What the Research Shows

Despite the number of women in science and engineering (S&E) occupations or with S&E degrees increasing steadily over the past two decades, a gender gap continues to persist in the United States. Women of all racial and ethnic groups, especially Hispanic and Asian women, are reflected in these increases; however, women from groups historically underrepresented in STEM continue to be significantly underrepresented in the STEM workforce\(^1\).

Although they make up half of the U.S. college-educated workforce, women hold less than 30% of STEM jobs\(^1\). Women who are employed in S&E occupations are concentrated in different areas than men, with relatively low proportions in engineering, physical sciences, and computer and mathematical sciences\(^1\). Minority women comprise fewer than 1 in 10 employed scientists and engineers\(^2\). The graph below shows the comparison of women and men in STEM professions in 2015.

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For the United States to remain competitive in STEM fields and to prepare our girls for the future workforce, we must close the gap. It is important to recognize that girls and boys do not display a significant difference in their abilities in mathematics and science; rather, the cause for the gender gap in STEM is social and environmental \(^3, 4, 5, 6, 7\). Research shows that girls start losing interest and confidence in STEM during middle school and this decline often continues as they get older\(^6, 8\).

This is where **SciGirls** can help. It is important to spark and strengthen girls’ interest and confidence in STEM subjects before high school, when girls are deciding what kind of person they want to be\(^4, 9\). The **SciGirls** videos, combined with our girl-centered, inquiry-based activities and a community-focused website, can foster girls’ interest in STEM and shape their attitudes toward these fields. **SciGirls** welcomes girls from all experiences. We do not discriminate based on gender identity, gender expression, or sex assigned at birth. **SciGirls** resources, which are culturally relevant to all girls can advance gender sensitivity among educators. With this awareness, educators can recognize and avoid the unconscious behaviors that often contribute to climates unfavorable for youth in STEM classrooms or activities.

**Meeting the Challenge**

**SciGirls** empowers you to create a more gender equitable and culturally responsive learning environment that inspires, engages, and helps girls thrive in STEM. We know that eliminating the gender gap is challenging work; even convincing administrators, parents, or fellow staff of the importance of this mission can be hard. For help beyond the research outlined here, please see our suggested readings on page 17. Your efforts will not only help girls, but will improve the general climate in your educational setting and level the playing field for all learners. For more information on the importance of STEM encouragement and for tips on how you can help, please see scigirlsconnect.org.
Developing a STEM Identity: I see myself as a science person!

Research suggests that developing a STEM identity is an important factor in girls choosing to participate in STEM courses, activities, and potentially careers. STEM identity refers to a person’s sense of who they are, want to be, and what they believe they are capable of in relation to STEM. Girls’ STEM identity development is dependent upon factors like interest, knowledge, self-confidence, performance, and recognition.

SciGirls Strategies are designed to instill confidence and persistence, and to motivate girls to develop a STEM identity during a crucial time in their academic and personal growth. The middle school years are when girls are deciding “what kind of girl to be” and figuring out desired versions of their future selves. This is when educators can help girls overcome barriers and push against stereotypical views to develop strong STEM identities. The identities girls develop are shaped by how they see themselves and how others see them in multiple spaces including in-school and out-of-school, social, and home/family across intersecting cultural characteristics including gender, race, ethnicity, and class, and in relationship to concepts of femininity that are congruent with ideas of warmth, sensitivity, cooperation, and the need for belonging. When a girl sees STEM as something that represents her interests, she has confidence in her abilities, and can embrace and celebrate the differences which make her competitive in STEM.