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Science Friday
Summative Evaluation
With Scientist Listeners

Report for
Samana Productions
National Public Radio

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SUMMATIVE EVALUATION OF SCIENCE FRIDAY RADIO SERIES

MULTIMEDIA RESEARCH • BELLPORT, NY

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INTRODUCTION

Talk of the Nation: Science Friday (SF) is a weekly two-hour science talk show hosted by science correspondent Ira Flatow and broadcast on National Public Radio. An associated *Science Friday* web site, including a chat forum, is available at www.sciencefriday.com. The National Science Foundation has funded this summative evaluation to determine what effects the series has on listeners. This is the third in a series of annual evaluations.

METHOD

Research Design

This study involved collecting information via a two-sided one-page mailed survey to minority and white scientists in virtually all of *Science Friday's* broadcast areas in the lower 48 states. Data were collected from September to June, 1999-2000.

The following specific research questions were addressed in the data analyses. For each question, the main concern was whether ethnicity was a significant factor in the relationships:

- I. *Do demographic characteristics, specifically ethnic group but also including age and gender, relate to whether a scientist listens to the Science Friday radio series?*
- II. *Do background characteristics such as listening to Talk of the Nation, Mon-Thurs., interest in science, level of science knowledge and sources of science information relate to whether a scientist listens to the series?*
- III. *What is the frequency of listening to Science Friday?*
- IV. *How appealing is Science Friday?*
- V. *What effects do listeners believe the series has on them personally?*
- VI. *Has the series prompted listeners to take further action related to a program?*
- VII. *What changes would make the series more interesting to listeners?*

Sample

With this evaluation, the population to which we wish to generalize within *Science Friday* broadcast areas includes white, black and Spanish-origin scientists, mathematicians or related professionals (e.g., computer scientists, engineers, statisticians,

medical researchers and so forth). In 1999, within the lower 48 states, *Science Friday* was broadcast by 105 stations in 30 states plus the District of Columbia. Of these sites, 46 stations in 23 states plus D.C. had available higher education institutions or government research centers within their broadcasting areas (for example, Boston, MA, has many such institutions but Cortez, CO, has none). To develop the survey mailing list, web sites for these institutions were searched (e.g., mit.edu; llnl.gov) as well as web sites for minority scientist organizations and associations (e.g., sacnas.org; nih.gov/science/blacksci) and sites presenting bibliographies of minority scientists (e.g., hyper.hunter.cuny.edu/JGHweb/biographies/biographies.html).

The sampling goal was to identify and locate a mailing address for a total of at least 50 black males, 50 black females, 50 Spanish-origin males, 50 Spanish-origin females and their 200 white counterparts, who were in the same professional field in the same institution at the same occupational level, if possible. Thus, once a black male associate professor in biology at a Boston university was identified, then a white male associate professor in biology at the same university was located to receive a survey also. If more than one white counterpart was available, a random choice was made. Surveys were mailed only to professionals who were identified clearly as black, Spanish-origin and white through resumes, biographies or photos;¹ so a website with surnames but no other information to identify ethnicity did not provide members for this sample.

The goal of identifying 200 minority scientists was not totally met mainly because of a dearth of appropriate women available in the listening areas. As a result of the above procedure, surveys were mailed to 51 black males and 40 black females, 53 Spanish-origin males and 25 females, in addition to their white counterparts, yielding a total of 338 surveys. Surveys were mailed to 16 states plus D.C. in the broadcast areas of 27 stations, including 53 academic institutions and 11 government research centers.

Of the total of 338 surveys that scientists received, 224 or 66% were returned for analysis. This is a higher response rate than the 57% and 58% obtained in previous years' mailings to public radio members in Florida and Massachusetts, respectively. Surveys were received from 72% of the white sample (n=169), 64% of the black sample (n=91), and 58% of the Spanish-origin sample (n=78). Survey responses were received from both *SF* Listeners and Non-Listeners. More specifics on the demographics and background characteristics follow in the Results section.

¹ Survey recipients also identified their own ethnic background in response to a survey question.

Mail Survey

The mail survey was comprised of several sections (see Appendix for copy). All respondents answered sections on demographic and background information:

- Demographic questions established the sample's distribution of state, gender, age, ethnicity, highest level of education, employment status and occupation.
- Background questions assessed general interest in science, self-rated knowledge of science as a member of the general public, primary and secondary sources of science information, and frequency of listening to *Talk of the Nation* (Mon-Thurs) and *Science Friday*.

Those respondents who listened to *SF* answered the remaining questions that addressed the following:

- Listening frequency;
- Personal impact of listening to the series;
- Level of agreement with statements as to effects of the series;
- Actions prompted as a result of listening to *SF*;
- Suggestions for topics in future shows.

Analyses

To explore possible significant relationships among variables, chi-square analyses, t-tests and multiple regression were performed where appropriate. Demographic variables included ethnicity as our main concern as well as age and gender. Background variables included interest in science, self assessed knowledge of science, primary and secondary media sources of science information, listening or not listening to *TOTN Mon-Thurs* and *Science Friday* and frequency of listening to these radio shows. Only statistically significant findings at $p < .05$ are reported in the text.

DEMOGRAPHIC CHARACTERISTICS

Survey responses came from all 16 states and DC, with the largest portions from CA, MD, NC, MA and FL. The respondents were professors and/or researchers mainly in the fields of biology (25%), chemistry (23%), physics (13%), engineering (12%) and math (9%). Males and females were equally represented in each of these fields with the exception of physics, where men prevailed. Table 1 shows the demographic data for the full sample of respondents as well as for subsamples of *Science Friday* Listeners and Non-listeners.

Table 1. Distribution of Demographic Variables for Scientists in Listening Areas

		Scientists N = 224	Listeners n = 83 (37%)	Non-Listeners n = 141 (63%)
Gender	Male	41%	64%	56%
	Female	59%	36%	44%
Age	Mean	47 years	47 years	48 years
	Median	46 years	46 years	47 years
	Range	25-71	30-70	25-71
Ethnicity	White	54%	64%	48%
	Black	26%	16%	32%
	Spanish-origin	20%	20%	20%
Education	College	4%	4%	5%
	Post-college	96%	96%	95%
Employment Status	Employed	98%	99%	98%
	Retired	2%	1%	2%

I. Do demographic characteristics, specifically ethnic group, relate to whether a scientist listens to the Science Friday radio series?

Of all the responding scientists (n=224), 37% reported listening to the radio series *Science Friday*. No statistically significant differences were noted between Listeners and Non-Listeners with respect to Gender, Age, Educational background and Employment status. Ethnic background was related to listening only for women, not men. Listening to *Science Friday* was reported by 49% of the white female scientists (n=51), 20% of Spanish-origin female respondents (n=15) and 8% of black females (n=26). White female scientists were significantly more likely to be Listeners than black females ($\chi^2 = 12.92$, $df = 1$, $p = .0003$) and Spanish-origin females ($\chi^2 = 3.996$, $df = 1$, $p = .0456$); the latter two groups did not differ in their listening proportions.

BACKGROUND VARIABLES

Listening to *Talk of the Nation*, Mon-Thurs.

All respondents were asked how often they listened to the Monday through Thursday public broadcasting radio series, *Talk of the Nation*, which precedes the Friday broadcast of *Science Friday*. Table 2 indicates that 54% of the sample were listeners of *Talk of the Nation*. Of those who were listeners of *Talk of the Nation*, 65% were also listeners of *Science Friday*. Of those who said they listen to *SF*, 95% were *TOTN* listeners on Monday through Thursday; thus, there appears to be a large carryover of audience from the daily series rather than a unique *Science Friday* audience. Listening to *TOTN* was significantly related to the status of Listening to *SF* ($\chi^2 = 88.14$, $df = 1$, $p \leq .0001$).

Table 2. Frequency of Listening to *Talk of the Nation*, Monday - Thursday

Frequency of Listening to <i>Talk of the Nation</i>	Scientists N = 224
Not aware of it	30%
Never listen	16%
Listen less than once per month	19%
Listen 1-3 times per month	22%
Listen every week	13%

Science Interest

Respondents rated how interested they are in science, generally speaking, by using a five-point scale from "not at all interested" (1) to "very interested" (5). There were no differences between *SF* Listeners and Non-Listeners or among other demographic and background variables because there was very little variance in the responses: 95% of the respondents were "very interested - 5" in science generally, 5% circled "4" and 1% circled "3." The latter few were mathematicians or in the administrative side of science in their institutions.

Science Knowledge

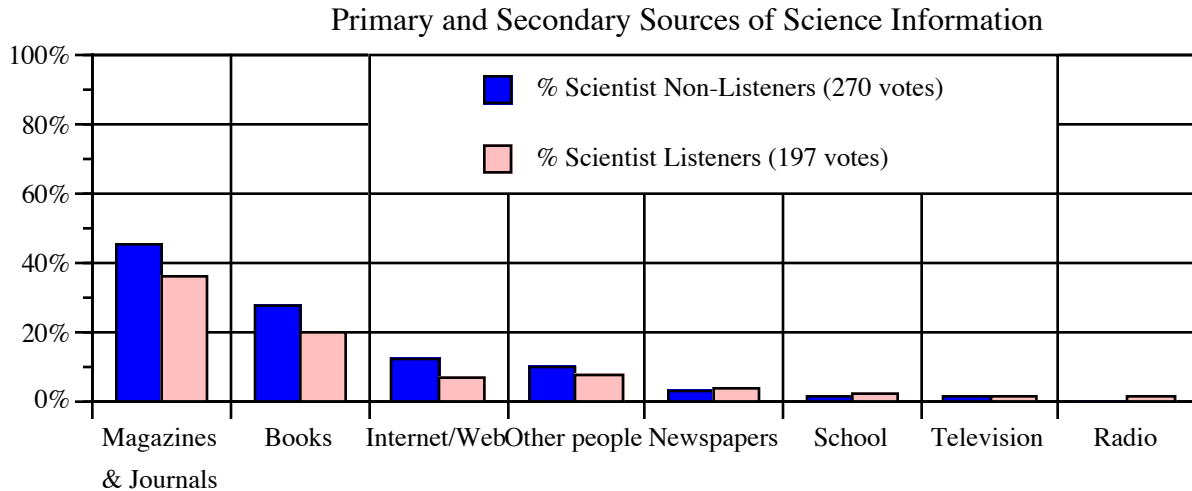
Respondents rated their own level of knowledge about science as a member of the general public, using a five-point scale from "not at all knowledgeable" (1) to "very knowledgeable" (5). Most respondents considered themselves "very knowledgeable = 5" (84%) or "4" (12%). Again, mathematicians, statisticians and science administrator types chose "3" (2%) or "2" (1%). There were no differences in knowledge ratings between *SF* Listeners and Non-Listeners or among other demographic or background variables.

Sources of Science Information

Respondents indicated their primary source of science information given eight possible sources. The largest percentage of both samples reported that "magazines/ journals" were their primary source of science information: Listeners (73%); Non-Listeners (63%). This use is twice as large as the general public radio member. Not one scientist respondent listed "radio" or "TV" as a primary source.

Respondents also indicated their secondary source of science information from the same list. The largest percentage of both samples reported that "books" were their secondary source of science information: Listeners (35%); Non-Listeners (31%).

The chart that follows combines the votes for primary and secondary sources and gives an overall picture of where the samples feel they obtain most of their science information. The Non-Listeners focused on "magazines/ journals" (45%), "books" (27%) and "Internet/web" (12%) as their major sources of science information. In similar fashion, Listeners considered their major sources of information to be "magazines/journals" (38%), "books" (20%) and "Internet/web" (7%). Ethnicity did not play a significant role in primary or secondary source reporting.²



III. Do background characteristics such as listening to Talk of the Nation, Mon-Thurs., interest in science, level of science knowledge and sources of science information relate to whether a person listens to the SF?

Frequency of listening to *TOTN* (including no listening at all) is a strong significant predictor of listening to *Science Friday*, accounting for 49.7% (R^2) of the variance in *Science Friday* Listening/Non-listening status. The other background variables were not related significantly to whether a person listened to *SF* or not.

FREQUENCY OF LISTENING

IV. What is the frequency of listening to Science Friday?

Table 3 presents frequency of listening to *Science Friday*, for the full scientist sample and the listening sample. Of Listeners, 9% reported listening to *SF* every week, 51%

² Previous studies of public radio subscribers elicited "magazines/journals" and "newspapers" as the most popular sources for science information with the third choice being "radio" for *SciFri* listeners and "TV" for non-listeners.

listened 1-3 times per month, and 40% listened less than once per month.³ No ethnic group nor other demographic and background variables related significantly to frequency of *SF* listening:

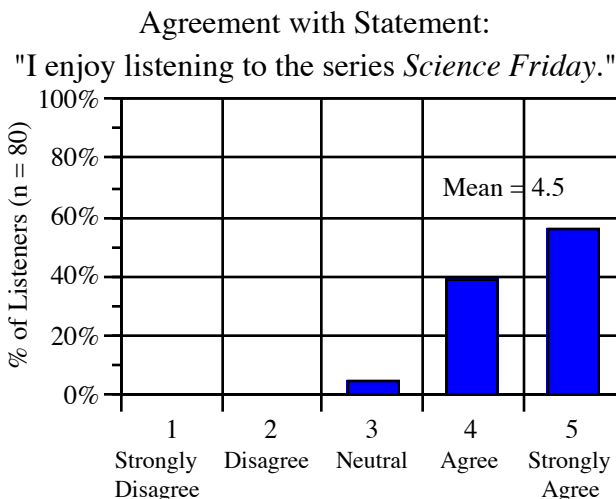
Table 3. Frequency of Listening to *Science Friday*

Frequency of Listening to <i>Science Friday</i>	Scientists N = 224	<i>Science Friday</i> Listeners n = 83
Not aware of it	43%	
Never listen	20%	
Listen less than once per month	15%	40%
Listen 1-3 times per month	19%	51%
Listen every week	3%	9%

APPEAL OF SCIENCE FRIDAY

V. How appealing is Science Friday?

Listeners responded to statements reflecting their feelings about the series using a 5-point scale, from strongly disagree (1) to strongly agree (5). In response to the statement, "I enjoy listening to the series, *Science Friday*," 95% of Listeners agreed or strongly agreed (see chart). The mean rating for Listeners was 4.5.⁴ Of demographic and background variables, Listening Frequency accounted for 10.7% (R^2) in the variance of responses to the appeal statement. A more frequent *SF* listening habit is related to more enjoyment of the series. Ethnicity is not a significant factor in series appeal.



³ This listening distribution is similar to that of the general public radio membership: Of 223 listeners in Boston and Tallahassee, 12% said they listened every week, 56% listened 1-3 times per month, and 32% tuned in less than once per month.

⁴ Of the general public radio member Listeners in previous studies, 93% either strongly agreed or agreed that they "enjoyed listening to the series."

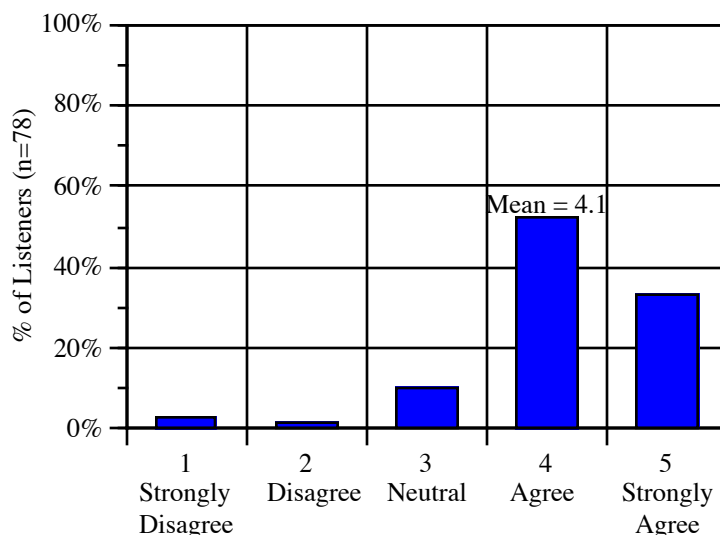
When the series comes on the radio, 86% of Scientist Listeners agreed or strongly agreed that they "listen attentively" (see chart). The mean rating for Listeners was 4.1.⁵

SF Listening Frequency was the only variable that accounted for a significant amount of variance ($R^2 = 6.7\%$) in the responses to this statement about attentive listening. Higher listening frequency was related to more attentive SF listening. Ethnicity was not a factor in attentiveness.

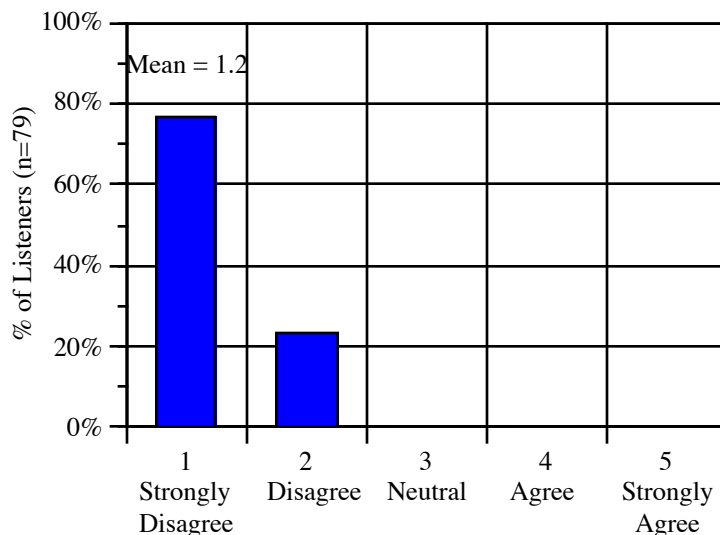
As further assessment of appeal and interest, the survey included a statement to assess whether the content is presented at a comprehensible level for this audience. In response to the statement, "The information on *Science Friday* is too technical for me," 100% of Listeners either disagreed or strongly disagreed, as might be expected (see chart). The mean rating for Scientist Listeners was 1.2.⁶

Age accounted for a significant amount of variance ($R^2 = 13\%$) in the responses to the statement about technical level. Although all the scientist respondents disagreed with the statement, those who "strongly disagreed" were significantly younger (mean age = 45) than those who "disagreed" (mean age = 53). Ethnic groups and other variables did not show significant differences for this statement.

Agreement with Statement: "I listen attentively when I hear the series come on the radio."



Agreement with Statement: "The information on *Science Friday* is too technical for me."



⁵ Of the general public radio member Listeners in previous studies, 74% either strongly agreed or agreed that they "listened attentively when they heard the series come on the radio."

⁶ In previous studies, most public radio member Listeners (85%) either strongly disagreed or disagreed with the negative statement that "the information on *Science Friday* is too technical for me."

IMPACT OF SCIENCE FRIDAY ON LISTENERS

VI. What effects do listeners believe the series has on them personally?

The survey asked the open-ended question: "How do you feel listening to *Science Friday* has affected you personally, if at all?" Two-thirds (67%) of the listeners answered this question. Responses to this question were categorized and sorted by keywords and content, yielding 3 major categories of impact and 10 subcategories of effects of *SF*, as presented in Table 4. The strongest impact noted was in the cognitive area of acquisition of science knowledge, with less impact on feelings and attitudes and no impact noted on actions.

As indicated in Table 4, 31% of listeners reported that *SF* affected them in ways that **increased their learning, understanding or awareness of science information**. The most frequent subcategories of impact were that the show was informative and increased awareness of science issues.

The second category of impact of the series comprised 26% of the listeners, who described the effect of *SF* in terms of **eliciting positive feelings**.

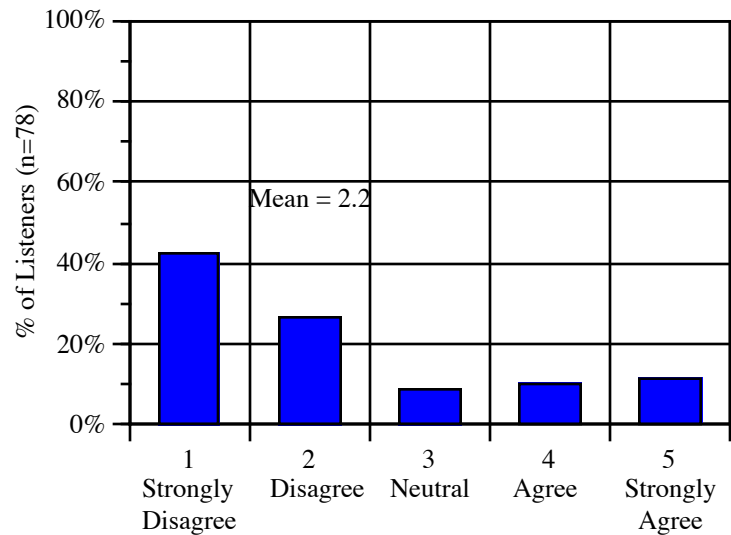
Finally, 5% felt the show **modifies attitudes about public access to science and scientists**; for example, "affected my attitudes, influenced thoughts and values about events;" "encourages me that science is communicated to the public via this show."

Table 4. Personal Impact of *SF*

How do you feel <i>Science Friday</i> has affected you personally, if at all?	Listeners (n = 83)
Increases learning, understanding, and awareness of science information	31%
Informative	8%
Increases awareness of science issues	8%
Increases interest/learning in unfamiliar fields of science	7%
Increases/broadens knowledge in science	4%
Updates on current events in science	2%
Improves understanding of science topics	2%
Elicits positive feeling	26%
Mostly positive influence	10%
Enjoy listening	8%
Interesting	6%
Good show	2%
Modifies attitudes about public access to science and scientists	5%

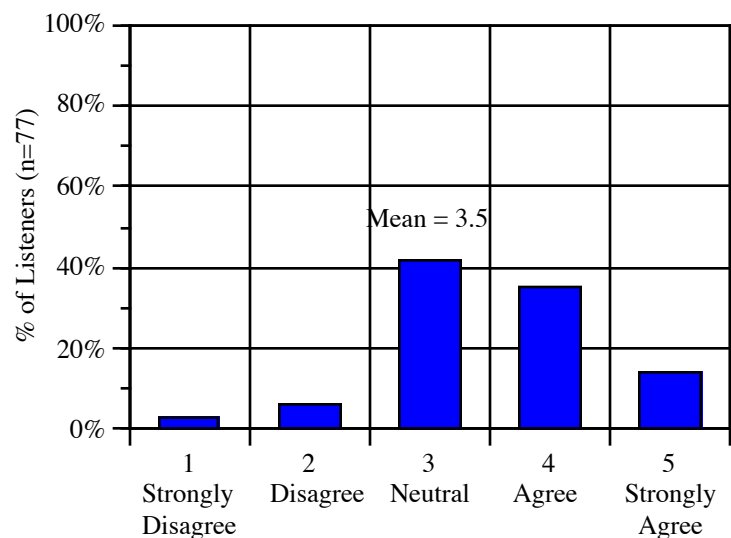
Several statements were included in the survey to evaluate whether listeners felt the series affected their science awareness and science knowledge. The statement, "the series has not increased my awareness of science news topics," was disagreed with by 69% of Listeners (see chart).⁷ The mean response was 2.2 for Listeners. None of the demographic or background variables, including ethnic group, were significantly related to ratings of this statement.

Agreement with Statement: "The series has not increased my awareness of science news topics."



Related to the statement above, respondents were also asked how much they agree or disagree with the statement, "*Science Friday* makes me notice science in other news media." Those who agreed or strongly agreed included 49% of Listeners (see chart).⁸ The mean agreement was 3.5. Using newspapers as a primary or secondary source of science news accounted for a small but significant 9.7% of the variance in response to this statement. Those who used newspapers as a source were more likely to agree that the show makes them notice science in other news media (mean rating = 4.5) as compared to those who did not report using the newspaper as a source (mean = 3.4). No other background or demographic variable was related to responses to this statement.

Agreement with Statement: "*Science Friday* makes me notice science in other news media."



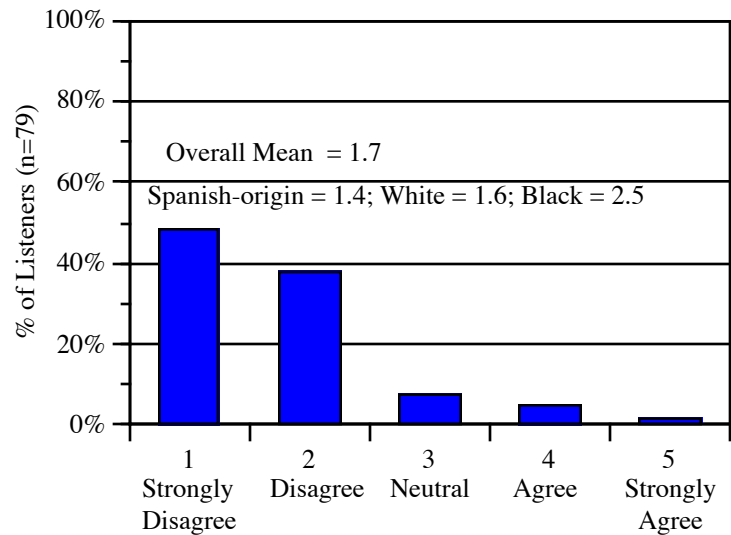
⁷ In previous studies, 80% of the general public radio member listeners disagreed that "the series has not increased my awareness of science news topics." Scientists perceived themselves to be less influenced by the radio series in terms of their awareness of science news.

⁸ In previous studies, 60% of member listeners either strongly agreed or agreed with the sentiment that *Science Friday* makes them "notice science in other news media."

Finally, 86% of Listeners disagreed or strongly disagreed with the statement, "I have not expanded my knowledge of science by listening to the series" (see chart).⁹

Ethnic group accounted for a small but significant 8.1% of variance in the responses. Black scientists (mean = 2.5) were significantly more likely to agree with this statement than Spanish-origin respondents (mean 1.4). The mean response of the white scientist sample (1.6) was not significantly different from the two minority means.

Agreement with Statement: "I have not expanded my knowledge of science by listening to the series."



VII. Has the series prompted listeners to take further action related to a program?

Respondents were asked whether listening to *SF* had ever prompted them to take further actions related to the series. A checkoff list of such actions was provided, as shown in Table 5 on the next page. Table 5 shows that 82% of Listeners have "discussed the topics with others," and some two-fifths have "searched for more information" or "read related information in books, magazines, newspapers." "Accessing Internet" or "using content in teaching" was checked by 29% of the scientist listeners.

In terms of subsample relationships, men were more likely than women in this sample to "search for more information" and "access the Internet." Ethnicity also came into play significantly with respect to the Internet: Black respondents compared with white respondents were more likely to check off that listening prompted them to access an Internet site.

In some instances, Listeners' major sources of science news information were related to their choice of actions prompted by listening to *SF*. The Internet as a source was related significantly to "discuss the topics with others." Magazines/journals as a source was related significantly to "donations to a non-profit institution." No other relationships were significant.

⁹ Of public radio member listeners, 84% disagreed that the series had not expanded their knowledge of science.

Table 5. Actions Prompted by Listening to *Science Friday*

Has listening to <i>Science Friday</i> ever prompted you to . . .	Listeners (n=83)
discuss the topics with others	82%
search for more information about a topic	42%
read related information in books, magazines, newspapers	40%
access an Internet web site, including <i>Science Friday's</i>	29%
use content in teaching	29%
purchase a book or other item related to a show topic	21%
modify personal habits or philosophies	13%
vote in a certain way	7%
make donations to a non-profit institution	6%
write to <i>SF</i> , a scientist, a politician or someone else	0%

Three respondents added the following unlisted actions as being prompted by listening to the series:

“Increased data visualization efforts.”

“Joined science based organization.”

“Volunteered to be a mentor for *Science Friday Kidnet*.”

VII. What changes would make the series more interesting to scientists?

When Listeners were asked what changes they would make in *Science Friday* to make the show more interesting, few suggested any changes. The largest portion of the sample (11%) wanted a different broadcast time or a repeated airing at a time that was more convenient for listening. Another 2% wanted a deeper scientific analysis and 2% desired greater explanation of the real world impact of the science presented.

Finally, respondents were provided with a list of 12 topics and asked to circle all topics they would like to hear about on the series. Table 6 presents the distribution of interest in topics. Only three topics elicited interest from less than half of the sample - math, policy and ocean sciences. Two topics were of significantly more interest to white scientists than Hispanic respondents (Environment - 81% white; 35% Hispanic; Policy - 59% white; 29% Hispanic). Also, with respect to earth sciences, whites (66%) were significantly more interested than Blacks (31%).

Table 6. Interest in topics for *Science Friday*

Topics	% interested	Topics	% interested	Topics	% interested
Biology	69%	Earth Sciences	55%	Technology	51%
Health/ medicine	69%	Space	55%	Math	49%
Environment	67%	Physics	53%	Policy	48%
Computers/Internet	57%	Chemistry	52%	Ocean Sciences	47%

SUMMARY

Of the 224 scientists reporting from across the nation, 37% reported listening to the radio series, *Science Friday*. Listeners and Non-Listeners did not differ with respect to age, gender, educational background, employment status, self-rated interest in and knowledge of science, and primary and secondary sources of science information. In subgroup comparisons, white female scientists were significantly more likely to be Listeners than black or Spanish-origin female scientists, but no significant ethnic differences in listening were found for men.

Science Friday Listening Behaviors

About 54% of the responding scientists were listeners of *Talk of the Nation, Mon-Thurs* and 37% were listeners of *Science Friday*. Of those who were listeners of *TOTN*, 65% also listened to *SF*. Of those who said they listen to *SF*, 95% were *TOTN* listeners on Monday through Thursday; thus, there appears to be a large carryover of audience from the daily series rather than a unique *Science Friday* audience. Listening to *TOTN* was significantly related to the status of Listening to *Science Friday*.

Of the 83 *SF* Listeners, 9% tuned in every week, 51% listened 1-3 times per month and 40% listened less than once per month. Demographic and background variables were not related significantly to frequency of *SF* listening.

Listening Appeal

Almost all Listeners (95%) agreed that they "enjoy listening to the series." More enjoyment of the series was related significantly to a more frequent *SF* listening habit. The mean "enjoyment" rating on a 1-5 point scale was 4.5, which is comparable to the mean appeal ratings of public radio member listeners in Tallahassee and Boston, according to our previous evaluations. We can also compare this mean to a similar but different rating asked of Nielsen Diary participants in a telephone interview about science television series.¹⁰ The Nielsen adults were asked how they would rate their overall enjoyment of the [science series] on a scale of 1 to 5, with 1 meaning very low and 5 meaning very high. Viewers of *NOVA* (N=329) gave a mean rating of 4.3; viewers of *Bill Nye* (N=170), 4.1; *Scientific American Frontiers* (N=80), 3.7; and *Newton's Apple* (N=114), 3.6. Thus, the radio series, *Science Friday*, is very competitive in terms of appeal with currently airing science television series of 30 to 60 minutes in length. Unfortunately, we have no statistics for comparably long radio series.

All of the scientists either disagreed or strongly disagreed with the statement that "The information on *Science Friday* is too technical for me." Younger scientists were more likely to "strongly disagree" with this statement. Finally, 86% of Listeners agreed or strongly agreed that they "listen attentively when *Science Friday* comes on the radio." More attentive *SF* listening was related significantly to higher listening frequency.

¹⁰ Miller, J. D. "The reach and impact of *Newton's Apple*: An Analysis of a 1997 Nielsen Study." Chicago Academy of Sciences, March 16, 1998.

Listening Impact

When Listeners were asked how *Science Friday* affected them personally, at least 67% were able to identify at least one effect of the series. The strongest impact noted was in the cognitive area of acquisition of science knowledge with less impact on feelings and attitudes and no impact indicated on actions. One-third (31%) of all listeners reported that *Science Friday* affected them in ways that increased their learning, understanding or awareness of science information. Listeners felt that the series was informative; increased their awareness of science issues; increased their interest in or learning about unfamiliar fields of science; increased or broadened their science knowledge; updated them on current events in science; or improved their understanding of science topics. Another 26% reported that *Science Friday* elicited a positive feeling. Other Listeners reported some modified attitudes about public access to science and scientists (5%).

Several statements were included in the survey to evaluate whether listeners felt the series affected their science awareness and science knowledge. The statement, "I have not expanded my knowledge of science by listening to the series" was disagreed with by 86% of Listeners. Spanish-origin scientists were significantly more likely to disagree with this statement than black scientists; the white scientist subsample did not differ from the other subsamples on responses to this statement.

The statement, "the series has not increased my awareness of science news topics," was disagreed with by 69% of Listeners.

Finally, 49% of Listeners agreed that "*Science Friday* makes me notice science in other news media." Those who reported using newspapers as a science information source were more likely to agree that the show makes them notice science in other news media.

Listeners were influenced by the series to carry out further activities related to a program. Most Listeners (82%) said that they had discussed topics with others, and 42% had searched for more information about a topic. Two-fifths of Listeners had read related information in books, magazines, newspapers. About 29% accessed an Internet web site or used *SF* content in their teaching, 21% purchased an item related to a show topic and 13% modified personal habits or philosophies. Less than one-tenth felt that listening influenced their voting choices or donations to a non-profit institution. Black respondents compared with white respondents were more likely to check off that listening prompted them to access an Internet site. Men were more likely than women in this sample to search for more information and access the Internet. Also, use of the Internet as a source of science information was related significantly to discussing *SF* topics with others, and use of magazines/journals as a source was related significantly to being influenced to donate to non-profit institutions.

Other recent public programming research¹¹ can bring some perspective on how these action results by scientist Listeners compare with general viewers' responses to science television series:

- 82% of *SF* scientist Listeners in this sample "discuss" the show compared with 75% of adult *NOVA* viewers; 67% of adult *Bill Nye* viewers; 60% of adult *Science Frontiers* viewers; and 57% of adult *Newton's Apple* viewers.
- 42% of *SF* scientist Listeners in this sample "search" for additional information

¹¹ Miller, J. D. "The reach and impact of *Newton's Apple*: An Analysis of a 1997 Nielsen Study." Chicago Academy of Sciences, March 16, 1998.

compared with 25% of adult *NOVA* viewers; 20% of adult *Bill Nye* viewers; 19% of adult *Science Frontiers* viewers; and 13% of adult *Newton's Apple* viewers.

Recognizing that we are comparing scientist respondents with general audience respondents in the above bullets, it is apparent that *Science Friday*, is very competitive with currently airing science television series in terms of impact on post-exposure discussion and search for further information.

Provided with a list of 12 topics, survey respondents were asked which they would like to hear on the series. Two-thirds were most interested in Biology, Health/medicine, and Environment. The topics of Computers/Internet; Earth Sciences; Space; Physics; Chemistry; and Technology interested 57-51% of the sample, while 49-47% were interested in Math; Policy; and Ocean Sciences. White scientists were significantly more interested than Spanish-origin scientists in the Environment and Policy, and more interested than black scientists in Earth Sciences.

Ethnic Group Differences

The main thrust of this evaluation was to explore possible differences in the way ethnic groups (white, black, Spanish-origin) respond to *Science Friday*. Scientists were chosen as the sample group because they were likely to be listening at a high rate and locating minority scientists who listen was an easier and less expensive task than locating general audience listeners who were minorities. White female scientists were significantly more likely to be Listeners than black or Spanish-background female scientists. Few differences occurred among the ethnic subsamples with respect to their responses about the series itself. White Listeners were significantly more interested than Spanish-origin scientists in Environment and Policy topics, and more interested than black scientists in Earth Science topics. Black listeners were more likely than white respondents to feel that listening to *SF* prompted them to access an Internet site. Black scientists compared with Spanish-origin respondents were significantly more likely to agree that they have not expanded their knowledge by listening to the series. Thus, overall, the *Science Friday* series would appear to be as effective with minority groups as with white scientists, with the exception of drawing more white female listeners than minority female listeners.