Original Article

Who said that? Impact of source expertise: A generations focused experiment on the perception of radio news sources' gender, ethos and expertise.

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Abstract: Building on previous research exploring effects of spokesperson type and gender on audience perceptions of spokesperson and message credibility, this study focused on effects of news sources specifically for radio news. This was one of the first studies to explore the effects of source type (journalist or outside expert) and gender on perceptions of source and message credibility, and message importance for the general U.S. population. A 2 x 2 experiment was performed with 900 participants, and analysis found that source type and gender had significant impact on audience perceptions of source and the message. We further analyzed these effects breaking down the audience based on generations and gender and found similar results. The results of the analyses reveal some interesting findings, especially in the areas of choice of media for news, sexism in the news, etc., that need to be further explored.

Introduction

The source of information in a news story has immense power, perhaps more so today than at any point in the past. With media and journalists specifically coming under fire for how they represent people, report information and do their jobs, the credibility and impact of the sources used in stories becomes even more important in conveying a message to an audience. Sources can be anyone: from experts, to journalists, to witnesses, to tweets and Instagram posts, to the person who pulled out his or her cell phone to record a police arrest and then uploaded it to YouTube. The ability for citizen journalists to become sources of news and information for mainstream media is a powerful reflection on just who we get (or want to get) our information from today. In addition, the ability for journalists themselves to be considered credible sources is one that is coming under more intense scrutiny in today's media climate. This leads to an increased focus on finding reliable and credible sources that know about the situation or topic they are commenting on, as well as can present that information in a way that the public trusts and believes. Because in the end, if the audience does not perceive the person speaking or interviewed as credible, the entire story can be affected (Fisher, Magee & Mohammed, 2015; Mohammed-Baksh, Choi & Callison, 2007).

With technology and social media impacting so many factors of how audiences receive news, it becomes even more important to look at what makes a credible source and what impacts this has on the story, the journalist or the reporter in the process. If news outlets want an audience, they must provide stories and information deemed credible by the public. But who becomes a credible source? Traditionally this would be officials, experts, journalists, eyewitness or citizens impacted among others, but who is to say that a social media influencer, an Instagram celebrity or a citizen journalist cannot be as credible as a police officer or health expert? And do factors such as age and gender play a role in source credibility in a world where no matter the age of news audiences, readers are used to picking and choosing from hundreds of sources and sites that cater to their tastes, beliefs or opinions (Fisher, Magee & Mohammed, 2015)?

Using credible sources has always been a large factor when it comes to audience perception (Callison, Gibson, & Zillmann, 2012; Hovland, Janis & Kelley, 1953; Mendes & Martins, 2016; Miller & Kurpius, 2010; O'Neil & Eisenmann, 2017), but that has become even more important in today's world where changing technology, social media platforms and the Internet itself make it possible for anyone to become a source, without the traditional gatekeeping model that has been in effect since media's beginnings. This is also changing how audiences view sources used in various media and news stories, especially with the increased focus and concern over 'fake news' in recent years. Gender and generational factors can also influence how sources are perceived, as can the medium in which the stories are reported. In the end, this creates some interesting discussions around the future of journalistic sourcing and who or what is perceived as trustworthy and credible sources of information in a world where facts are now being treated (in many cases) as fiction.

This study sets out to provide some basic information for answering these questions, focusing on radio news sources, an area of media that traditionally does not receive as much academic focus as television and broadcast media sourcing. Researchers set out to answer in this experimental study of source credibility among general audiences, with the aim of providing needed information to future journalists and audiences about what makes a story credible.

Literature Review

Finding credible sources has been a tenant of journalism since the practice began. Over time, we have seen the development of experts in a field, or eyewitnesses to a story become storytellers that convey meaningful and emotional messages about topics or issues important to society today. In that same period, we have seen many journalists themselves become accepted experts on various topics of information, based on the amount of time they devote to covering stories. Credibility of sources has become even more crucial in today's world because of the amount of information that is now being processed and accessed and the myriad of sources it comes from. And there is the factor of how the different generations perceive sources in news stories based on numerous factors including age, gender, topic and medium.

Radio news has existed since before television, but in the academic arena, the format has not received as much academic focus as television and web news coverage. However, recent studies and articles suggest that radio itself is still one of the most popular mediums on a global level for delivering news and information (UN News, 2022), and with the explosive growth in the popularity of podcasts and talk radio (PEW research, State of the Media, 2021), especially in the turbulent political and cultural global landscape of the past few years, studying source

credibility, especially in news and information delivery, is a needed area of research to which this study hopes to contribute.

When it comes to research into radio news and information sourcing and credibility, National Public Radio news programming has been the focus of several research articles, although with a broader focus on content and style of reporting, with a bit of discussion on sourcing as an element to the studies (Barnhurst, 2003; Magee, 2013; Stavitsky & Gleason, 1994). Research into radio news also tends to focus on sourcing framed around specific topical coverage, such as war (Cozma, 2010 & 2015; Coleman, Thorson and Wilkins, 2011); health coverage (Stroobant, De Dobbelare and Raeymaeckers, 2018; Swain, 2007 & 2015) and government and political perception (Lacy et.al., 2013; Mayo-Cubero, 2020;), although again, sourcing tends to be an aspect of the overall research rather than the focus. The research and results of this study will add to the literature and coverage and bring more academic awareness specifically to radio news and source credibility.

Source credibility theories in research in general identify perceived trustworthiness and expertise as well as identification with sources as important characteristics in determining source credibility (Callison, Gibson, & Zillmann, 2012; Hovland, Janis, & Kelley, 1953; Lefevere, Swert, & Walgrave, 2012). This study focuses on trying to see if these characteristics are still important to today's news audience, something that is crucial to explore more in a world where source credibility and trustworthiness, and journalists themselves, are being called into question by the public, the government and audiences in general.

There are many areas to source credibility being studied by researchers at the moment. One popular area involves the investigation of the credibility of citizen sources (including citizen journalists) and how their information is processed and received by audiences. Numerous studies have found that audiences are beginning to give more credence to citizen journalists (and citizen sources) because of the perception that they have a unique viewpoint to bring to a story because they are not affiliated (in many cases) with specific expert or other organizations (Miller & Kurpius, 2010; Mendes & Martins, 2016; Reich, 2015; Vliegenthart & Boukes, 2018; Zhuang, 2014). This is somewhat contradicted by another vein of research which finds that audiences tend to find information delivered by experts or organizations (such as the CDC in a health story, or a politician in a government story) more credible than general citizen sources (Allagier, 2011; Alt, Lassen & Marshall, 2015; Furlan, 2017; James & Van Ryzin, 2017; Mokry, 2017; Swain, 2015; Vraga & Bode, 2017). With the increase of citizen journalists and credibility issues, the age-old idea of the anonymous source comes into play as well, with recent research finding that audiences put less credibility in anonymous sources, even though they support citizen and expert sources (Jucks & Thon, 2017; Pjesivac & Rui, 2014; Purvis, 2015). Journalists often cover stories or topics for extended periods of time and can become the sources of their own stories instead of simply citing witnesses or officials. While research shows that journalists who spend years on a specific focus are considered experts by their news organizations and audiences, new issues of conflicts of interest among journalists being used as sources has come under focus, especially with the emergence of social media making it easier to question connections and expertise (Bradshaw, Foust, & Bernt, 2009; Holland, et.al, 2014; Magee & Fisher, 2014; Reich, 2011; Shoenberger & Rodgers, 2017). Fisher, Magee & Mohammed-Baksh (2015) addressed this by conducting a study on how college students perceived news source credibility and found that while 18-22 year old's didn't differentiate between expert and journalistic sources, they did find journalists being used as sources when it came to stories about social media to be more credible. This research provides more background for understanding how this study's participants perceive a source in relation to affiliation to a person or organization.

The places audiences are getting news, which in turn can factor into how they see news sources, is also something to be considered in this field of study. Recent studies show that while

younger audiences tend to get information from more social and online platforms than older people, that generational gap is shrinking with 51% of American adults saying they get news from various online sources, although older audiences still tend to rely on and find the more traditional media formats of television, radio and print more credible (Ljuslinder & Lundgren, 2017; Tandoc & Johnson, 2016). The most recent "State of the Media" report from Pew Research also found that in 2021, 50% of US adults said they got their news over the radio often. Listenership to terrestrial radio overall (including news programs) was at 83% of adults over age 12 saying they listen to the radio each week. 41% of American adults also now listen to and get news and information from podcasts, which is up from 37% from 2020 (Pew Research, "State of the Media," 2021). These statistics, while not specifically related to radio news alone, suggest that there is an audience for this format of news consumption and thus lend support to the focus of this study on crafting radio news stories as the platform to deliver news to participants.

A 2016 study by Johnson and Kaye into source reliability and credibility found that while source credibility among audiences is higher with traditional forms of media (television and radio news outlets), interactivity with sources made possible by social media is also adding to how sources are perceived. Other research shows audiences are increasingly more skeptical of the validity of sources cultivated through social media and online channels (Johnson & Kaye, 2016; Kruikemeier & Lecheler, 2018; Pearson & Knobloch-Westerwick, 2018). This study chose to focus on the medium of radio, based on the fact as mentioned above that adults are still listening to it for news and that there was not as much coverage of this platform in the academic literature and field of news media and journalism sourcing. It can provide interesting insights for future research based on the growing preference for online and social media sites (as well as traditional news media) as news providers and what draws audiences to them.

When it comes to gender of sources, a 2014 study by Artwick found that while in society women still outnumber men and are making strides into gaining higher salaries and positions, women were extremely underrepresented as sources in news stories that came across Twitter and social media platforms, although diversity of sources was found to be better than in the past (pg. 1119). Sourcing by gender in sports, political and health stories also has been studied, with most research concluding that female sources (including athletes) are less used or found less credible by audiences, although more awareness and efforts to balance source gender are being taken by journalists and media outlets globally (Baitinger, 2015; Hahn & Cummins, 2014; Howe, 2013; Howell & Singer, 2016; Niemi & Pitkanen, 2017). The perception of credibility in the male or female voice also plays into this area of research. A 2010 report on how consumers hear differences in male and female voices also suggests that male voices will be perceived as more credible than female voices ("Consumers hear differences in male & female voices," 2010) while a 2012 study by Len-Rios, Hinnant and Jeong found a reporter's gender affects audience views on health-specific stories. Several advertising-specific studies also suggest that the male voice sells more product than the female voice based on gender credibility (Knight, 2010; Rodero, Olatz, & Vazquez, 2013; Whipple & McManamon, 2002). This study begins to explore more in depth this element of research by looking at how audiences respond to different gender sources as well as reporters.

Based on this information, as well as the literature examined above, it seems there is a need to better understand what makes a credible news source, not only to a journalist but more specifically to his or her audience. How today's audiences perceive the importance of sources and thus how they perceive news in general is crucial to understanding and shaping the style of news that will attract audiences into the future. Moreover, understanding how radio news programs, which aren't a traditional focus in this academic area, use sources and the reaction from audiences to that, will provide needed information that news organizations would do well

to study and learn from in an effort to not only attract news audiences but create new and perhaps better ways to determine and use sources.

Methods

The purpose of this study was to determine whether the type of source used in everyday radio news stories has any effect on audiences' perceptions of the credibility of the source of the message and the actual message, for different news types. The study also aimed to examine the impact of source gender on the same audiences' perceptions of the credibility of the source and the message.

Hypotheses & Research Questions

In addition to rotating the order of different story types, we also rotated the sex of the reporter and the sex of the source of the information, either another reporter or an outside expert, and then randomly assigned subjects to all study conditions. Much of the research we conducted was motivated by earlier studies that focused on similar variables but have primarily used college students as participants (Diddi & LaRose, 2006; Fisher, Magee & Mohammed-Baksh, 2015; Netzley & Hemmer, 2012). We wanted to study how the general U.S. population consumes radio news and hence proposed the following hypotheses and research questions to guide our inquiry:

H1: There will be differences in terms of audiences' perception of credibility of the source and the credibility and importance of the story based on differences in source gender used in the news story.
H2: There will be differences in terms of a young audiences' perception of credibility of the source and the credibility and importance of the story based on differences on the type of sources used in the news story.
H3: There will be differences in terms of audiences' perception of credibility of the source and the credibility and importance of the story based on different story types.
H4: There will be differences in audience perceptions of source credibility, source altruism, message truthfulness, and message urgency based on generational differences in the audience.
H5: There will be differences in audience perceptions of source credibility and altruism, and message credibility and message importance based on the combinations of the gender of the news anchor and the gender of the source.

RQ1: What are the effects of the interactions of source type and source gender on audiences' perceptions of source credibility, message credibility and message importance?
RQ2: Is there a difference in the audience's perception of source credibility, source altruism, message credibility and message importance based on the gender of the person consuming the news?

Research Design

The independent variables in this study were, (1) type of source (limited to outside expert or journalist, and; (2) gender of the source (male or female). The design of this study was essentially a 2 x 2 factorial experiment. We also conducted factorial MANOVA analysis to study whether there were any effects of the gender of the audience and the gender of the news reporters, however, these analyses did not motivate the initial study design and hence we

consider the study to be a 2 x 2 Factorial design study – excluding gender of participants and reporters from the core study design. The main variables of interest for this study were "types of news source," "gender of news source," and "audiences' perception of news source credibility."

Stimulus Material and Study Conditions

Stimulus materials were created based on actual radio broadcast news scripts. Downloaded from a national news organization's website, the scripts were shortened to approximately two minutes each, and the content was minimally altered to make the reporters and sources gender neutral. Gendered names were replaced with unisex names as found on the website BabyNames.com, and all gendered pronouns (him/her) were replaced with the unisex name or with a non-gendered reference such as "spouse" or "sibling." All stimulus materials were produced multiple times with men and women from within a university broadcast program assuming all roles for the various conditions of the study. When the productions were complete, they were reviewed by a group of broadcast professionals within the region who deemed them to be of proper broadcast quality. The benign story, used for placement between the manipulated stories, was written by a former broadcast professional and did not use any outside sources as references within the material.

To test the subjects' responses to the various conditions, the stories were rotated with respect to the gender of the reporter and the gender of the outside expert/journalist-source. The following conditions existed:

1. Male Reporter / Male Journalist or Expert
2. Male Reporter / Female Journalist or Expert
3. Female Reporter / Male Journalist or Expert
4. Female Reporter / Female Journalist or Expert

The above eight conditions were rotated with respect to the order of the two stimulus stories, creating a total of 16 experimental conditions. The Qualtrics system was programmed to randomly assign the 900 participants to the various conditions.

We used Amazon's Mechanical Turk (M-Turk) as the primary resource for study participation and data collection. All stimulus news stories were uploaded to the M-Turk website where they could be played directly from the website on participants' computers. All questions related to each news story followed the recording of the news story. Participants were required to listen to the entire story before they could answer any questions.

Population and Research Participants

As this study aimed to evaluate the effects of radio news story types, types of news source, gender of news source, and gender of the reporter on perceptions of message and source credibility of a general audience, we used Amazon's Mechanical Turk (M-Turk) as a resource to recruit study participants. A total of 900 participants completed the study. The researchers used Amazon Mechanical Turk's customizable selection criteria to set the recruitment parameters to allow only for U.S.-based participants. Post-research report confirmed that all study participants were based in the United States at the time of participation.

Amazon Mechanical Turk (M-Turk)

Evidence suggests that collecting data via the Internet can reduce the biases found in traditional samples, in spite of having its own limitations (Gosling, Vazire, Srivastava, & John, 2004). The researchers selected M-Turk as the primary data collection tool because many

studies have found undergraduate student subjects to be less reliable when compared to M-Turk, especially in terms of participant attention (Chandler & Shapiro, 2016; Hauser & Schwarz, 2015, 2016). To deter potentially compromised quality of data, the M-Turk system disallows participants from requesting payment for the same human intelligence task (HIT) more than once. However, participants are free to participate in similar studies using similar stimulus. To combat these issues, simple prescreening questions, and the use of M-Turk's customizable qualification system (Chandler, Mueller, & Paolacci, 2014) is recommended. The researchers used these features in M-Turk to pre-screen participants and only allowed participation from people based within the United States. Finally, crosstalk – discussing the study with other potential participants during participation – is a possibility on M-Turk but studies have found that it is infrequent (Chandler et al., 2014).

Intervention: Evaluation of Specific Message Source

Each participant listened to a total of three news stories. The order of the first and third stories was rotated while the second story (benign story with a single news announcer), was always the second story of the broadcast. After listening to each individual story, participants were asked to respond to questions designed to reveal each participant's credibility perceptions about the source and the message. Credibility scales and measures from previous research were used as guides (Mohammed-Baksh, 2012; Mohammed-Baksh, Callison & Choi, 2012; McCroskey & Young, 1981) to create several 11-point semantic differential scales ranging from 0 (not at all) to 10 (extremely). Items in the semantic differential scales included, *just, honest, trustworthy, concerned about community, accurate in disclosures, involvement in social causes, cares about people, good, pleasant, credible, virtuous, responsible, caring, and selfish.*
Intervention: Evaluation of the News Story
     Similar to the evaluation process of the news sources, participants were asked to rate each news story on an 11-point semantic differential scale based on previous research (Mohammed-Baksh, 2012; Mohammed-Baksh, Callison & Choi, 2007; 2012; McCroskey & Young, 1981) to reveal each participant's perception about the news story or message in terms of credibility perceptions. Items in the message evaluation scale included, *message is true, tells the whole story, is accurate, can be trusted, is factual, is credible, this message is of importance to me, is of significance to me,* and *is urgent.*

Data Analysis

The purpose of this study was to find whether the gender and type of sources used in radio news broadcasts had any effects on audiences' perceptions of credibility related to the sources and the actual message in the news story, and the importance of the news story.

Data Preparation

Credibility scales from previous research (Mohammed-Baksh, 2012; Mohammed-Baksh, Callison & Choi, 2007; 2012) were used for this study to measure audience responses. Data reduction for this study was based on results of the factor analysis conducted on data of previous research (Mohammed-Baksh, Choi & Callison, 2007). The factor analysis used in previous research yielded two factors for source and organization credibility, which were labeled *spokesperson credibility* and *spokesperson altruism*. The factor analysis on the scales from previous research also yielded two factors for message credibility, which were labeled *message credibility* and *message importance.*

All measures included multiple items on 11-point semantic differential scales with possible scores ranging from 0 to 10 (with 0 being the least and 10 being extremely high). Items that loaded high on a certain factors were summed and averaged to create a new factor score. It should be noted that the factors of *spokesperson altruism* were made up of only one item, *"selfish."* As altruism was a negative emotional factor, a lower total point rating on this factor translates into a higher mean altruism score for the spokesperson. Findings reported in this study are of the mean *altruism* score and are hence an indication of positive audience perceptions. For the remaining factors of *spokesperson credibility, organization credibility, message credibility* and *message importance*, a higher score was an indication of more positive perceptions.

Items that highly loaded on the variable of *spokesperson credibility* included *just, honest, trustworthy, concerned about community, accurate in disclosures, involvement in social causes, cares about people, good, pleasant, credible, virtuous, responsible*, and *caring*. Responses of participants in the current study to the items showed a high degree of internal consistency (α = .97). As the *altruism* factor included only one item "*selfish*", inter-item consistency was not required to be calculated. The factor of spokesperson selfishness was also added to ensure consistency of responses. It should be noted that, as *spokesperson altruism* is based on a negative factor, a higher numerical response is interpreted as measuring lower on the altruism scale

The variable of *message credibility* included items like *message is true, tells the whole story, is accurate, can be trusted, is factual,* and *is credible.* The scale showed a high degree of internal reliability (α = .95). The variable of *message importance* included items like *this message is of importance to me, is of significance to me*, and *is urgent.* The internal reliability coefficient of the scale was high as well (α = .78).

After data collection, responses to individual items within each scale were averaged to generate an overall measure of different factors in a factorial structure established in previous research (Mohammed-Baksh, 2012; Mohammed-Baksh, Callison & Choi, 2007; 2012). After performing factor analysis, reliability of the scales were examined and the data were submitted to various statistical tests including t-tests, ANOVA and two-way multivariate analysis of variances (MANOVA) to find effects of source gender and type on participants; perceptions of source and news story credibility. In addition to main effects, analyses were also conducted to find interaction of independent variables on the outcome factors. Finally, LSD pair-wise post-hoc tests and simple main effects analysis were performed to find patterns of differences between factors when analysis revealed significant main effects and interactions effects respectively

Results

Participants

A total of 900 participants logged on to Amazon's M-Turk website using the email link of which 816 completed the entire survey yielding a completion rate of 90.67%. It is not possible to know the response rate since M-Turk did not reveal the number of subjects that were invited to participate in the study. Of the participants, 449 (55%) identified as male while 367 (45%) identified as female. We used M-Turk's customizable selection criteria to exclude non-U.S.-based participants resulting in the participants being from all parts of the United States. A total of 597 were Caucasian, 84 were African American, 63 identified as Hispanic and 54 as Asian. Another 18 identified themselves in the "other" category while 84 of the 900 participants did not provide ethnicity information. In terms of education, participants self-reported their

education. Only three had not completed high school and four had associates degree while 78 had completed high school. A total of 238 had not completed college but 395 had undergraduate degrees while 182 had graduate degrees or higher. Age was well represented as well. Participants ranged from 18 to 73 years of age. We classified generations as Baby Boomers if they were over the age of 55 years as of data collection (n = 101). Gen-X were participants that were between the ages of 37 and 54 years old (n = 269) and finally Millennials were those participants that were between the ages of 18 and 36 years old as of the date of data collection (n = 463).

After conducting initial descriptive analyses, data was submitted to SPSS V. 24 for further statistical analyses based on the study research questions. Following are the results of those analyses along with the research questions used to guide them:

H1: There will be differences in terms of an audiences' perception of credibility of the source and the credibility and importance of the story based on differences on the type of sources used in the news story.

Analysis found significant differences across several conditions based on the type of sources used in the story. On the story about economy we found differences in all conditions: source credibility (t (831) = -7.4, $p < .001$), experts ($M = 6.99$, $SD = 1.77$) were perceived as more credible than journalists ($M = 5.97$, $SD = 2.18$); Source Altruism (t (823) = -2.36, $p < .02$), journalists ($M = 2.94$, $SD = 2.67$) were considered more altruistic than experts ($M = 3.39$, $SD = 2.8$); Message truthfulness (t (830) = -3.53, $p < .001$), Experts ($M = 6.49$, $SD = 2.17$) were perceived as delivering a more truthful message than journalists ($M = 5.92$, $SD = 2.48$); message urgency (t (828) = -4.14, $p < .001$), messages were considered more urgent when delivered by experts ($M = 4.89$, $SD = 2.62$) than journalists ($M = 4.11$, $SD = 2.79$). In the story about technology however, only source altruism was significantly different (t (1, 825) = -7.63, $p < .001$) experts ($M = 4.41$, $SD = 2.84$) were considered less altruistic than journalists ($M = 2.95$, $SD = 2.66$).

H2: There will be differences in terms of audiences' perception of credibility and altruism of the source, and the credibility and importance of the story based on differences in source gender used in the news story.

ANOVA analysis found no significant effects of source gender on audience perception of source credibility on both economy story ($F(3, 829) = .395$, $p = .757$) and technology story ($F(3, 829) = .607$, $p = .611$). In terms of source altruism, analysis revealed significant effects of source gender only for the economy story ($F(2, 829) = 3.01$, $p = .029$) but not for the technology story ($F(3, 829) = .117$, $p = .95$). Analysis of effects of source gender on message importance revealed no effects as well, for both the economy story ($F(3, 826) = 1.584$, $p = .192$) and technology story ($F(3, 826) = 2.221$, $p = .084$). Although this analysis found no significant differences, we did observe difference in audience perception of message importance based on the source gender for only the technology story if the significance threshold were increased to $p < .1$).

Since the results for effects of source gender on audience perception of source altruism and message importance were not similar across both story conditions, they were excluded from further analysis.

H3: There will be differences in terms of audiences' perception of credibility of the source and the credibility and importance of the story based on different story types.

T-Test analysis revealed that subjects found significant differences in credibility perceptions of the source based on story type ($t(818) = 3.44$, $p = .001$), where source in the economy story ($M = 6.49$, $SD = 2.05$) was considered more credible than in the technology

story ($M = 6.27$, $SD = 1.86$). Analysis also revealed a difference in altruism perceptions of the sources based on story types ($t(809) = -5.03$, $p < .001$) where source in the economy story ($M = 3.15$, $SD = 2.74$) was considered more altruistic than the source in the technology story ($M = 3.68$, $SD = 2.84$). Finally, analysis found differences in perceptions of truthfulness of the message based on story type ($t(818) = -3.76$, $p < .001$) where audience subjects found the technology message more truthful ($M = 6.52$, $SD = 2.06$) than the economy message ($M = 6.23$, $SD = 2.35$).

H4: There will be differences in audience perceptions of source credibility, source altruism, message truthfulness, and message urgency based on generational differences in the audience. ANOVA analysis revealed significant generational differences in perceptions of source credibility and altruism, and message truthfulness and urgency. Specifically, generational differences were found in source credibility of the economy story ($F(2, 830) = 3.99$, $p < .02$); LSD post-hoc revealed that Baby Boomers ($M = 7.01$, $SD = 1.97$) perceived higher source credibility than did Gen-X ($M = 6.38$, $SD = 2.15$) and Millennials ($M = 6.42$, $SD = 1.99$). Generational differences were also observed in source altruism ($F(2, 822) = 3.03$, $p < .05$); LSD post-hoc found that Baby Boomers ($M = 2.6$, $SD = 2.59$) considered the sources more altruistic than did the Millennials ($M = 3.33$, $SD = 2.78$). The urgency of both the economy message ($F(2, 827) = 4.15$, $p < .02$) and the technology message ($F(2, 827) = 2.84$, $p < .06$) was significantly different among generations. LSD post-hoc found that Millennials ($M = 4.74$, $SD = 2.67$) found the economy message more urgent than did Gen-X ($M = 4.18$, $SD = 2.72$). For the technology message, Millennials ($M = 4.65$, $SD = 2.46$) found the story more urgent than did the Baby Boomers ($M = 3.99$, $SD = 2.96$). Finally, significant generational differences were found regarding the truthfulness of the technology message ($F(2, 829) = 7.14$, $p = .001$). LSD post-hoc test revealed Baby Boomers ($M = 6.77$, $SD = 2.26$) and Gen-X ($M = 6.84$, $SD = 2.05$) perceived the technology message more truthful than did Millennials ($M = 6.28$, $SD = 1.99$).

H5: There will be differences in audience perceptions of source credibility and altruism, and message credibility and message importance based on the combinations of the gender of the news anchor and the gender of the source.
ANOVA analysis revealed significant differences in audience perception of reporter altruism ($F(3, 821) = 3.01$, $p < .03$). LSD post-hoc revealed male reporters ($M = 3.45$, $SD = 2.77$) were considered more altruistic than were female reporters ($M = 3.21$, SD = 2.73). ANOVA also found significant differences in the perceptions of urgency of the technology message ($F(3, 826) = 2.22$, $p = .08$) based on reporter gender. LSD post-hoc revealed differences in technology message urgency when the sources were female ($M = 4.32$, $SD = 2.63$) vs male ($M = 4.86$, $SD = 2.59$) in both male reporter conditions, and when the reporters were female ($M = 4.26$, $SD = 2.69$) vs male ($M = 4.86$, $SD = 2.59$) in both male source conditions,

RQ1: What are the effects of the interactions of source type and source gender on audiences' perceptions of source credibility, message credibility and message importance?
Multivariate analysis revealed no interaction effects for perceptions of source credibility and altruism, and message credibility and altruism based on source gender and interaction of source gender and source type ($F(6, 823) = .936$, $p = .499$, *Roy's largest root* = .012).

RQ2: Is there a difference in the audience's perception of source credibility, source altruism, message credibility and message importance based on the gender of the person consuming the news?

T-test analysis revealed that audience perception of source altruism was different based on audience gender in both the economy story ($t(805) = 5.72$, $p < .001$) as well as the technology story ($t(808) = 4.72$, $p < .001$). Females ($M = 2.55$, $SD = 2.63$, and $M = 3.16$, $SD = 2.84$ respectively) considered sources more altruistic than did males ($M = 3.64$, $SD = 2.74$, and $M = 4.09$, $SD = 2.77$ respectively). T-test also revealed differences in message urgency for both the economy message ($t(810) = 3.19$, $p = .001$) and the technology message ($t(811) = 2.63$, $p < .01$). In both types of messages, economy and technology, males considered the message to be more urgent ($M = 4.78$, $SD = 2.59$, and $M = 4.71$, $SD = 2.56$ respectively) than did females ($M = 4.17$, $SD = 2.85$, and $M = 4.23$, $SD = 2.62$ respectively).

Discussion

Regarding perceptions of credibility (H1), we were pleased to discover that both journalist-sources and outside experts were rated highly altruistic (low on our "Selfish" scale) across both news articles. Subjects seemed to perceive that, though journalists were more altruistic than outside experts, both types of sources were not presenting their information from any self-serving perspective but were instead presenting their information as a service to the public. The fact that journalist-sources were rated significantly higher on altruism than were outside experts speaks well to the perception of journalists as unselfish disseminators of information.

As flattering to journalists as that finding might be, however, all other significant measures related to credibility pointed toward the commendable nature of outside experts as opposed to journalist-sources. Such external sources were perceived as being more credible and truthful than journalist-sources, and the messages presented by outside experts were perceived as more urgent. Hence, though the journalists were perceived as providing a selfless service, the external sources provided more credibility, truthfulness and urgency to the stories in which they were featured. This is especially important when considering the nature of stories to be covered by the media. It might be more convenient or inexpensive for a newscast to cut to a journalist in the field to provide a recap of previously-gathered information, but it runs the risk of being perceived as less truthful or urgent. This finding could, of course, be related to the content of the news story itself. For example, during a breaking news story involving a natural disaster or terrorist attack, the journalists on the ground at the event have the potential to be considered equally truthful and could perhaps even convey a more urgent message to the audience for the simple reason that they do not have the luxury of time to bring an outside expert into the story. Though such questions as those raised above should be pursued in future research, current findings related to H3 (perceptions based on story type) further reinforce the idea that the type of story being presented impacts the audience's perceptions of the sources included in the story. In a confirmation of Fisher, Magee, & Mohammed-Baksh's 2015 study, it was found that subjects of all ages perceived the journalist-sources and the outside experts differently based on the type of story in which they were presented as sources. The sources in the economy story were perceived as more credible and altruistic than those in the technology story, and the sources in the economy story were perceived as being more truthful than the sources in the technology story. Further analysis showed that those perceptional differences were based on the age demographics of the subjects.

Overall, Baby-Boomers (those born 1946-1962) perceived the sources as more credible and altruistic than did subjects of Generation-X (those born 1963-1981) or Millennials (those born 1982-2000). Millennials also found both stories more urgent than did members of the other generations. That urgency of technology information could be driven by Millennials' daily routines that heavily involve modern technology, while their interest in the economy could be driven by their experiences living through the recent recession that took up much of

their lives. Interestingly, Millennials perceived the message of the technology story to be less truthful than did Baby-Boomer or Generation-X subjects. Upon reflection, we believe that could be a rejection of the overall message, which concerned the appropriate (and inappropriate) use of technology in the workplace. Millennials, who have grown up with cellphones, the Internet, and social media taking a predominant role in their lives, are likely to have more liberal views on the use of technology in the workplace than was presented within the text of the story, which dealt with the potential interference of cellphones and social media on workplace daily routines and productivity.

In the most interesting finding of this research, significant differences arose across several measures based on gender. Women participants considered the sources of both stories more altruistic than did the men, whether those sources were journalists or outside experts. Furthermore, women reporters were rated lower than men in their levels of altruism when reporting their stories. The stories that included women as sources – whether those women were journalist-sources or outside experts – were perceived by the participants to be less urgent. Overall, those results seem to indicate a predisposition in study participants to discount the voices of women that are included within news stories, whether those women were the reporters or the sources interviewed for the stories. Interestingly, those results did not change when the results for men and women participants were analyzed as separate groups or as one homogenous group, indicating that both men and women participants were more inclined to discount women's voices as reporters and as sources. As the participants for this study were all within the United States, that could reflect a cultural preference within US audiences for male voices over female voices in positions of authority, either those voices investigating issues (the journalists) or those voices presenting authoritative information (the sources). Further research should be conducted with international audiences to see if these findings are US-specific, or if they change based on country-of-origin and/or cultural backgrounds.

Limitations and Future Research

As with all research, our study had some limitations. Firstly, the type of news that we included may have elicited stronger reaction, especially from different age groups. For example, the technology story was about young people wasting time in the workplace because of social media use, while the economy story was about returning soldiers having issues finding jobs in the U.S. In part, our choice of stories was by design as we wanted to see effects of different story types on different audiences. However, we believe future research can use more benign type of stories, or stories from other countries, that may require less personal involvement on the part of the audience.

Another limitation of the research study is the reliance on Amazon's Mechanical Turk as a data collection resource. Although M-Turk has been proven to be a credible data collection resource (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, and Gosling, 2011; Buhrmester, Talaifar, and Gosling, 2018; Mason & Watts, 2009; Paolacci et al., 2010), it is considered by some researchers to be nascent and unreliable. This limitation should be addressed in future studies by using another, additional data collection resource, or by conducting research using live participants.

Also, although we set M-Turk's customization feature to allow only participants from the United States, there is always the possibility of responses by individuals that were non U.S. residents travelling to the U.S. during the time of participation. In addition, all data used in the study was self-reported by the participants. Although earlier studies have found M-Turk data to be reliable (Chandler & Shapiro, 2016; Hauser & Schwarz, 2015, 2016), there is always the possibility of self-reporting bias.

In addition, we are not aware of the response rate of for the study because M-Turk did not reveal the number of subjects that were invited to participate in the study. However, of the 900 subjects that started participation, 816 completed the study, yielding a completion rate of over 90%.

Another limitation of our study was that almost half the participants were classified as Millennials. Although, we are happy about the age distribution of the participants as Millennials are consumers of radio news, and the age group is highly valued by marketers. Also, 370 participants were older than 35 years of age making the results both reliable and valid. However, future researchers can focus more on the older radio audience. Also, only 45% of the participants identified as female. While we believe the gender distribution of participants is within acceptable ranges for a study with more than 800 participants, the study results may have been different with a more even gender distribution of participants.

Our research also uncovered what may be interpreted as a somewhat sexist attitude of the audience in general and the older audience in particular. Male reporters were generally considered higher in terms of credibility and altruism, and messages presented my male reporters were considered slightly more urgent than when the reporters were females. As this was not one of the variables this study was designed to uncover, much research needs to be conducted in this possible new field of feminism research to better understand the possible issues uncovered in our research.

Finally, this study focused on radio news while the general U.S. audience consumes news from more than one source on a daily basis. Future researchers may want to replicate this study using different news media like print, web, social media, etc., to better understand audience reaction to source type and gender from a more holistic media perspective. Future research also should focus on the medium of radio news and sourcing throughout it, as there is much less research into this method of news delivery than there is into television and social/online news and sourcing. This research hopefully provides an entry point into continuing and broadening research into radio news and sourcing in general.

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