

Men and women scientists: gender releases in the two main Brazilian TV channels

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Abstract

In this study, we analysed the representation of scientists in the two main Brazilian TV channels in daily broadcasting: TV Globo and TV Record. We selected two constructed weeks, representatives of six months of the year 2013, aiming to identify pieces bringing the image of the scientists. We watched 672 hours and identified scientists in 0.8% of these hours. There was a higher presence of man scientists than women. TV Globo, the audience leader, gave more space to scientists. Men scientists were more present in entertainment programs and women in advertisements. We observed that it was highlighted the stereotype of the scientist broadcast by the Brazilian television, with a predominance of males, in white coats and working in laboratory.

Keywords: Science in TV. Scientists' images. Brazilian TV. TV Globo. TV Record.

1. Introduction

A pioneering study about the way scientists are imagined among American high-school students showed that the most usual appearance for this professional is a white man, wearing a white coat and working in a laboratory (MEAD; METRAUX, 1957). Subsequent researches in several locations around the world that analysed the way scientists are perceived in different social groups (children, teenagers and adults), also showed this standardized professional image (ROSA et al., 2005; WHITELEGG et al., 2008; TÜRKMEN, 2008; LAUBACH; CROFFORD; MAREK, 2012; RAMALHO, 2013).

Chambers (1983) proposed the “Draw a scientist test” (DAST) method, according to which children were asked to draw a scientist. He observed that children repeatedly drew elements as coats, eyeglasses, scientific instruments or laboratory equipment and books, among other things. In children's perception, these items were related to the scientific activity. Later research that used this methodology with different age groups also observed

the association of the same elements to science (BARMAN, 1999; STEINKE et al., 2007; SOARES; SCALFI, 2014). Whether in informational materials (LONG; STEINKE, 1996; PEDREIRA, 2014; MURRIELLO; SPERA; ANDRADE, 2014) or entertaining ones (SIQUEIRA, 2006; ROSA et al., 2005; VAN GORP; ROMMES, 2014), studies analysing the media portrayal of scientists showed to us the same professional attributes: predominating men with several of the elements that were identified by Mead and Metraux (1957) and Chambers (1983).

Long, Boiarsky and Thayer (2001) indicated that educational programs from the American TV showed a far greater number of men than women scientists. They also highlighted that ethnic minorities were underrepresented. Still in the USA, Long et al. (2010) analysed 14 programs of various television categories and genres designed for young audiences. They observed that the physical characteristics of men scientists were often related to the “nerd” or to the “genius” stereotypes. In Argentinian TV programs, Murriello, Spera and Andrade (2014) identified a predominant masculine presence in science. Additionally, all the casts looked white and more than 40 years old.

According to Ramalho, Polino and Massarani (2012) and Castelfranchi, Massarani and Ramalho (2014), the main Brazilian TV newscast, the *Jornal Nacional* from TV Globo (the channel with the largest audience), displays a predominantly male image of the scientist. For these authors, men and women scientists also typecast stereotypical profiles in the news content: while men go out to literally explore other worlds, women take care of people’s health and bodies. Pedreira (2014) examined the scientist’s image in *Jornal Nacional* and also in *Fantástico*, a Sunday variety show also from TV Globo. She likewise observed a male supremacy and the repeated use of eyeglasses and lab coat in the exhibition of these specialists.

Flicker (2003) reviewed the profile of scientists in films released between 1929 and 1997. According to this author, men’s and women’s representations as scientists are different. Men are pictured as antisocial “mad scientists”, obsessed with their work, who do not take care of their appearance and have, among other features, their hair frequently ruffled. Women scientists, on the other hand, have a social life, are beautiful and look very young for the qualifications that are assigned to them.

However, they work in positions subordinated to men and do not get to reach the same status. They are the characters that add emotional elements – such as romance – to the narratives. So, those women scientists cast have more of the stereotype of *women* than the profession of a *scientist* (FLICKER, 2003). The rational side of scientific behavior is not credited to them and, according to Flicker, they are not respected as professionals of science in the same way that men are, just because of their female attributes.

In Latin America, TV can play an important role in the construction and consolidation of scientists' social representations, since it is the most influential medium of communication in most countries of the region (REIMÃO, 2000b). Surveys made in Argentina, Brazil, Colombia and Uruguay have shown that TV is the medium by which the audiences seek and receive more information about science (VOGT; POLINO, 2003; DAZA-CAICEDO, 2014; MINCYT, 2014; MCTI and CGEE, 2015).

In Brazil, television, which is present in 97.2 % of homes (IBGE, 2013), is an element of national integration, the center of the country's cultural industry (REIMÃO, 2000a; REIMÃO, 2000b; WOLTON, 1996) and the primary mean for citizens' entertainment (JACKS; MENEZES; PIEDRAS, 2008; REBOUÇAS, 2000).

Nonetheless, studies about the science coverage in the media are still being consolidated. Most of the research done turns to be an analysis of a particular program, as in the cases of Guedes (1990), who examined the letters received by *Globo Ciência*; Guerra (2004), who analysed two soap operas and Castelfranchi, Massarani's and Ramalho's (2014) studies on *Jornal Nacional*, all these programs being from TV Globo. There is also research dedicated to the study of a specific television genre, i.e. the research conducted by Barca (2004), Alberguini (2007) and Santos and Gomes (2010) about TV News.

These studies focus on how science is broadcast in TV programs; the presence of scientists is only one of the items that are analysed, when it is analysed at all. In this sense, there is a gap in media studies focusing on the representation of the scientist in Brazilian TV that consider the different types of programs and that allow a comparison of the representations in each of such programs. In this paper,¹ we aim to broaden the focus of the investigation to other television categories, seeking to contribute to a more detailed analytical overview of the scientist's depiction in Brazilian TV. Our study is based on studies with empirically well-defined subjects –most of them having been cited here above.

2. Method

In this article, we analyse the scientist's representation that is provided in the daily broadcast of the two main Brazilian TV channels: TV Globo and TV Record (MÍDIA DADOS BRASIL, 2013). TV Globo is Brazil's largest television channel, its signal gets to 5,490 municipalities, accounting for 99.3% of the country's population (MÍDIA DADOS BRASIL, 2013; NEGÓCIOS GLOBO, 2015). It belongs to the Globo Group that also acts

¹ This study is part of a broader project, funded by the National Counsel of Technological and Scientific Development (CNPq) and by the Rio de Janeiro State Funding Agency for Research (Faperj). It was developed within a collaboration of four Brazilian institutes (*Oswaldo Cruz Foundation*, *University of São Paulo* and Federal Universities of Pará and Minas Gerais). Here we present the data collected in Rio de Janeiro by the *Oswaldo Cruz Foundation*.

in other branches of communication like newspapers, magazines, radio broadcasts, cable TV, companies distributing content and information (MATTOS, 2010; GRUPO GLOBO, 2016).

On its side, TV Record is the oldest television station still active in the country. It is currently linked to the Universal Church of the Kingdom of God, Bishop Edir Macedo being its main shareholder (REDE RECORD, 1998; MATTOS, 2010). It is considered the second most watched TV station since 2007 and its signal is reachable by 92.9% of the Brazilian population (MATTOS, 2010; MÍDIA DADOS BRASIL, 2013).

We carried out a clipping of two samples of one-week duration each, totaling 14 representative days of six months of 2013 (from June to November). This clipping was based on the works performed by Whitelegg et al.. (2008), following a request from the UK Resource Center for Women in Science, Technology and Engineering².

To build up the “constructed weeks”, we randomly drew from the chosen period of time two Mondays, two Tuesdays, two Wednesdays, two Thursdays and so on successively, until we got twice each day of the week. As a whole, 672 recorded hours were entirely watched, consisting of the schedule of the following days:

Table 1 – Dates selected as the sample for investigation

Sunday	September 22nd	September 29 th
Monday	August 19th	September 16 th
Tuesday	June 18th	October 29 th
Wednesday	September 18th	November 13 th
Thursday	September 12th	October 24 th
Friday	October 4th	November 29 th
Saturday	August 31st	September 14th

In this paper, we focus on the TV recordings that presented images of scientists³, taking into account all the TV categories found in the daily schedule: advertising, entertainment, information and education (ARONCHI, 2004). We considered as excerpts: news and reports, interviews, magazines; scenes from soap operas, series, miniseries, movies, cartoons; advertisements; merchandising in variety programs.

² Whitelegg’s team analysed 2 weeks of broadcast listings from the five biggest British channels between 2005 and 2006, containing programs oriented towards children and young audiences at different times.

³ We considered as being “scientist” every character that was explicitly presented as being a “scientist” or a “researcher”.

3. Results

3.1 Scientists on TV: a male profile

The presence of a scientist was identified in only 89 excerpts, totaling 5 hours, 39 minutes and 45 seconds, representing 0.8% of the total number of hours of media content examined from the two channels.

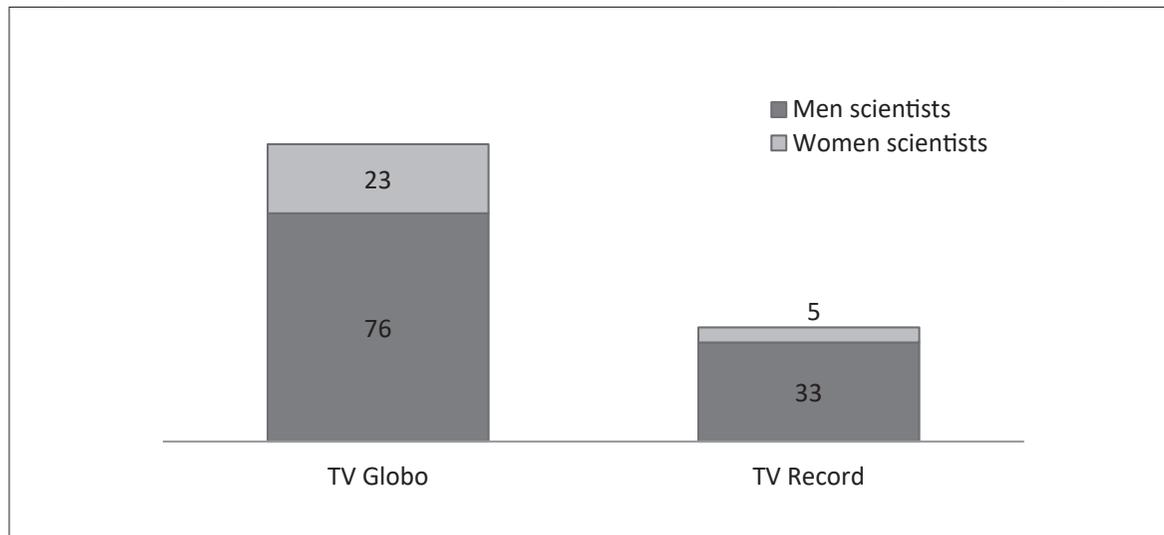
Altogether, we identified 137 scientists, because there could be more than one scientist in each segment: 109 of them were men and 28 were women. On the one hand, the segments that showed at least one man scientist add up to 5 hours, 10 minutes and 13 seconds, representing 0.7% of the assisted hours. Women scientists, on the other hand, appeared in segments totaling only 42 minutes and 38 seconds, that is to say, 0.1% of the analysed material. These length of time reports take into account the segments that contained men and women scientists together.

TV Globo was the channel that displayed the greater number of scientists: 99 of them were identified in 59 excerpts of its broadcast, totaling 4 hours, 27 minutes and 58 seconds, meaning 1.2% of the analysed record from this station.

In TV Record, we registered 38 scientists in 30 excerpts, totaling 1 hour, 11 minutes and 47 seconds, representing 0.2% of the listing from this station.

As shown in Graphic 1, not only TV Globo shows a higher total number of scientists than TV Record, but also presents a higher percentage of women scientists: they were 23.0% of the researchers from TV Globo and only 13.0% from the ones of TV Record.

Graphic 1 – Number of men and women scientists in the two major Brazilian TV programs



The places where men scientists were the most depicted were laboratories (55.9% of men scientists), followed by TV studios (13.7%) and offices (11.9%). The ones exposed at work in field trials or at a press conference were scarcer (4.5% for each of these situations). Each scientist could be exposed in more than one of place, i.e. he could be in his lab offering the interview and, after, he could be presented in a place dedicated to his field trials.

The image of scientists was linked to wearing a lab coat (64.2% of men scientists) and/or eyeglasses (34.8%), to the use of lab glassware or technical equipment (19.2%) and a computer (12.8%). Men scientists were particularly observed in issues related to Engineering and Technologies (28.4% of them), especially in TV Globo, and in topics related to Medicine and Health (17.4%), mostly at TV Record. They were also present in topics related to Biological Sciences (13.8%), Exact Sciences and Earth Sciences (13.8%) and Human Sciences (10.1%).

Nearly half (53.2%) of the men scientists were acknowledged to be Brazilian, 40.4% to be foreigners and 6,4% couldn't have their nationality registered. They could be seen mostly in programs aimed at entertainment and advertising (respectively 37.6% and 35.8%), followed by information programs (26,6%). However, in that regard, the two channels showed differences: while the TV Globo aired more men scientists in informational and advertising excerpts, the TV Record highlighted these experts in entertainment ones.

Figure 1 shows two examples of scientist's profiles, as regularly noticed in our *corpus* of media content: in the advertising and entertainment categories.

Figure 1 – Example of male scientists in TV Record and TV Globo



On the left side, we see a man scientist wearing a coat and eyeglasses, who is in a laboratory. The subject is identified as an R&D (Research and Development) researcher and he recommends the use of the product advertised at TV Record. On the right side, we

have another scientist's profile, rarer than the previous one: he doesn't use a coat, nor is he associated with the traditional icons of science and he is in the studio of an entertainment program. In this case, he is identified as a neuroscientist who contributes to a discussion about life after death in the *Encontro com Fátima Bernardes*, a morning variety show at TV Globo, aired on October 29, 2013.

We also noticed another man scientist's profile: the one that was portrayed in cartoon excerpts. In this type of program, we identified 21 men scientists (representing 19.3% of total men scientists) and no woman. Figure 2 shows two examples of cartoons aired by TV Globo (left) and TV Record (right)

Figure 2 – Men scientist's profiles in cartoons from TV Globo and TV Record



In the cartoon from TV Globo of September 18, 2013, we watched a scientist who created a machine to switch his brain with a cow's brain, in order to solve a personal problem: he wants to destroy all the grass on the planet for his own satisfaction. This scientist is portrayed as the “villain” of the story and his invention brings unexpected and unusual effects, adding the “flustered” and “crazy” – characteristics to his profile. He works in his lab and wears a white coat.

In the cartoon from TV Record of September 14, 2013, the scientist creates a genetically modified termite at the request of Woody Woodpecker, the cartoon's hero. The intention, when making such a request to the scientist, is that the termite helps him make holes in the trees. However, the experience does not provide the expected results, since the termite degrades nature too much and, along the story, Woody Woodpecker tries to prevent it from destroying the forest.

In both cases, we can see that the scientific creations gave raise to unexpected and negative results, and that the characters have to take care and fix the consequences of the miscalculations of out-of-control “crazy inventions”.

3.2 The (scarce) women scientists

Women scientists were less present in our *corpus* than men. We found only 28 of them in 24 excerpts, which represent less than a third of the pieces identified and 0.1% of the watched hours. On TV Globo, we recorded 23 female researchers and only 5 on TV Record screens.

They were mostly in laboratories (22 out of 28 women scientists); the lab coat was the dress code for 25 out of 28 of them; and the computer was tied to their image 10 times. Almost all of them (25) were Brazilian.

Eleven of the 28 women scientists worked in Engineering and Technologies, all broadcasted by TV Globo. Five of them participated in Medical and Health-related topics, three to Humanities and four related to Science and Technology issues as a whole. Still, we found two women scientists in Agricultural and Biological Sciences and one in Applied Social Sciences.

A little more than half of the women scientists (15) were found in advertising, all of them at TV Globo. We found eight women in informative excerpts and five in entertainment programs.

Commercials showing women scientists were only found in the TV Globo and all brought similar women profiles. In Figure 3, we can see two examples of advertisement, both relating to new technologies for cars. Women scientists therein are young, wearing coats and working with computers in laboratories. They also have similar aesthetic profiles: they're white, slim, dark and short-haired.

Figure 3 – Women scientists profiles in commercials from TV Globo and TV Record



In the advertisement on the left, we see a team of scientists, led by a woman, developing an augmented reality simulation test. The test is intended to identify how a car driver feels when driving that car (Ford brand, Ecosport model). At the end of the play, the scientist who is doing the test, driving the car, imagines he is arriving at a house where the leader of the research group expects him dressed in a sexy way. In other words, the final profile does not match the status of researcher for the woman.

In the image on the right, we can see another advertisement related to car technology by the brand Chevrolet. In this case, two scientists – a man and a woman – are talking in a lab, while standing out technological differentials of the new car are presented. The GPS (Global Positioning System) of the automobile is the ad's highlight.

In informational contents, we found scientists at both TV stations and they had the same profile: as shown in Figure 4, they are young women scientists, dressed in lab coats and working in laboratories.

Figure 4 – Women scientists profiles in information programs from TV Globo and TV Record



In the image on the left side, an interview of a researcher in Astrobiology is shown, in the *Jornal Nacional* from TV Globo, of September 16, 2013. The scientist presents the results of her last research about the emergence of life on Earth and the possibility of having life elsewhere in the universe. In the image on the right side, we notice two women scientists, part of a North American research team, that are developing a potential vaccine against HIV (Human Immunodeficiency Virus). *Fala Brasil*, the morning news bulletin of TV Record, released this report on September 12, 2013.

4. The representation of scientists: approaching and distancing reality

TV Globo was the channel that globally gave more stage to the scientists. This leader of audience has a program grid diverse enough to reflect men scientists' diverse profiles. They were portrayed in schedules of various TV categories – entertainment, advertising and information – and at various times of the day. On the other hand, the representation of women researchers was less frequent and less diverse, as they were more shown in advertisements.

TV Record presented less of these experts, either men or women, showing only 38 scientists. The relationship of the station with a religious institution, which in this case is the Universal Church, may have contributed to this result. Because of this link, part of the daily schedule is directed towards religious programs, in which no scientist ever appears. The network also has various entertainment programs with “COP show” (police) profiles; programs that emphasize public safety problems in the country. There are three programs with this profile in this station, that add up to almost 7 hours from Monday to Friday, in which we only found one excerpt with the presence of scientists.

We have identified few studies that analysed the disclosure of topics in science by the second most watched TV station in Brazil (BARCA, 2004; ALBERGUINI, 2007; SANTOS, GOMES, 2010). Our results corroborate their data, according to which this station seldom presents scientific topics. Barca (2004) and Alberguini (2007), for instance, observed that the *Jornal da Record* is the Brazilian television news bulletin that records the smallest amount of subjects and journalistic reports on science. It also gives the lesser time of each edition to the presentation of this type of reports, when compared to other open TV news (*Jornal Nacional*, *Jornal da Band* and *Jornal da Cultura*). Santos and Gomes (2010) didn't find any story on scientific issues in this TV news during the period they analysed. These studies, that analyse different periods of time during the years 2000, ground and confirm our view that the *Jornal da Record* does not provide science-related information on a regular basis and consequently leaves little room to scientists.

We also observed the rare presence of women scientists in our *corpus*: the number of women researchers that were identified (28 women) was almost four times lower than that of men (109) in the two TV channels. This disparity suggests a male predominance in the scientist's representation on Brazilian TV.

A similar trend was observed in studies of science coverage in the national television, such for instance the research that analysed the content of *Jornal Nacional*, according to Ramalho, Polino and Massarani (2012) and Castelfranchi, Massarani and Ramalho (2014). The first article reports that just over one-third of the researchers interviewed on scientific matters in TV news stories were women; the latter highlights that the broadcasts dedicated

to men scientists or to their statements tend to be almost the double than the ones dedicated to women scientists. Pedreira (2014), analysing the *Jornal Nacional* and the Sunday program *Fantástico*, also reports a similar scenario. There is a predominant representation of men scientists in the two programs and, in the case of *Fantástico*, the women do not get to represent 30% of the scientists.

However, this picture does not totally reflect the current reality of the Brazilian scientific-academic field. Since the beginning of the 21st century, women equal to men in the total number of scholarships sponsored by the National Counsel of Technological and Scientific Development within the country (CNPq, 2015), embracing the various types of scholarships (Scientific initiation, Master, Doctorate, Post-doctorate, Research productivity and Stimulation of innovation for competitiveness, among others). In 2001, scholarships for women researchers represented 48% of the grants from the funding agency, while in 2014 the percentage already reached 51%. When it comes to “Research Productivity scholarships”, however, data from the CNPq (2014) reflects a different scenario. They are granted to researchers with consolidated careers and acknowledgment in their scientific field. While women are present in all the five levels of this scholarship, they do not get to represent 40% in any of them, being only 24% of the researchers ranked in the highest level (Research productivity scholarship from CNPq – Level 1A).

Therefore, we can understand the focus given to men scientists in television programs, seeing it as an echo of the still changing scientific world, where men researchers still are the main reference sources – both for Science and for the media. Only later studies will be able to show enough evidence for more conclusive considerations about this issue.

Depicting scientists in laboratories scenes, both men (55.9%) and women (78,6%), was another predominant TV programs’ occurrence that we noticed. In the movies reviewed by Weingart, Muhl and Pansegrau (2003), the lab is characterized as a “secret” or “dangerous” location. Since experts tend to feel misunderstood by the people surrounding them, the authors stress that if they stay in their labs, it seems to be related to an option for some isolation. There was also a predominant representation of scientists in lab locations in Brazilian news’ science coverage (ALBERGUINI, 2007; RAMALHO; POLINO; MASSARANI, 2012).

We also identified the presence of specific items in the clothing and the space in which scientific characters were shown – as Chambers (1983) did, but with some modifications – like lab coats, eyeglasses, glassware, technical equipment, gloves, books, computers and papers. We noticed that lab coats, eyeglasses and laboratory equipment were the most frequently exposed items, both with men and women scientists. Other studies indicate the same (ROSA et al., 2005; PEDREIRA, 2014).

Our above-mentioned results reinforce the stereotypic -socially confirmed- image of the scientist that has been observed by several researches on media content in several countries: mostly men, dressed in lab coats and regularly working in their laboratories (MEAD; METRAUX, 1957; GUERRA 2004; ROSA et al., 2005; WHITELEGG et al., 2008; LONG et al., 2010; RAMALHO; POLINO; MASSARANI, 2012; SOARES; SCALFI, 2014). We saw similarities between the characteristics of scientists in the pioneering study of Mead and Metraux (1957) and those from the data of this paper, therefore suggesting that the scientist's image maintained a regular pattern all years long.

Both men and women scientists were interestingly more linked to the field of Engineering and Technology than to any other, drawing up a profile different from that provided by other studies, which correlated the presence of science in the media to healthcare topics (EINSIEDEL, 1992; GÖPFERT, 1996; LÉON, 2008; RAMALHO; POLINO; MASSARANI, 2012).

For instance, Einsiedel (1992), who examined the science coverage in Canadian newspapers, noted that the issues related to medicine were the most usual ones. Göpfert (1996) and Léon (2008) observed similar results in prime-time schedules of European TV broadcasters. In Brazil, Ramalho, Polino and Massarani (2012) revealed that 44% of news and reports on science in the *Jornal Nacional* were about health.

Our data, however, follow the trend observed by Flicker's study (2003) on movies, in which two-thirds of the women scientists worked in Natural and Technological Sciences, while the other third worked in Social Sciences and Humanities. She even notes that in the area of Exact Sciences, feminine cosmonauts and space scientists were frequently represented. Still, Flicker considers that these areas of knowledge do not match the reality, since most women researchers actually work in Humanities and Social Sciences.

The majority of scholars of the National Counsel of Technological and Scientific Development, that work in the areas of Humanities, Applied Social Sciences and Languages as well as in Literature and Arts in Brazil, are women, representing at least 57% of the scientists in each of these areas (CNPq, 2015). Yet, they only represent 35% and 40% of the scholars in the areas of Exact Sciences and Engineering, respectively.

Therefore, with regard to the area of knowledge, there is a difference between the representation of women scientists in the analysed TV channels and the reality of Brazilian science. In our study, the picture of women as "Engineering scientists" is due to their use in commercials, especially for cars. As a matter of fact, it was precisely in the advertisements (followed by the informational excerpts) that the few women of our *corpus* were mostly present. As already explained, in these two types of programs there was a repetition of a stereotyped scientist, the one of a female, characterized mainly by the lab coat in a lab space.

On the men scientists' side, they were more represented in entertainment schedules, especially in the fictional excerpts, such as soap operas, sitcoms, movies and cartoons. The dress code for these characters appears to be more casual; since they are outside the laboratories more ordinarily than women are, the coat use is not so striking as for women.

Regarding cartoons, we did not find any woman researcher depicted in this type of excerpt. Referring to Whitelegg's et al.. (2008) study, we indeed expected to see more men than women scientists in cartoons, but the complete absence of female scientists stood out in our results. According to Whitelegg et al.. (2008), cartoons are heavily based on consolidated social stereotypes in order to communicate with their audience. The reason for the high discrepancy between men and women would be due to the fact that the "mad scientist" (man) profile is frequently used in this type of media.

No "mad scientist" – type of profile was observed among women in our *corpus*, as we did not find any "villain" or "evil" – profiled woman scientist either, contrary to what we did with men. Here, we do another parallel with Flicker's study (2003). This author states that the "mad scientist" stereotype does not apply to women scientists because they are not "hidden in their laboratories" – what could trigger the tricks of the male stereotype. On the contrary, in Flicker's research (2003), women have a social life besides work and they tend to be portrayed in a more realistic way in the movies.

5. Final considerations

In this paper, we report some of the existing patterns in Brazilian television coverage of science and scientists' main portrayals, contained in the two leading TV channels' broadcasts of the country. Our first relevant result is a scientist's slight presence in the schedules that we examined: only 0.8% of the 672 hours that we watched carried the image of this expert.

Our data is worrisome if we consider the results of the latest National Survey on Public Perceptions of Science (MCTI and CGEE, 2015), which show that TV is the Brazilian's main source of scientific information. Furthermore, if TV can help its viewers build an image about the concept of science and scientists, as it is described in some studies (STEINKE et al., 2007; MARTÍNEZ, 2003), the little presence of researchers in Brazilian television programs can contribute to a population poorly familiar with this type of professional, as well as with scientific issues in general. Actually, the last national survey showed that the majority of the population (93%) states not knowing any Brazilian scientist (MCT and CGEE, 2015).

The TV category that mostly aired scientist's images was entertainment, which showed more men scientists (37.5% of men scientists). For Brazil, this is important since

this type of program historically marks prominently the TV programs (REIMÃO, 2000a; ARONCHI, 2004).

Scientists' presentation in this category, even if majorly limited to men, also shows that science isn't discussed only in news programs, the focus of several Brazilian studies about scientific dissemination (BARCA, 2004; ALBERGUINI, 2007; SANTOS; GOMES, 2010; RAMALHO; POLINO; MASSARANI, 2012).

Movies, sitcoms and cartoons refer to scientific contents and display scientists in their narratives too, though it is -like in cartoons- in a stereotyped way. In addition, our results point out that variety shows somehow regularly bring science professionals and discuss issues related to scientific topics. These data indicate that studies about science coverage in Brazilian TV should be expanded to television categories other than the information one.

The disparity between men and women outstripped in the results of our TV content analysis, in accordance with national and international trends of male predominance among scientists (BUSTOS-MORA, 2004; DUDO et al., 2010; MELLOR; WEBSTER; BELL, 2011; CASTELFRANCHI; MASSARANI; RAMALHO, 2014; PEDREIRA, 2014). This disparity can suggest to viewers that science is a male career, as Long et al. (2010) have already perceived in some television productions.

To Steinke (2005), women scientists portrayed in movies are symbolic models that serve as sources of information for the feminine audience. As symbolic models, these images "have the potential to shape adolescent girls' perceptions of gender roles and their own future roles" (STEINKE, 2005, p. 52). The author emphasizes that media portrayals – including TV ones – can be useful to change adolescent girls' perceptions about scientific careers.

However, in our study, we identified a small number of women scientists portrayed in the broadcast. Such representation of the scientist is not in tune with the reality of Brazilian science, which is roughly gender-balanced (CNPq, 2015). Thus, scientist characters portrayed in TV keep displaying a traditional scientist stereotype (MEAD; METRAUX, 1957; CHAMBERS, 1983; WHITELEGG et al., 2008; LONG et al., 2010; RAMALHO; POLINO; MASSARANI, 2012).

The changing profile of Brazilian science over the last few decades, which includes feminine figures more systematically, may breed the change of media scientist's portrayal in the near future. The gender balance observed in Brazilian science is not a standard occurrence: almost all over the world, men continue to outnumber women when it comes to science. Thus, even if media reflected reality, they wouldn't necessarily reflect the national Brazilian reality. In addition, it is also possible that there exists a media imagery that is independent from reality, as evidenced in the studies mentioned in the previous paragraph. However, we need further follow up studies on these issues to be able to make closing considerations, especially regarding the Brazilian scenario.

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