Chapter 4
Subverting Stereotypes: Visual Rhetoric in the #SheCanSTEM Campaigns

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Introduction

Research shows that young girls like STEM subjects—science, technology, engineering and math—but, as they get older, they start to feel that STEM isn't for them based on outdated stereotypes (Ad Council 2018a).

On the homepage of SheCanSTEM.com in the spring of 2019, visitors are greeted by a photograph of seven adult women positioned shoulder to shoulder, and confidently looking directly at the viewer. The caption below this "hero image" tells visitors, "#SheCanSTEM. Meet the women changing the world with Science, Technology, Engineering and Mathematics. The future will be built by women in STEM." The smiling women in the ad are the faces of the 2018 Ad Council's public service announcement (PSA) campaign, "She Can STEM," which promotes the science, technology, engineering, and mathematics (STEM) fields to tween girls (11–15 years-old). According to the campaign's webpage on AdCouncil.org, the campaign is designed to inspire "middle school girls to stay in STEM by showcasing female role models across a variety of STEM fields" (Ad Council 2018b). As such, the stars of the campaign are not professional models hired for a photoshoot, but are seven women "currently dominating the world of STEM" (She Can STEM 2019).

But why is such a campaign needed? Ryan Noonan writes in the executive summary of the U.S. Department of Commerce's report, *Women in STEM: 2017 Update* (2–17: 1): "While women continue to make gains across the broader economy, they remain underrepresented in STEM jobs and among STEM degree holders." The report goes on to list the following statistics:

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- Women filled 47% of all U.S. jobs in 2015 but held only 24% of STEM jobs. Likewise, women constitute slightly more than half of college-educated workers but makeup only 25% of college-educated STEM workers.
- Women with STEM degrees are less likely than their male counterparts to work in a STEM occupation; they are more likely to work in education or healthcare.
- Women with STEM jobs earned 35% more than comparable women in non-STEM jobs – even higher than the 30% STEM premium for men. As a result, the gender wage gap is smaller in STEM jobs than in non-STEM jobs. Women with STEM jobs also earned 40% more than men with non-STEM jobs (Noonan 2017: 1).

These statistics demonstrate how women are underrepresented in receiving STEM degrees and working in STEM jobs, despite the increased earning potential of STEM jobs.

This overall lack of women in STEM, combined with the fact women with STEM degrees are consigned to the educational and health fields, creates a dearth of role models for young girls interested in STEM. "As girls look around for female role models, they don't see anyone who looks like they do. If we want girls to succeed in STEM, we have to show them it's possible" (Ad Council 2018c: 2). "She Can STEM aims to challenge obsolete stereotypes and help middle school girls overcome their perceptions of what STEM isn't by surprising them with what it is" (Ad Council 2018e: 1).

Drawing upon theories of visual rhetoric and images in advertising, this research looks at how the Ad Council's "She Can STEM" campaign promotes STEM to girls. First, I contend that the campaign materials actively strive to subvert culturally-dominant stereotypes that science is a masculine endeavor by avoiding the stereotypes' most common tropes in the campaign's images. Second, I examine select "She Can STEM" campaign images via Birdsell and Groarke's (2007) modes of visual meaning. Third, I identify shortcomings in the campaign that arise from stripping its role models of all visual cues that they are scientists, as well as its exclusion of role models from the academic and government sectors.

Prevailing (Visual) Stereotypes of Scientists

When it comes to the images and ideas Americans associate with scientists (and STEM), research has shown that we hold complex, multilayered feelings. Mead and Métraux's (1957) landmark findings presented researchers with the first insights into ideas held by the public regarding science. These positive, negative, and shared images collected by Mead and Métraux about scientists have served as the foundation for almost every study that has followed. Their pilot study analyzed essays written by high school students on what they think about scientists and what kind of scientist he would or would not like to be. It is relevant to note that in the Mead and Métraux's study, female high school students were not asked what type of scientist

they themselves would like to be, but rather what type of scientist their husband would probably like to be. Specifically, their research found the high school students held shared, neutral images of scientists that revolve around the scientists' appearance and physical surroundings. The positive side of scientists begins to emerge when students described some aspects of the personality, characteristics, and motivation of scientists. Good scientists are intelligent, benevolent, hard-working, and focused men working to better the world by understanding it. However, the scientists' negative side described by the students stem from the same concepts (i.e. intelligence, motivation, dedication, etc.) that are articulated in the positives, but the students associate a decidedly different value to them. These scientists are powerless, alienated, selfish and obsessive men unable to concern themselves with non-science things.

Drawing on the stereotypes Mead and Métraux articulated, Chambers (1983) developed another major contribution to the area of scientific stereotypes research—the "Draw-a-Scientist-Test (DAST)." The test consisted of having a regular classroom teacher ask elementary students to "draw a scientist" without any previous discussion or working collectively. The drawings were then analyzed and scored based upon seven previously chosen indicators of the standard image of a scientist: (1) labcoat, (2) eyeglasses, (3) facial hair, (4) symbols of research (scientific instruments and laboratory equipment), (5) symbols of knowledge (books and filing cabinets), (6) technology (the products of science), and (7) relevant captions of formulas, taxonomic classifications, etc. (Chambers 1983: 258). Chambers found students began to incorporate the elements of a stereotypical scientist starting in the second grade. As the children neared the end of elementary school, the more stereotypical their images became.

Finson et al. (1995) expanded Chambers' 7 indicators to 16 categories to create the DAST-Checklist. Finson et al's DAST-Checklist records additional common images appearing in the drawings of scientists. Categories 1–7 are identical to Chambers' DAST indicators, but the DAST-Checklist adds (8) male gender, (9) white, (10) indications of danger, (11) presence of light bulbs, (12) mythic stereotypes (Frankenstein creatures, Jekyll/Hyde figures, etc.), (13) indications of secrecy (signs saying "private, keep out, top secret," etc.), (14) scientists doing work indoors, (15) middle-aged or older scientist, and (16) open comments (dress items, neckties/necklaces, hair style/grooming, smile or frown, stoic expression, bubbling liquids, type of scientist, etc.) (Finson et al. 1995: 199).

Various versions of the DAST and DAST-Checklist have often been repeated using different subject groups ranging from elementary school students to college students and adults (Boylan et al. 1992; Finson et al. 1995; Huber and Burton 1995; Mason et al. 1991; Miele 2014; Rahm and Charbonneau 1997; Rosenthal 1993; Rubin et al. 2003; Sumrall 1995; Thomas et al. 2006). The results, even the ones drawn by scientists, consistently yield the same dominant image of a scientist learned as a child—a white male, wearing glasses and a white labcoat, who works alone in a laboratory surrounded by chemistry equipment. However, studies have shown that the older DAST participants were the more likely to draw alternate images of scientists (female, working outdoors, minority, etc.). They were also less

likely to use mythic stereotypes. However, these few alternate-image drawings were usually created by minority group members, females, scientists, or by participants of science education intervention programs designed to breakdown stereotypes and make science more accessible to minorities.

One reason for the pervasiveness of the stereotypical image may be because it "reflects reality perhaps in part, but certainly not in totality" (Rahm and Charbonneau 1997: 777). Rahm and Charbonneau (1997) conducted an informal visual survey of an atmospheric research center to look for stereotypical characteristics in real scientists. They found 42% of the scientists wore glasses and 38% had facial hair/extravagant hairstyles in comparison to their DAST results of 70% and 52% for each figure respectively. However, computers and/or workstations were seen in 98% of the visual survey while they appeared in only 4% of the DAST drawings.

Whether positive, negative or neutral, the stereotypes and misconceptions that shroud science are established at an early age and linger throughout life. The development of stereotypical science images by the end of elementary school (Chambers 1983) coincides with the retreat of girls and minorities from science in secondary school (Kelly 1982). Kelly cites three main reasons girls withdraw from science, but they can be applied to ethnic minorities as well—lack of self-confidence and fear that it is too difficult, the masculine image of science, and the apparent remoteness of science from everyday concerns. Ultimately, the underlying issue of self-image is key; if a child's idea of self doesn't match his or her image (and the images provided by home, school, and the media) of a scientist, then his or her interest in science isn't proper or appropriate (Steinke 1998).

Visual Rhetoric and Advertising

Birdsell and Groarke (2007: 103) argue that visual arguments can be "understood and assessed" through Aristotle's rhetorical proofs (*ethos, pathos* and *logos*) just as traditional verbal arguments. They also list five functions that visual images can perform in a visual argument: flags, demonstrations, metaphors, symbols and archetypes. Flags are "used to attract attention to a message conveyed to some audience" (Birdsell and Groarke 2007: 104). Images act as demonstrations by conveying "information which can best be presented visually" and serve as metaphors by communicating "some claim figuratively, by portraying someone or something as some other thing" (p. 105). Symbols exhibit "strong associations that allow them to stand for something they represent," while archetypes are symbols that derive meaning from "popular narratives" (p. 105).

These five functions can be applied to visual advertisements (such as those found in print, television and online mediums) as well. For example, Henrik Dahl, as cited in *Visual persuasion: The role of images in advertising* (Messaris 1996: 5), states that a fundamental aspect of advertising is that it is normally an "*unwanted* communication." This is because consumers do not actively seek out advertisements and commercials for consumption. Therefore, a critical role of an advertisement is to

flag (attract and maintain) the attention of customers. An organization's logo—a distinctive signature, motto, image, or trademark—taps into the metaphor, symbols and archetypes functions.

Once the viewers' attention is attained via the flag, Messaris argues the next step is to elicit emotions from the viewers. This can be done in a number of ways, including via Messaris's three major roles images play in advertising: (1) images as simulated reality, or iconicity; (2) images as evidence, or indexicality; and (3) images as an implied selling proposition or syntactic indeterminacy. Iconicity is critical in advertising because it allows advertisers to simulate, as well as violate, reality. Messaris (1996: xiii) argues this is important for the following reason:

> When we look at the real world that surrounds us, the sights we see do not register in our brains as neutral, value-free data. Rather, each visual feature, from the smallest nuances of people's facial expressions to the overall physical appearance of people and places, can come with a wealth of emotional associations. These associations stem from the unique experiences of each individual in addition to the common, shared influence of culture.

Whether it is simulating or violating reality, viewers of an image assign meanings, emotions and values to what they see. In this way, iconicity also can evoke *pathos* in the viewer. "Indexicality is a critical ingredient in the process of visual persuasion whenever a photographic image can serve as documentary evidence or proof of an advertisement's point" (Messaris 1996: xvi). For example, a commercial featuring a celebrity drinking a Pepsi communicates more than a written description of the video, or a drawing/animation of the celebrity enjoying the soda. Due to the inherent nature of photo/videography to "capture" reality, viewers are more likely to believe that the celebrity actually drank the soda.

The third role touches upon the syntactic indeterminacy of images. Messaris (1996: xi) describes the difference between verbal and visual syntaxes as follows:

> [A] distinctive characteristic of verbal language is the fact that it contains words and sentence structures (a prepositional syntax) that allows the user to be explicit about what kind of connection is being proposed in such statements. An equally distinctive characteristic of visual images is the fact they do not have an equivalent of this type of syntax.

While it is tempting to view a lack of specificity when it comes to visual syntax as a negative, Messaris (1996: xxii) argues that it is precisely because of its lack of specificity that visual arguments have an open-ended nature that lends itself to an "adaptability to the meaning of persuasive images."

Beasley and Danesi (2002: 12) state that two primary practices in advertising—*positioning* and *image creation*—go "about creating … messages and anchoring them firmly into social discourse. "Positioning is the placing or targeting of a product for the right people," while image creation results in "fashioning a 'personality' for the product." For example, Mountain Dew soda is positioned primarily towards men as the majority of its advertisements feature male leads and the image it has crafted appeals to competitive male teenagers and young adults interested in computer/video games and extreme sports. Beasley and Danesi (2002: 15) also state that "advertising has become entrenched into social discourse by virtue of its widespread

diffusion throughout society." Advertising's ability to tap into the everchanging, ephemerality of social discourse allows it to (Beasley and Danesi 2002: 16):

- Guarantee that newness and faddishness can be reflected in the product through adaptive change in…commercials, or in the meanings embedded in its logo, package design, etc.;
- Ensure that any changes in social trends…also be reflected in ads, commercials, logos, design, etc.;
- Ensure that the product's identity keeps in step with the times by renaming it, redesigning its appearance, changing its advertising textuality, etc.;
- Guarantee that the consumer's changing needs and perceptions be built into the textuality (form and content) of [the] brand…, thus creating a dynamic interplay between advertising and changing modalities of social life, whereby one influences the other through a constant synergy.

Essentially, advertisements are so deeply integrated into our society, that popular culture takes up messages, images, themes, etc. from commercials and weaves them into itself (consumers across America saying "Whassup" after seeing Budweiser's commercials), and commercials assimilate popular culture elements like hit songs, "hip" celebrities, fashion trends, etc.

Breaking Down the "She Can STEM" Campaign

Unlike many previous Ad Council PSA campaigns, "She Can STEM" does not rely on print, radio or television components to spread its message. Instead, the campaign is focused on online media elements, such as banner ads, social media graphics, online videos, etc., that can be embedded in other websites or shared on social media. For the purposes of this chapter, I am limiting my scope of research to the seven social [media] graphics[1] produced for the campaign, which each feature a different campaign spokeswoman.

The design and composition of the social graphics are almost identical. When you look at all seven graphics, the only design differences are in the colors and which direction the woman is facing. Each one is square-shaped, which optimizes its display in some social media feeds, such as Instagram. The primary focus in the social graphics is a headshot of one of the women, which takes up approximately two-thirds of the space. In the remaining third, the letters S, T, E, M are placed in individual square boxes arranged vertically. Two of the boxes are always smaller than the others, and in the larger boxes we are able to see what the letter represents (S is for science). The two larger boxes always represent the two elements of STEM most associated with the featured woman's job. The design of letter boxes mimics

[1] From the "She Can STEM" campaign by the Ad Council, 2018. Retrieved April 9, 2019, from http://shecanstem.adcouncilkit.org/spread-the-word/. Copyright 2018 by the Ad Council.

that of the periodic table of elements, an iconic image found in science classrooms around the world. All but two of the women have an enlarged T in their boxes. They also are the two women who are not employed by corporate campaign partners. The M is also enlarged in only two images. The S is enlarged three times and the E four times.

Underneath the STEM boxes, the Ad Council logo appears in light gray so it can clearly brand the campaign without distracting from its core messages. In the bottom fourth of the square, there is a blue, orange or yellow box that contains an inspirational tagline from the woman in the ad to the campaign's target audience. Below are the taglines (Ad Council 2018d):

- You have the power to bring new worlds to life.
- Do what you love and you'll always be successful.
- If you can imagine it, it's possible.
- Ever wonder if there's life on other planets?
- Don't just solve the problem, write the code.
- We need girls like you in STEM.
- You are the generation that will be stepping foot on Mars.

Also written in the boxes, directly underneath the inspirational sentence, we find the featured woman's name and credentials written in a smaller font size. Nowhere in the design of the social graphics does the name of the campaign, its slogans, or references to additional information (such as a hashtag, URL address, etc.) appear.

The women were photographed in front of a solid, white background. They are making direct eye contact with the camera (and therefore the viewers) and are smiling. The camera's angle is perpendicular to the subjects and not shot using high or low angles. The images are cropped to include the head, shoulders, torso and occasionally, the waist. Many of the women are posed similarly in their headshots. Some have their arms crossed in front of their chests. One is posed with both her hands on her hips, while another has only one hand on her hip. The arms of another woman are at her sides, but her hands are laying on top of one another in a manner that suggests they are resting on something just out of frame. The women are wearing either casual attire (a long-sleeved t-shirt, a denim shirt, or a motorcycle jacket with a V-neck t-shirt) or business-casual attire (dress blouses with and without jackets). They are all wearing subtle make-up, and none of them have their hair pulled back. One woman's hair color is noticeable as it is dyed a soft pink while the rest of the campaign spokeswomen's hair colors appear natural.

To better analyze these visuals, I modified the DAST-Checklist created by Finson et al. to create the Visual Stereotypes of Scientists Checklist (VSSC). The VSSC streamlines some aspects of the DAST-Checklist (such as putting relevant captions of formulas and taxonomic classifications within the symbols of knowledge category), while moving others out of the "open comments" section into their own category (such as stoic expression). These changes make it easier to score images of scientists based on how many of the following 15 visual stereotypes occur:

- Visual presents as male
- Visual presents as white
- Stoic expression present
- Facial hair is present (if male) or long hair is pulled back (if female)
- Appears to be a middle-age or older adult
- Eyeglasses are worn
- Specialized attire or clothing (labcoats, goggles, clean suits, protective gloves, etc.) is worn
- Appearance is disheveled (messy hair, clothing askew, etc.)
- Mythic stereotypes (Frankenstein creatures, Jekyll/Hyde figures, Albert Einstein, etc.) are present
- Set indoors
- Symbols of research (scientific instruments and laboratory equipment) appear.
- Symbols of knowledge (books, filing cabinets, lightbulbs, relevant captions of formulas, taxonomic classifications, etc.) appear
- Technology (the products of science and engineering, such as computers) is present
- Indications of danger are visable
- Indications of secrecy appear

For example, there is one telling image of a scientist taken from a stock photography website[2], which scores an 11 on the VSSC—male, white, facial hair, middle-age/senior adult, eyeglasses, specialized attire/clothing (labcoat, goggles, protective gloves), disheveled appearance (specifically his unkempt hair), working indoors, symbols of research (beakers, mixing chemicals, etc.), symbols of knowledge (formulas on the chalkboard, pen and paper for taking notes, etc.), and indication of danger (gas mask for filtering out dangerous fumes and protective gloves for corrosive chemicals). Even a less cartoonish stock photo[3] scores a 9 on the VSSC.

Implications

As previously mentioned, the goal of the "She Can STEM" campaign is to keep girls interested in STEM by providing girls with female role models that do not reflect outdated stereotypes. The predominant stereotypical image of a scientist is an older, white male with facial hair and wild, unkempt hair that is wearing glasses and a labcoat. He stoically works indoors surrounded by scientific instruments (such

[2] "Mad scientist conducts chemistry experiment in his lab" by J. McRight, 2019. Retrieved from https://www.shutterstock.com/image-photo/mad-scientist-conducts-chemistry-experiment-his-113472703https://.

[3] "Scientist using microscope in a modern laboratory" by caracterdesign, 2019. Retrieved from https://www.gettyimages.com/detail/photo/scientist-using-microscope-royalty-free-image/181892523.

Table 4.1 Visual stereotypes of scientists checklist (VSSC) scores for 9 figures

Stereotype	1	2	3	4	5	6	7	8	9
Male								1	1
White	1	1	1	1		1		1	1
Stoic expression									1
Facial hair								1	1
Middle-age, older adult								1	1
Eyeglasses								1	1
Specialized attire/clothing								1	1
Disheveled appearance								1	
Mythic stereotypes									
Working indoors	1	1	1	1	1	1	1	1	1
Symbols of research								1	1
Symbols of knowledge								1	
Technology									
Indication of danger								1	
Indication of secrecy									
SCORE	**2**	**2**	**2**	**2**	**1**	**2**	**1**	**11**	**9**

as a microscope) and chemical laboratory equipment. As such, the advertising professionals who worked on the "She Can STEM" campaign actively subvert this stereotype by eliminating as many of these characteristics as possible from its campaign materials.

In stark contrast to the culturally-dominant stereotype, the role models in the "She Can STEM" campaign are all women who look to be in their 30s and are wearing casual or business-casual attire. Their relative youth and lack of specialized attire help make the women more accessible and relatable to the campaign's target audience of tween girls. The plain white background and lack of props in the photos also removes stereotypical symbols from the campaign materials. This encourages girls to imagine what the women's work environments looks like and to place the women in an environment of their choosing.

The campaign images are so a-stereotypical that the five of the seven social graphics examined scored a 2 on the VSSC while the remaining two scored a 1 (see Table 4.1). All seven graphics earned a point for "working indoors" as the plain white background implies an interior environment. The subsequent points earned by each graphic depended on if the woman was white (5 of 7 were).

Another function of the white background in the social graphics is that it helps attract the viewer's eye. Or as Birdsell and Groarke (2007) would reason, the white space functions as a *flag*. Another function of visual argument performed by the images in the graphics is *demonstration*. The photographic images of real women who work in prestigious STEM jobs demonstrate that STEM isn't just the domain of men; women can and do succeed in STEM careers. Similarly, these images of women also evoke Messaris's concepts of *iconicity* and *indexicality* as they simulate reality and offer proof of success in STEM.

An aspect of the campaign that is notable is its purposeful avoidance of *symbols* and *archetypes*. The women are not holding, nor are surrounded by, any props or workplace imagery symbolically associated with STEM. The lack of *symbols*, combined with the gender and youth of the women, effectively avoids the *archetypes* of science. In fact, the images score so low on the VSSC that if it was not for the accompanying text/copy in the social graphics, viewers would not know that the women work in STEM. It could be said that the STEM boxes in the campaign materials act as symbols since their design reminds viewers of the periodical table and present the STEM acronym. However, I argue that the STEM boxes alone do not definitively link the women in the pictures to STEM jobs.

The accompanying copy tells us that these women work for IBM, Google, Microsoft, Verizon, Boeing, GE and the Adler Planetarium. All of these employers are multinational corporations except the Adler Planetarium, which is a non-profit organization. Five of the seven employers are brand partners of the campaign (IMB, Google, Microsoft, Verizon and GE). Representative of the women who work in academic and government STEM sectors are conspicuously absence. This is surprising as approximately 30% of the STEM workforce is employed by the education and government sectors (National Science Board 2018).

Since advertisements are unwanted communications, flagging (and retaining) the attention of the target audience must be immediate. As previously stated, I believe the large amounts of white space in the campaign materials act as a flag, but the lack of science symbols does not give the tweens interested in STEM a reason to linger on the campaign's social graphic. The STEM boxes may help increase the target audience's attention, but ultimately, the brain must decide in a fraction of a second if the combination of the white space, the image of a woman, and the nearby STEM boxes is enough to make the viewer stop and read the ad's copy. If it is not compelling enough to the viewer, the brain will filter out the ad as background noise like it does to most ads.

The campaign strips away all of the visual cues that these women are scientists and instead relies on text/body copy to convey that information. In actively striving to subvert culturally-dominant visual stereotypes of scientists, the campaign is actually ignoring a whole sector of women who work in STEM—the women that do wear labcoats, work with microscopes, monitor chemical reactions, etc. The campaign does not show women doing "stereotypical" science that may be associated with the government and academic sectors. Instead, it showcases tech-based jobs found at its (corporate) brand partners. In short, we lose the immediate recognition that she is a scientist because the campaign overcompensates to ensure that image is not stereotypical. This could have been avoided by giving the women simple props to interact with during the photoshoot. For example, the woman astronomer, could be leaning on a backyard-sized telescope. Another woman could be holding a video game controller since she heads the Halo Game Studio at Microsoft. Instead of

standing in front of a white background, a third woman could be standing in front of computer code, as she tells girls, "Don't just solve the problem, write the code."

Another shortcoming of the campaign's social graphics is that they do not include any references to the campaign's slogan ("She can STEM, so can you"), its primary hashtag (#SheCanSTEM), website URL (SheCanSTEM.com) or its Instagram account handle (@SheCanSTEM). I suspect this is because text appearing in a picture cannot be hyperlinked, so even if the image included #SheCanSTEM, users could not click on it to follow a link. However, the lack of the campaign information as problematic as "She Can STEM" is designed to be primarily an online campaign. Not including references to where the campaign lives online places the burden of sharing that information on the social media user. If the user doesn't include #SheCanSTEM, @SheCanSTEM, or SheCanSTEM.com, then viewers of the post do not know it is a part of a large campaign.

Conclusion

Advertisements play critical role in our culture as they attempt to persuade us buy a particular product or take a particular action. The visual arguments created by the images in advertisements serve as a flag, demonstration, symbol, archetype and/or metaphor for the viewers (Birdsell and Groarke 2007) and can elicit emotion by evoking iconicity, indexicality, and syntactic indeterminacy (Messaris 1996). Successful advertising campaign both become part of our social discourse, as well as influence it (Beasley and Danesi 2002).

The Ad Council has a rich history of producing memorable public service campaigns, including Smoky the Bear, the Crash-Test Dummies (who remind us to "Don't be a dummy, buckle your seat belt,"), and more. The Ad Council's 2018 "She Can STEM" campaign was created to address the fact that girls start to lose interest in STEM in middle school due in part to a cultural belief that STEM is a masculine endeavor. The campaign sought to counter this narrative by showcasing real women who work in STEM as role models for tween girls.

The campaign's materials, specifically its social graphics, successfully subvert the majority of scientist stereotypes in order to present tween girls with contemporary role models. However, it subverts to the point there are no visual cues that the featured women are scientists and the audience must rely on accompanying copy to understand their connection to STEM. The social graphics also fail to include relevant online information (i.e., URLs, hashtags, handles), which is troubling as the campaign is designed to be a social media campaign. Finally, the campaign ignores STEM careers in the academic and government sectors. Instead, it relies almost exclusively on corporate campaign partners.

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