**Values Affirmation**

*Excerpted from Aguilar, Lauren, Greg Walton, and Carl Wieman (2014). Psychological Insights for Improved Physics Teaching. Physics Today, v. 67, n. 5, pp. 43-49.*

Like the social-belonging intervention, the values-affirmation intervention is designed to address the effects of negative stereotypes. This intervention gives students a structured opportunity to reflect on personal values that are important to them—artistic pursuits or relationships with friends and family, for example—and provides a sense of belonging, worth, and identity. Having personal values in mind reinforces for students that they are more than negative stereotypes. By putting slings and arrows in a broader context, values-affirmation interventions help students to cope more effectively, focus on their work, and achieve.

In such an intervention, students take a few opportunities during the term, either in class or as homework, to write about values important to them. In multiple trials, values-affirmation interventions have raised ethnic-minority adolescents’ school achievement, sometimes lasting for as long as two years.[10](https://physicstoday.scitation.org/doi/full/10.1063/PT.3.2383)

In a different study, students in an introductory physics course spent 10–15 minutes writing about their values on the first day of class and then briefly as part of a homework assignment shortly before the first exam.[11](https://physicstoday.scitation.org/doi/full/10.1063/PT.3.2383) Remarkably, as shown in figure [3](https://physicstoday.scitation.org/doi/full/10.1063/PT.3.2383), those brief assignments, apparently unrelated to physics, cut the gender gap in course test scores by 60%. The beneficial effects were most evident among women who endorsed the stereotypical belief that women are less capable of doing physics than men, a finding that suggests the affirmation exercise buffered those women from the stress associated with the fear of confirming negative stereotypes about their gender.

References cited within Aguilar et al., 2014:

10. G. L. Cohen *et al.*, Science **324**, 400 (2009).

11. A. Miyake *et al.*, Science **330**, 1234 (2010).

**Intervention method**

*from Miyake, A., Kost-Smith, L. E., Finkelstein, N. D., Pollock, S. J., Cohen, G. L., & Ito, T. A. (2010). Reducing the gender achievement gap in college science: A classroom study of values affirmation. Science, 330(6008), 1234-1237.*

The values affirmation and control exercises closely followed procedures developed and validated in prior research (S10, S11). Students in each writing condition received a three-page packet. The first page listed 12 values: being good at art; creativity; relationships with family and friends; government or politics; independence; learning and gaining knowledge; athletic ability; belonging to a social group (such as your community, racial group, or school club); music; career; spiritual or religious values; and sense of humor. The values were similar to those used in past research (S10, S11), though modified somewhat for the present sample, and were selected to represent a range of values that students may or may not endorse. We avoided values that explicitly dealt with science and math. Students in the affirmation condition were instructed to circle the two or three values most important to them, whereas students in the control condition were instructed to circle the two or three least important values.

Through a series of structured prompts, the second page of the packet instructed students to describe in a few sentences either why the selected values were important to them (affirmation condition) or why they might be important to someone else (control condition). To decrease evaluation apprehension, students were told to focus on their thoughts and feelings, without worrying about spelling and grammar or how well written their answer was. Lines were provided on two thirds of the page for students to provide their answer. The final page reinforced the manipulation by asking students to again look at the values they had selected earlier. They were then asked to list either the top two reasons why these values were important to them (affirmation condition) or the top two reasons why these values 7 might be picked as important by someone else, such as another student at their school or a person they have heard about (control condition). To further encourage reflection about the values, the third page ended by asking students to indicate their agreement with several items using numerical scales (e.g. In general, I try to live up to these values in the affirmation condition vs. In general, some people try to live up to these values in the control condition).

A second administration of the writing exercise was delivered shortly before the first midterm exam (week 4) via a regular, weekly online homework assignment.