



Countering Gender Bias in the Media

by Mary Lightbody

The importance of creating an equitable learning environment that stimulates and appeals to both female and male students has been addressed in numerous issues of *Science Scope* and elsewhere for longer than I have been teaching. This issue of equity has retained its importance over time and requires persistent vigilance as the constant barrage of media continues to deliver a ubiquitous message: Women are able to achieve and contribute less than men, particularly in areas requiring knowledge and skills based in mathematics, science, and technology.

Hopefully you disagree with that message; but do you know how your students feel? All too frequently the media depicts girls and women (or individuals of color, or those with disabilities) in less than equitable situations. Pick up a magazine and do a quick tally: How many females do you see in pictures or images? How many men? What ratio of men to women is consuming? What ratio of women to men is producing? What work are they doing, and are the men working while the women watch, or vice-versa? Now look at the magazine itself—to whom is it marketed? What products are advertised? Who has the more powerful and active roles depicted in the pictures, and how do the images in the magazine relate to the targeted audience?

What does all this mean to you, the middle school science teacher with classes full of impressionable young women and men? What message does the media portray to your students about the roles of men and women in our society, and does it carry over into your classroom? Do you need to do anything about it, and if so, just what exactly?

Research on equity in science education offers some answers. The *National Science Education Standards'* Program Standard E states, "All students in the K–12 science program must have equitable access to opportunities to achieve the *National Science Education Standards'*" (NRC 1996). This statement indicates that our efforts in the classroom need to extend to "those who traditionally have not received encouragement and opportunity to pursue science—women and girls, students of color, students with disabilities, and students with limited English proficiency."

Research studies have found that boys and girls show similar achievement levels in mathematics and science until sixth grade. At this point, a gender gap appears, and girls' attitudes towards and achievement levels in math and science begin to decline. As girls continue through school, they take progressively fewer

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high school electives in these subjects and many girls lose interest in them by the eleventh grade (Jones et al. 1992). In the United States, women make up approximately 50 percent of the work force, yet only 9 percent are employed as scientists and engineers (Kahle). The situation is serious and needs attention.

Many middle school science teachers display posters of female and minority scientists in their classrooms. Some invite a female or minority scientist as a guest speaker. A few teachers help their female and minority students find mentors and role models in scientific fields. These activities may not be sufficient to counter the popular culture and the constant media barrage our students face.

Consider this: As a middle school science teacher, you work with students at a pivotal phase in their lives. Many go through puberty during their middle school years and seem to grow up overnight. Yet, fortunately, middle school students remain open to honest discussions of equity, attitudes, and beliefs, given an opportunity to address the issues. They are ready to examine how media images influence their attitudes and beliefs, even though they may not have previously been aware of the media's effect. A little research with your students will help them examine their own perceptions and beliefs and provide a starting point for the discussion.

In the spirit of the *National Science Education Standards*, I propose an inquiry activity using media clippings. Collect a number of pictures and images from newspapers, magazines, print materials, and even video clips from television shows or commercials. Take a picture of a billboard. Look for images on the Internet. Each picture or image should show one person who is working or engaged in an activity. Try to maintain a 50:50 ratio of females to males in the collection and make it as varied as possible. You could set the collection up as a museum display in the media center, which may allow you to include several video clips. Have students rotate through numbered exhibits, either by assigning a starting place or by having students select a station at random. If your school's media

specialist can work with you, small student groups could view the exhibit for part of a class period while you work with the rest of the class in your room. Have your students individually answer the following questions about each picture, image, or clip in the collection:

- Where does this person work?
- What is the person's occupation?
- What kind of math is used in this occupation?
- What kind of science is used in this occupation?
- Does this person have a family?
- How many people are in her or his family?
- What does the person do for fun?

When all the students have seen the exhibit, begin a discussion of the images and students' answers. Have students work in pairs to share and compare their ideas at first, then hold a class discussion that focuses on those images that students found particularly controversial or thought-provoking. There may be several images in the collection that provoke more heated discussions than others; be sure to put these images on display during the class discussion. (If you have access to a projector, show the image under discussion on a screen in your room.) Have students look for similarities and differences in their answers. Toward the end of the period, have students write their reflections about the activity and discussion in their journals. Ask them to explain what they learned about themselves and about their classmates.

On another day, continue the discussion by asking students to look through the pictures and images in your science textbook or curriculum resource. Find some older science texts if you can and have some students look through them for comparison with more modern versions. Who is doing the experiment or activity? Who is watching others do the experiment? Who is taking the lead in the activities? How many people of color or with disabilities are shown? What conclusions can your students draw from this research? Ask them to record their analyses and conclusions in their journals.

Later, you could expand the dialogue by examining how the general media stereotypes people—male and female—when it depicts

science activities and careers. Students should look for images or text in the magazines they read at home, in the school library, or in the line at the grocery store. They can look in newspapers, advertisements, television shows and commercials, or on the Internet. Have your students bring in clippings of images, pictures, or headlines showing stereotypical activities and create a bulletin board. Your goal is to show examples of non-equitable portrayals of people of color, those with disabilities, or women and girls. Ask students what the image would be like if the person depicted in it were the opposite sex or a different race. Would they feel the same about the image or different in some way?

Our goal as science teachers should be to expose stereotypes, help students learn to recognize them, and encourage students to move past them to see each individual's strengths, interests, and characteristics. You have a particularly strong opportunity to make a difference in your female students' lives. They are moving into and through a critical developmental period and may care more about self-image than at any other time in their lives. They can be particularly influenced by the expectations (perceived and real) of adults and society, and that message may not be encouraging.

You can directly involve girls in science activities and demonstrate equal treatment in science classrooms to ensure that all students have access to learning experiences. You can help girls see how science connects to their lives. You

can provide informal academic counseling to encourage them to continue taking science and math classes as they progress through school. You have a chance to provide career information to open girls' eyes to a broader horizon than they had imagined for themselves.

Continuing to bring equity of opportunity and experience to your classroom will provide the structural support girls who are interested in science will need to withstand the barrage of pressure they will encounter throughout their lives. The activities described here can help diffuse the media's insidious message and provide a strong countering influence. Surely there should be no limits to the potential achievements of both the female and male students in our middle school classes.

References

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- Kahle, J. Encouraging girls in science courses and careers. www.educ.sfu.ca/narstsite/research/encourage.htm.

Resources

- Skolnick, J., C. Langbort, and L. Day. 1982. *How to encourage girls in math and science: Strategies for parents and educators*. Palo Alto, C.A.: Dale Seymour Publications.
- WEEA Equity Research Center. *Engaging middle school girls in math and science*. Online course, available through edc.blackboard.com.