STEM and teens: An algorithm bias on a social media
PRELIMINARY VERSION, DO NOT QUOTE

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Abstract

We study whether online platforms might reproduce offline stereotypes of girls in the STEM disciplines. For this purpose, we estimate the effect of ad distribution via a field experiment by setting up a randomized online ad campaign on a popular social media platform on behalf of a French computer science engineering school. The treatment aims to estimate whether a message aimed at prompting girls is displayed to girls more than to boys. The ad campaign targeted students in high schools in France. The article contributes to work that aims to shed light on the possible biases generated by algorithms. Our results show that on average, girls are less likely to see the ad than boys; this difference in the number of impressions is not attributable to difference in ad costs between girls and boys. The treatment ad which was aimed to display to more girls had a crowding-out effect, since overall, it was displayed less to both boys and girls.

Keywords: Gender-gap, discrimination, algorithm bias, STEM education.
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