosity. It is important to note that this result cannot be interpreted unequivocally as evidence for the impact of paranormal programming. Surveys of this type simply do not permit conclusions that establish causal direction. It is always possible that some unmeasured third variable accounts for the relationship that was observed. It is also possible that the relationship indicates that those who believe in the paranormal are more likely to view paranormal programs. While this is certainly a reasonable conjecture, it is also important to recall that the experimental evidence reviewed earlier clearly shows that exposure to paranormal programs affects beliefs. Of course, it is possible that the relationship is bi-directional. Future research should be designed to test the selective exposure hypothesis that believers in the paranormal seek out paranormal media.

RQ1 asked about the evidence regarding cultivation's resonance hypothesis. The earlier study by Sparks et al. failed to find any support for resonance. However, in the present study, evidence consistent with the resonance hypothesis did emerge. The relationship between media exposure to the paranormal and paranormal beliefs was present only for those respondents who reported personal experience with a paranormal event. This finding is completely counter to the one found in the earlier survey of the same community. One approach to these conflicting findings is to compare the two surveys and focus on the differences between the two studies. For example, the respective measures of paranormal programming were different in their measuring scales and in the programs that were included. However, it is not apparent how differences such as these could account neatly for a

complete reversal of the outcome on the resonance hypothesis. Rather than engage in uninformed speculation about the causes for this failure to replicate a past finding, the most prudent course is to continue to investigate this hypothesis with respect to paranormal beliefs and the media. At this point in time, there are only two studies that have data pertinent to the question. Clearly, more investigation is needed prior to drawing any firm conclusions about the viability of the resonance hypothesis in this domain.

RQ2, which asked about the impact of demographic variables on paranormal beliefs, was evaluated in the regression equations. The findings that emerged in the regression equations were informative with respect to these variables. There was no evidence that age, income, weekly attendance at a religious service, or general intensity of religious belief were related to paranormal beliefs. This might not be surprising with respect to age or income, but the skeptical community has often associated religious belief with belief in the paranormal. However, our finding that neither of the measures pertaining to religion were predictors of paranormal belief is consistent with the findings of several other studies (Duncan, Donnelly, & Nicholson, 1992; Grimmer & White, 1990; Williams, Taylor, & Hintze, 1989). Data seems to be accumulating to suggest that the relationship between religious belief and paranormal belief may not be very strong. Undoubtedly, there are conceptual grounds for distinguishing between these two domains conceptually.

There was some evidence for a weak relationship between biological sex and belief in the paranormal; females showed a slight tendency to endorse paranormal beliefs more than males. There is some precedent in the literature for this finding (Wolfradt, 1997), but in general, the differences between males and females in this realm appear to be small. The largest relationship between paranormal beliefs and a demographic variable was found for level of education. As one might expect, individuals with higher levels of education were less likely to endorse paranormal beliefs. This finding appears to be consistent with the notion that education encourages the development of critical thinking skills that result in closer scrutiny and ultimate rejection of many paranormal claims.

Consistent with this idea, Gray and Mill (1990) found a significant relationship between the application of critical thinking skills and rejection of paranormal beliefs.

Sparks et al. (1997) underscored the need to examine perceived realism of paranormal depictions as an important variable in understanding the impact of paranormal TV on paranormal beliefs. We believe it is important to re-emphasize this point. Following Potter's work on perceived reality (Potter, 1986; 1988), we expect that media impact in this domain might be dependent on such reality judgments. It is also the case that paranormal programming probably produces a much wider range of reality judgments than other types of programming (e.g., news programming). Therefore, it appears critical to examine this variable in future studies.

The data accumulating on the relationship between media exposure and beliefs in the paranormal suggest that there may be an important media effect in this realm that has received relatively little attention from scholars of mass communication. It is important for future studies to replicate the findings that have been reported thus far and, in the case of the resonance hypothesis, seek to untangle the inconsistent results that have emerged to date. Like the survey reported by Sparks et al. (1997), this study has the strength of using a random sampling procedure of an entire city. This method is considerably stronger than one that appears frequently in the literature—convenience samples of college students. The use of random samples of larger populations enables some meaningful generalization of research findings. Laboratory experiments and surveys of this type should continue to be useful tools for advancing our knowledge about the media's role in beliefs about paranormal phenomena.

Conclusion

Research on the influence of the media on beliefs in the paranormal is still in its infancy. The studies to date, including this one, demonstrate that this area of inquiry may hold considerable promise in advancing our understanding about media effects. One glaring hole in the current literature is the lack of any systematic content analysis of media content that focuses on paranormal themes.

Clearly, this sort of study is overdue and stands to inform us about the prevalence of these themes in a systematic way. Ultimately, we believe that research on the media and paranormal beliefs stands to offer new insights about media effects and about the way individuals form their basic belief systems. There may also be implications for the design of educational curricula on critical thinking and the media. In the final analysis, we believe that paranormal beliefs and the media's role in cultivating or discouraging them is a critical topic for mass communication scholars to understand well. Society is shaped by what people believe. If the media play a central role in encouraging people to adopt beliefs about reality that are unsubstantiated, there may well be widespread implications for future society that are incalculable at the present time.

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Footnotes

¹Robert Kiviat is a Hollywood producer who has worked on a number of programs that deal with the paranormal. His most famous work is probably the “Alien Autopsy” series produced for the FOX network. In a series of programs, Kiviat showed footage of an alien autopsy that supposedly originated from the now infamous Roswell incident in the late 1940s. Over the series of programs, it becomes clear that there is good reason to conclude that the film is a hoax. Kiviat takes primary responsibility for investigating the film’s origins and for tracking down the evidence that led to the verdict that the film was a hoax.

²The sample was random with respect to the numbers dialed, but not with respect to the people living in the household contacted. Unless the person answering the phone was under 18-years of age, the interview was presented to the person who answered the phone. Persons under 18-years old were not used due to the additional contingencies of parental permission that would have been involved in order to satisfy guidelines for ethical treatment of human subjects. In the case of 5 respondents, data on sex was not collected. The city used for the sample was the same one used in the study by Sparks et al. (1997). It has a population of about 50,000 with a very small minority population (i.e., less than 2% of any particular minority group).

³The random order of the scale was constrained only by the criterion that consecutive items could not be worded either positively or negatively with respect to the paranormal phenomenon.

Table 1**Percentages of Respondents Indicating Agreement, Disagreement, or****Uncertainty About Paranormal Beliefs Item**

Item	Agree	Undecided	Disagree
Daily horoscopes that appear in the newspapers DO NOT provide accurate information about a person's life.....	81.5%	9.5%	9.0%**
Some people are able to levitate or lift objects just by thinking.....	18.5%	14.0%	67.5%
I do NOT believe that there is any such thing as haunted houses.....	37.5%	21.0%	41.5%**
I believe that sometimes I can tell what another person is thinking through ESP or extrasensory perception.....	32.5%	7.0%	60.0%
No one can really tell about other people's lives just from looking at the lines on the palms of their hands.....	68.5%	14.5%	16.5%**
Some people have the power of astral-projection, that is they can willingly leave their body for short periods of time to travel to another part of the Universe and then return.....	7.5%	16.0%	76.0%
I do NOT believe that anyone really has psychic powers.....	41.0%	15.0%	44.0%**
I believe that some people have a special gift to heal other people simply by touching them.....	22.5%	16.0%	61.5%

(table continues)

Table 1 (continued)

Item	Agree	Undecided	Disagree
Some people claim that they have had dreams about future events that actually come true, but I believe that these cases are simply coincidence.....	43.0%	15.0%	42.0%**
I believe that some people have actually seen flying saucers that come from outer space.....	34.0%	23.0%	42.5%
No one can bend metal just by thinking about it.....	72.5%	13.0%	14.0%**
Astrology, or the use of horoscopes, has been proven to be valid for finding out the best ways in which people should act in their daily lives.....	7.0%	18.5%	73.5%
I don't think ESP or extrasensory perception is possible.....	39.0%	19.5%	41.0%**
I believe that some people have actually seen ghosts.....	45.5%	16.5%	37.0%
I DO NOT believe that astral-projection is possible.....	64.0%	17.5%	17.0%**
Some people can really tell the future about another person's life just by reading the palm of their hand.....	8.0%	15.0%	75.5%
I DO NOT believe that there has ever been a case where another human being has been captured by a space alien....	58.0%	22.5%	18.5%**
Some people have a special gift that enables them to see things in the future that have not yet happened.....	44.0%	16.0%	39.0%
Anyone who claims that he/she can heal other people just by touching them is either lying or badly mistaken.....	57.5%	16.5%	25.0%**

(table continues)

Table 1 (continued)

Item	Agree	Undecided	Disagree
There are some people who have a special ability to help the police solve crimes because they can psychically receive information just by touching objects that belong to the crime victims.....	35.5%	19.0%	45.0%

Note: Percentages are based on 200 respondents for each item. Items marked with ** indicate that disagreement implies belief in the particular phenomenon. For unmarked items, agreement implies belief in the particular phenomenon.

Table 2**Regression Results for Predicting Belief in the Paranormal from Total Television Viewing**

<u>Variables Entered</u>	<u>Multiple R</u>	<u>R²</u>	<u>Beta</u>
Step 1:			
Age _____			-06
Sex _____			.17* (p < .05)
Income _____			.07
Education _____			-.32* (p < .001)
Weekly Religious Service _____			-.13
Intensity of Religious Belief _____			.07
 (total for step 1)	 .40	 .16	
Step 2			
Total TV Viewing	.42	.18	.13

Note: The entire regression model was significant [$F(7,174) = 5.31; p < .001$].

Table 3**Regression Results for Predicting Belief in the Paranormal from Paranormal Viewing**

<u>Variables Entered</u>	<u>Multiple R</u>	<u>R²</u>	<u>Beta</u>
Step 1:			
Age _____			-07
Sex _____			.17* (p < .05)
Income _____			.07
Education _____			-.31* (p < .001)
Weekly Religious Service _____			-.12
Intensity of Religious Belief _____			.07
(total for step 1)	.39	.15	
Step 2			
Viewing Paranormal	.45	.20	.22* (p < .003)

Note: The entire regression model was significant [$F(7,175) = 6.16; p < .001$].

The betas for Step 1 are slightly different than the ones listed in Table 1 due to the fact that one respondent had missing data for the analysis in Table 1 and was not included in that analysis.

Table 4

Regression Results for Predicting Belief in the Paranormal from Paranormal Viewing Among Respondents Who Reported No Prior Experience With the Paranormal

<u>Variables Entered</u>	<u>Multiple R</u>	<u>R²</u>	<u>Beta</u>
Step 1:			
Age _____			-0.05
Sex _____			.24* (p < .02)
Income _____			-0.02
Education _____			-0.18
Weekly Religious Service _____			-0.04
Intensity of Religious Belief _____			.02
(total for step 1)	.32	.10	
Step 2			
Viewing Paranormal	.33	.11	.09

Note: The entire regression model was significant [$F(7,119) = 2.04$; $p = .05$].

Table 5

Regression Results for Predicting Belief in the Paranormal from Paranormal Viewing
Among Respondents Who Reported Prior Experience With the Paranormal

<u>Variables Entered</u>	<u>Multiple R</u>	<u>R²</u>	<u>Beta</u>
Step 1:			
Age _____			-.12
Sex _____			.09
Income _____			.19
Education _____			-.46* (p < .002)
Weekly Religious Service _____			.09
Intensity of Religious Belief _____			-.02
(total for step 1)	.50	.25	
Step 2			
Viewing Paranormal	.60	.36	.35* (p < .007)

Note: The entire regression model was significant [F (7,47)= 3.79; p < .003].