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The vision of future generations towards STEM education: Impact of a tech summer camp

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Abstract-

STEM professions, which encompass science, technology, engineering, and mathematics, are crucial for the labor market and society. The demand for these professions has increased in recent years due to the pervasiveness of technology in daily life. Thus, fostering a positive attitude toward STEM among children and young is essential. This study aims to analyze the attitudes of boys and girls aged 9 to 17 toward STEM education after attending a series of courses at a Tech Summer Camp. It also examines whether attitudes differ by sex and age. A cross-sectional quasiexperimental pretest-post-test design with a quantitative methodology was used to collect and analyze data. Unlike findings from Spanish schoolchildren, our sample displayed more positive attitudes toward STEM education with increasing age. However, younger participants showed the greatest improvement in their perception of the usefulness of science, attributable to their experiences at the Tech Summer Camp. Regarding sex, no significant differences were observed across most dimensions, except in usefulness and liking, where females excelled. There is a clear need to promote such activities at an early age, particularly for girls. The study confirms that attending technology-focused camps in an informal educational setting enhances attitudes toward STEM education, especially among younger children.

Index Terms- STEM education, informal learning, attitudinal measurement

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