UNIVERSITY OF OREGON | HEDCO Institute

School-based strategies to improve children's self-beliefs

An overview of meta-analyses exploring school-based interventions for self-beliefs

Jansen and colleagues, 2024

This report summarizes findings from: "Who Am I? A Second-Order Meta-Analytic Review of Correlates of the Self in Childhood and Adolescence "

Thorben Jansen - Institute of Psychology of Learning and Instruction and Leibniz Institute for Science and Mathematics Education, Kiel University
Jennifer Meyer - Leibniz Institute for Science and Mathematics Education, Kiel University
John Hattie - Melbourne Graduate School of Education, The University of Melbourne
Jens Möller - Institute of Psychology of Learning and Instruction, Kiel University

Jansen, T., Meyer, J., Hattie, J., & Möller, J. (2024). Who am I? A second-order meta-analytic review of correlates of the self in childhood and adolescence. *Psychological Bulletin*, 150(11), 1287–1317. https://doi.org/10.1037/bul0000449

This pamphlet was produced by:

The HEDCO Institute for Evidence-Based Educational Practice
College of Education | University of Oregon

Designed by: Joe Golfen and Elizabeth Day, HEDCO Institute for Evidence-Based Educational Practice

Recommended citation: Day, E. & Golfen, J. (2025). School-based strategies to improve children's self-beliefs. HEDCO Institute for Evidence-Based Educational Practice. hedcoinstitute.uoregon.edu/reports/school-beliefs https://doi.org/10.17605/OSF.IO/7BC8Z

Why do self-beliefs matter?

Self-beliefs, or the ways people evaluate themselves, are related to a multitude of important life outcomes. These include motivation,[1] learning,[2] academic achievement,[3] health,[4] careers,[5] and life satisfaction.[6]

Self beliefs: the ways people evaluate themselves; also called self-worth, self-esteem, and self-efficacy

Childhood and adolescence are crucial periods of self-belief development.

Self-beliefs are formed across the lifespan, but childhood and adolescence are particularly important time periods for belief development and refinement.

Predictors

- Differential susceptibility
- Early life adversity
- Genetic predispositions
- Social experiences
- Temperament

Childhood and Adolescence

During this developmental time period, youth are experiencing perspective-taking, social comparison, and self-concept clarity and appraisal.

Outcomes

- Personal and social identity
- Sense of well-bring
- Social relationships

UNIVERSITY OF OREGON | HEDCO Institute

Given the amount of time youth spend in schools across the K-12 years, schools are an important environment for shaping self-beliefs.

Programs in this review included those targeting students and those targeting school and classroom structures.

Student programs focused on:

Targeting self-beliefs directly

- Programs that teach students about self-beliefs

Psychological factors

- Social and emotional learning
- Social competence training

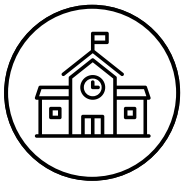
Physical activity

- Resistance training
- Yoga

Classroom and school changes focused on:

Classroom structure

- Individualized instructional strategies
- Mentored group work



School structure

- Implementing single-sex classrooms
- Offering bilingual education

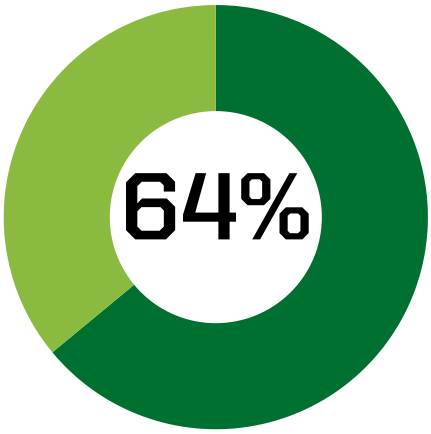
Technology

- Providing calculators to improve math self-beliefs
- Offering simulation games

What strategies improve self-beliefs for K-12 students?

Interventions focused on students had larger effects on self-beliefs than those targeting classroom and school structures.

Interventions targeting personal outcomes

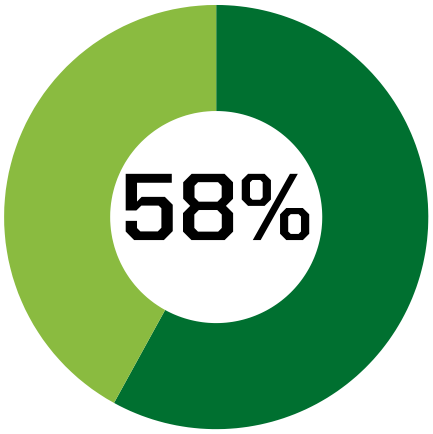


64% of the students in the interventions targeting personal outcomes were above the average for the control group

(self-beliefs, psychological factors, and physical activity)
SMD = 0.35, 95% CI [0.26, 0.43]

Interventions targeting classroom and school structures

58% of the students in the interventions targeting classroom and school structures were above the average for the control group



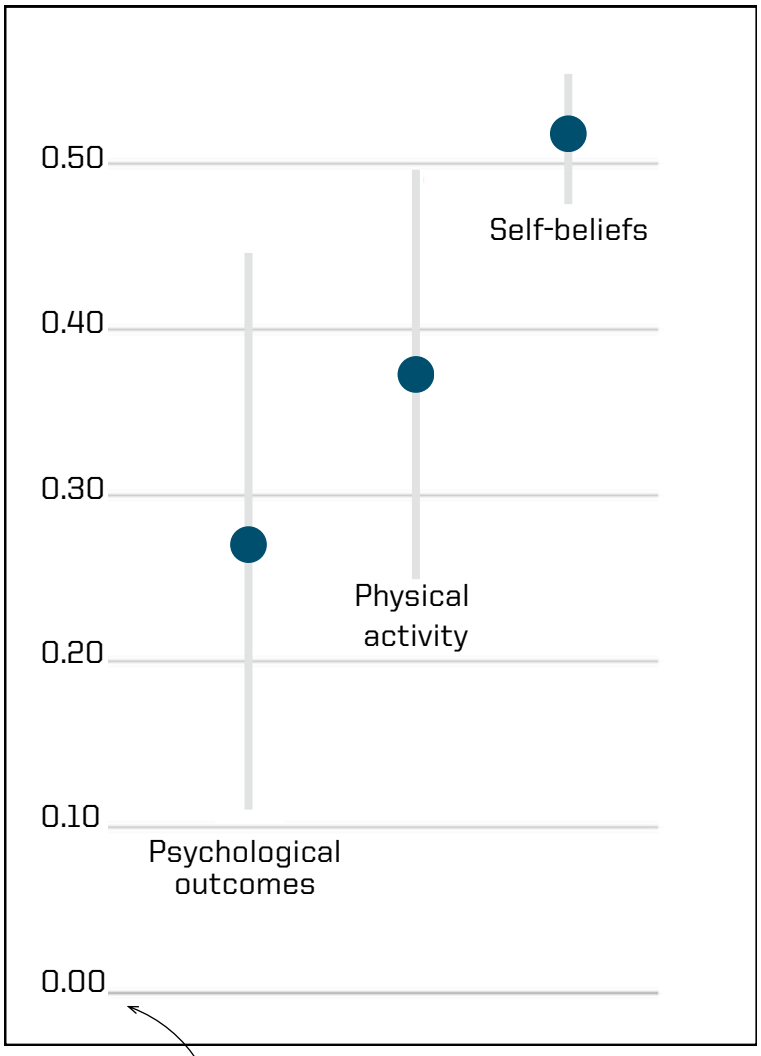
(classroom structure, school structure, technology)
SMD = 0.20, 95% CI [0.10, 0.29]

UNIVERSITY OF OREGON | HEDCO Institute

Interventions targeting personal outcomes were all beneficial on average.

Interventions targeting students' self-beliefs directly had the largest effects.

Impact on self-beliefs in standard deviation units



Standard Mean Difference

95% confidence interval

Self-beliefs
SMD = 0.52, 95% CI [0.48, 0.55]

Physical activity
SMD = 0.37, 95% CI [0.25, 0.49]

Psychological
SMD = 0.27, 95% CI [0.11, 0.44]

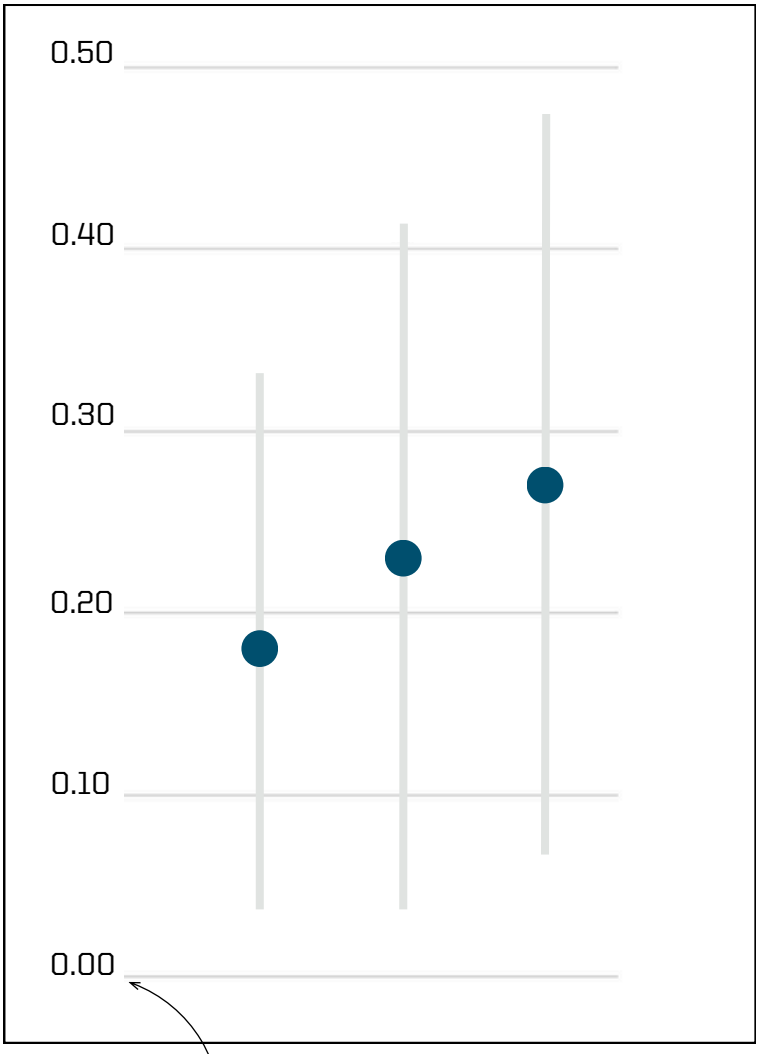
There was no evidence findings differed across elementary, middle, and high schools.

The "0" indicates "no effect," so all of these interventions had a positive effect on average

Interventions targeting school and classroom structures were all beneficial on average.

There was no evidence of differences in effects between the programs.

Impact on self-beliefs in standard deviation units



The "0" indicates "no effect," so all of these interventions had a positive effect on average

Standard Mean Difference

95% confidence interval

Classroom structure
SMD = 0.27, 95% CI [0.07, 0.47]

Technology
SMD = 0.23, 95% CI [0.04, 0.41]

School context
SMD = 0.18, 95% CI [0.04, 0.33]

There was no evidence findings differed across elementary, middle, and high schools.

The bottom line

Overall, school-based interventions of all kinds were beneficial for improving students' self-beliefs on average.

Interventions targeting students' self-beliefs directly had the largest effects: 70% of students in the program targeting self-beliefs were above the average for the control group.

Example program targeting self-beliefs directly:

SEE Educating the Heart & Mind LEARNING

SEE Learning

This free program has been shown to increase feelings of empathy for others, increase perspective-taking, and increase self-beliefs around school work. It has the highest rating from the CASEL Clearinghouse

SEE Learning is translated into 23 languages and was developed by Emory University. To learn more, visit: https://seelearning.emory.edu/en/home

For more evidence-based programs:

Visit these evidence-based clearinghouses where you can search and filter based on your school and student needs:

- CASEL Program Guide
- Blueprints for Healthy Youth Development
- Evidence for ESSA

Methods

Over 2 million students represented across studies

Additional Analyses
The authors tested the possible moderator effects of publication year, publication status, study design, and whether the sample only included children and adolescents during K-12 education. None of the characteristics had significant effects.

Limitations
Only a small number of meta-analyses investigated ethnicity and self-beliefs, thus limiting the authors' understanding of the impact of ethnicity on children's and adolescents' self-beliefs.

Locations where primary studies were conducted

Only half of meta-analyses reported where the sample of their primary studies came from.

In these meta-analyses locations included (one or more):

- North America (56%)
- Europe (22%)
- Asia (17%)
- Other continents (7%)

References:

1. Jansen, T., Meyer, J., Wigfield, A., & Möller, J. (2022). Which student and instructional variables are most strongly related to academic motivation in K–12 education? A systematic review of meta-analyses. *Psychological Bulletin*, 148(1–2), 1–26. https://doi.org/10.1037/bul0000354

2. Marsh, H. W., Seaton, M., Dicke, T., Parker, P. D., & Horwood, M. S. (2019). The centrality of academic self-concept to motivation and learning. In K. Renninger & S. Hidi (Eds.), The Cambridge handbook of motivation and learning (pp. 36–62). *Cambridge University Press*. https://doi.org/10.1017/9781316823279.004

3. Möller, J., Zitzmann, S., Helm, F., Machts, N., & Wolff, F. (2020). A metaanalysis of relations between achievement and self-concept. *Review of Educational Research*, 90(3), 376–419. https://doi.org/10.3102/0034654320919354

4. Warner, L. M., & Schwarzer, R. (2020). Self-efficacy and health. In R. H. Paul, L. E. Salminen, J. Heaps, & L. M. Cohen (Eds.), *The Wiley Encyclopedia of Health Psychology* (pp. 605–613). Wiley. https://doi.org/10.1002/9781119057840.ch111

5. Rigotti, T., Korek, S., & Otto, K. (2020). Career-related self-efficacy, its antecedents and relationship to subjective career success in a cross-lagged panel study. *International Journal of Human Resource Management*, 31(20), 2645–2672. https://doi.org/10.1080/09585192.2018.1460858

6. Extremera, N., & Rey, L. (2018). Core self-evaluations are associated with judgments of satisfaction with life via positive but not negative affect. Personality and Individual Differences, 130, 112–116. https://doi.org/10.1016/j.paid.2018.03.054

UNIVERSITY OF OREGON | HEDCO Institute

HEDCO Institute for Evidence-Based Educational Practice

College of Education | University of Oregon

The HEDCO Institute for Evidence-Based Educational Practice is dedicated to strengthening connections between research and practice in K-12 education in the United States.

Part of the University of Oregon's College of Education, the HEDCO Institute provides education leaders with relevant, accessible, and reliable information about the latest research so they can implement evidence-informed practices and policies.

hedcoinstitute.uoregon.edu

hedcoinstitute@uoregon.edu

linkedin.com/showcase/hedco-institute