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## Qualitative assessment of the interest in science by high school students who participated in the Italian Masterclasses during, before and after the Covid-19 pandemic.

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This study is based on a survey conducted during the International Masterclasses days taken place in almost all the Italian Universities during, before and after the Covid-19 pandemic. About 1400 students per year, mostly enrolled in scientific high schools, performed data analysis using real data collected at high energy physics experiments (ALICE, ATLAS, Belle II, CMS, LHCb), about 100 students per year familiarized with the actual operation technique used for cancer treatment employing x-rays (Particle Therapy). The students used the computing centers of their closer University or worked at home using their own PC during the Covid-19 pandemic. A sample of 213 students participated in the survey in 2018, 400 students answered to the questions at the remote edition of 2021 and 138 students participated in the survey in 2022.

Answers show a constant and significant appreciation in the activity with 98% of positive rating and 70% of the very positive rating. The comparison between the three different years showed a progressive decrease of interest in physics from 65% to 57% and a small decrease of interest in a technical or scientific profession or a research profession in “hard” science matters from 86% to 83%. The reasons of the negative interest in science changed significantly: search of a greater income decreased from 40% to 12%, the feeling of inadequacy increased from 40% to 70%.

The significance of this survey is not easy to be estimated considering only 5% of students of all the fourth and fifth grades of their institute participated on a voluntary basis in this activity.

The worrisome aspect of the decreased interest in physics is that the sample consists of students enrolled in scientific high schools available to follow an optional activity mainly focused on the frontiers of research in physics.

### In-person participation

Yes

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