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**The role of recognition and interest in physics identity development**

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While the number of students earning bachelor's degrees in physics has increased in recent years, this number has only recently surpassed the peak value of the 1960s. Additionally, the percentage of women earning bachelor's degrees in physics has stagnated for the past 10 years and may even be declining. We use a physics identity framework consisting of three dimensions to understand how students make their initial career decisions at the end of high school and the beginning of college. The three dimensions consist of recognition (perception that teachers, parents, and peers see the student as a "physics person"), interest (desire to learn more about physics), and performance/competence (perception of abilities to complete physics related tasks and to understand physics). Using data from the Sustainability and Gender in Engineering survey administered to a nationally representative sample of college students, we built a regression model to determine which identity dimensions have the largest effect on physics career choice and a structural equation model to understand how the identity dimensions are related. Additionally, we used regression models to identify teaching strategies that predict each identity dimension.