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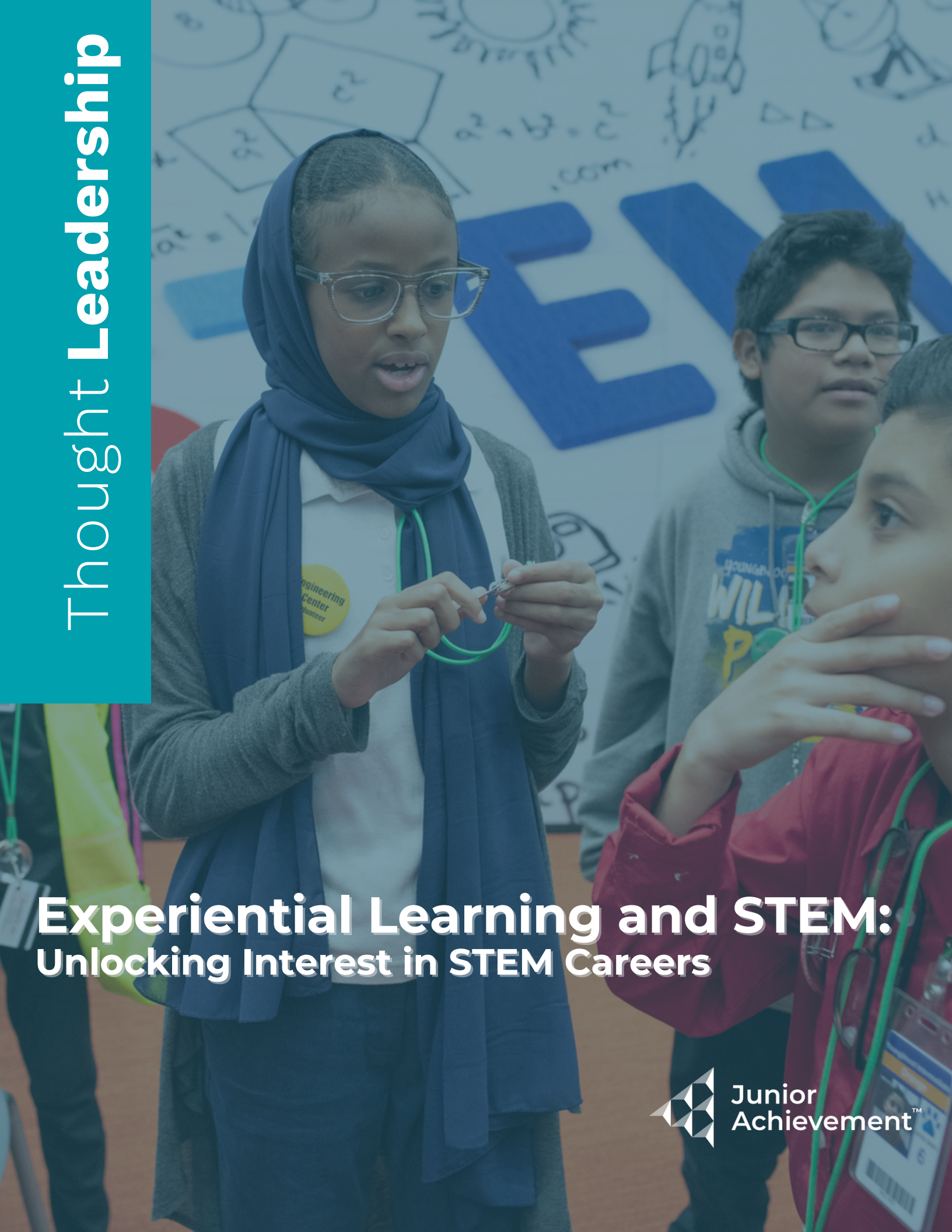
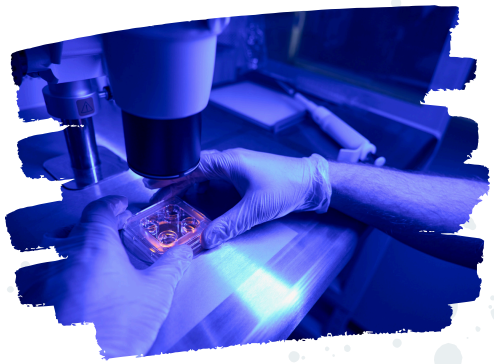


Experiential Learning and STEM:
Unlocking Interest in STEM Careers

Junior Achievement™

The Growing Need for STEM-Related Professionals

According to the Bureau of Labor Statistics, demand for STEM-related jobs will continue to be high in the coming years. The staffing company Adecco notes that there will be more than 11 million new STEM-related jobs that will need to be filled by the year 2030. Unfortunately, the pipeline to fill such jobs is not keeping up. For example, the number of jobs in the semiconductor industry is expected to increase by 33 percent be the end of this decade, yet as many as 58 percent of positions could go unfilled.



Despite the growing demand for qualified workers in the STEM fields, a survey of teens conducted for Junior Achievement by the research firm Big Village in September 2023 showed that only 10 percent of teen girls would want a job in a non-medical STEM profession, such as robotics or computer coding, after they graduate. The same survey also shows boys' interest in STEM careers has declined in recent years.

The challenges around STEM are reflected in the test scores of American high school students. For instance, the US lags much of the industrialized world in science and math test scores. Additionally, only about one in five high school graduates is prepared to do college-level work associated with STEM majors.

Many factors contribute to students' disinterest in STEM, according to Author and industrial designer Zainab Mohammed, and numerous other sources. These include:

- **Perceived Difficulty:** STEM subjects may be seen as too hard by many students.
- **Lack of Interest and Relevance:** Many STEM occupations may seem abstract or too far removed from daily life for students.
- **Teaching Quality and Resources:** Educators teaching STEM may not be well prepared and the approach to teaching may be too academic for students.
- **Peer Influence and Social Factors:** Students' peers may share negative perceptions about those interested in math and science.
- **Lack of Awareness and Guidance:** Students may not have a clear understanding of how STEM careers align with their talents or interests.

Our Response

The use of experiential learning and STEM professionals as role models are seen as effective ways of creating a more engaging environment for students. Junior Achievement specializes in this approach, giving students real-world context to STEM concepts. This helps students better understand STEM opportunities, making them less abstract and seeing the full spectrum of STEM careers, many of which might align with students' talents and interests. Because these activities are done in a group setting, they can offset potential peer dynamics while also offering enriched learning experiences for educators to deliver lessons in a different and dynamic way.

Since JA learning experiences utilize volunteers from the community, STEM professionals can serve as role models for students. Research by the International Journal of STEM Education shows it's especially impactful to involve diverse STEM professionals in these opportunities. The JA volunteer model lends itself to bringing these kinds of volunteers and students together. JA learning experiences also encourage dialogue and career exploration so that students understand the pros and cons of each field and which one might make the most sense given their talents and interests.

What the Research Says

Our approach is demonstrated to give students the tools they need to increase their chances of achieving career and work success.

According to research by Ipsos, 4-in-5 JA Alumni credit Junior Achievement for:

- Influencing their decisions about further education
- Impacting their professional and personal development
- Affecting their self-confidence and belief-in-self
- Motivating them to succeed professionally

Additionally:

- Five of the top 6 professions JA Alumni report working in are among the Top 5 fastest growing career fields, including computer science and engineering.
- 73 percent of Junior Achievement Alumni who graduated college say they work in a field they studied in college. Research by the Federal Reserve Bank of New York shows that only 27 percent of college graduates say the same.