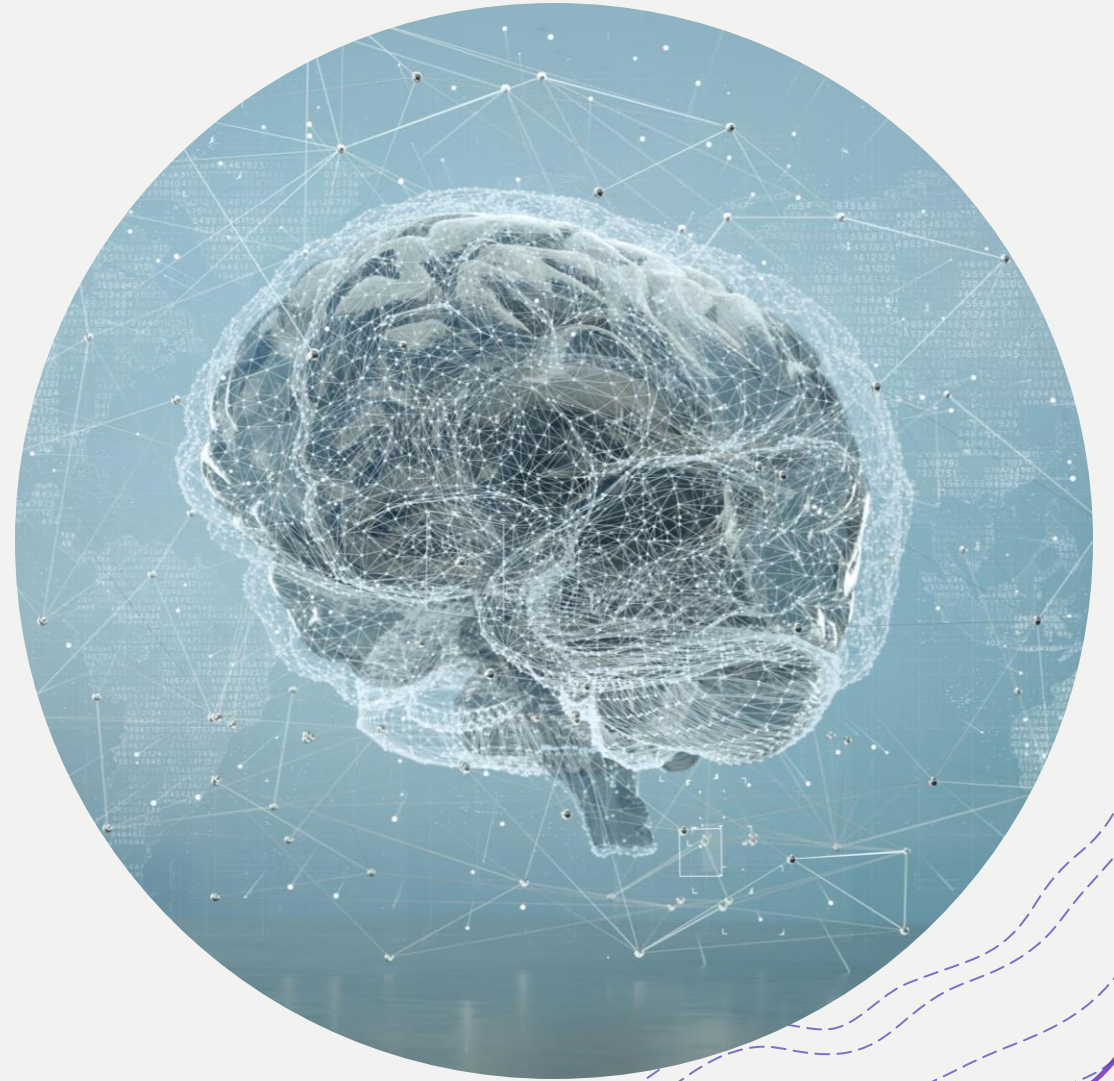


Intelligent Minds and Machines

PSYC 3043

Week 1: Cautionary tales



office hours

+ Tuesdays

+ 1-2 pm

+ 5-6 pm

+ Thursdays

+ 9-10 am

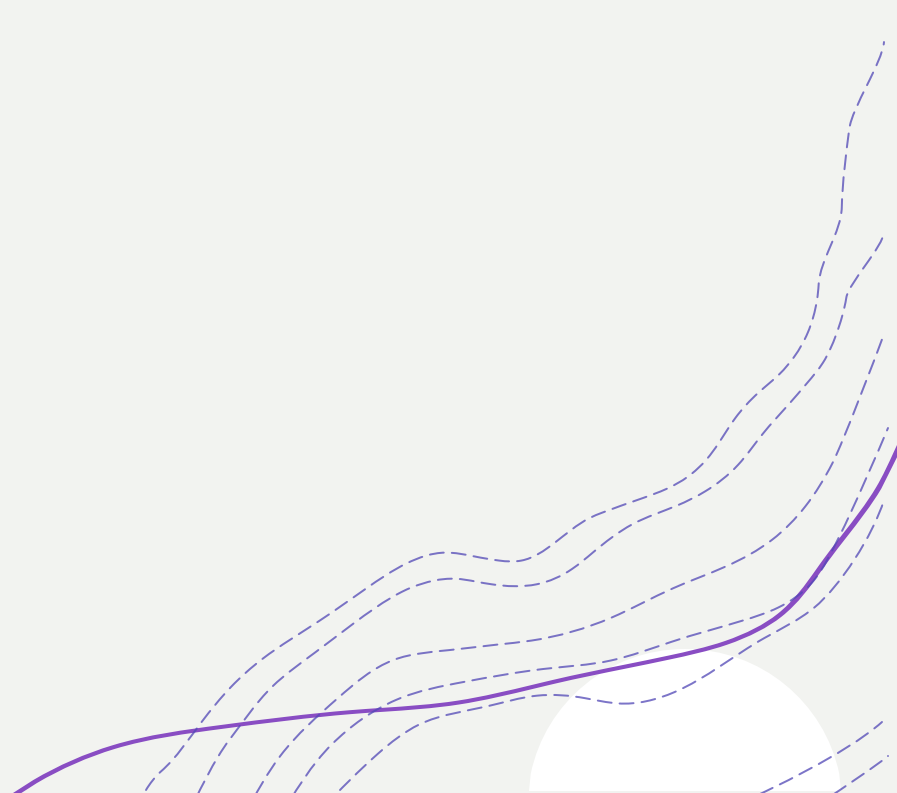
+ 4.20-5.30 pm

+ discussion leaders need to meet w/ me a week before



discussion schedule

+ three discussions (1 solo, two group)



today's agenda: cautionary tales

- + Yakushko discussion
- + Bain et al. discussion + activity

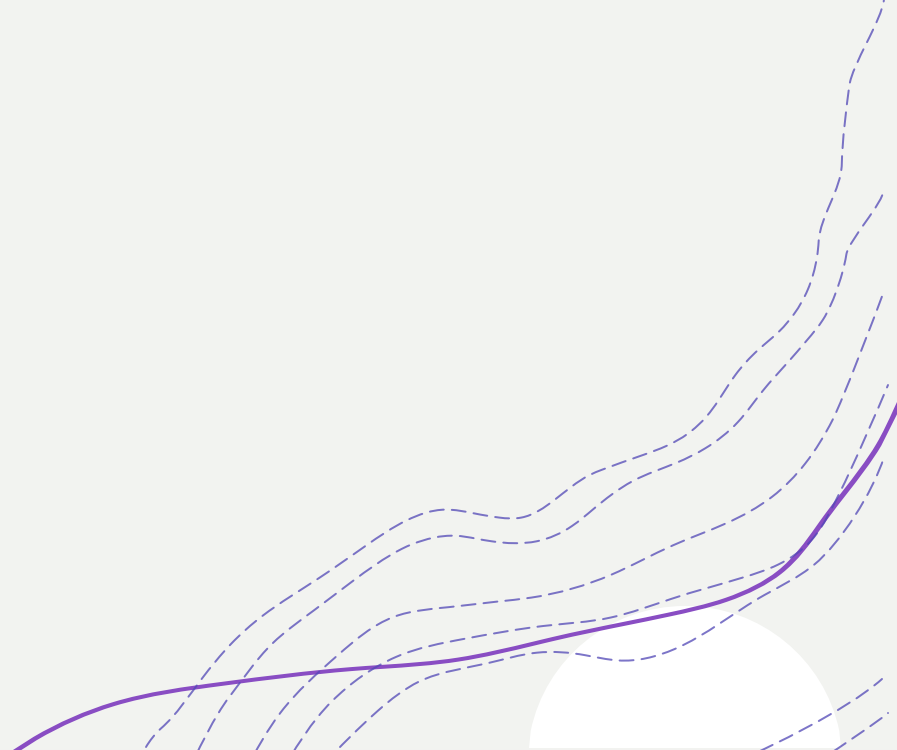
key themes/takeaways

- + socio-cultural influences on cognitive constructs
- + practical implications of these influences



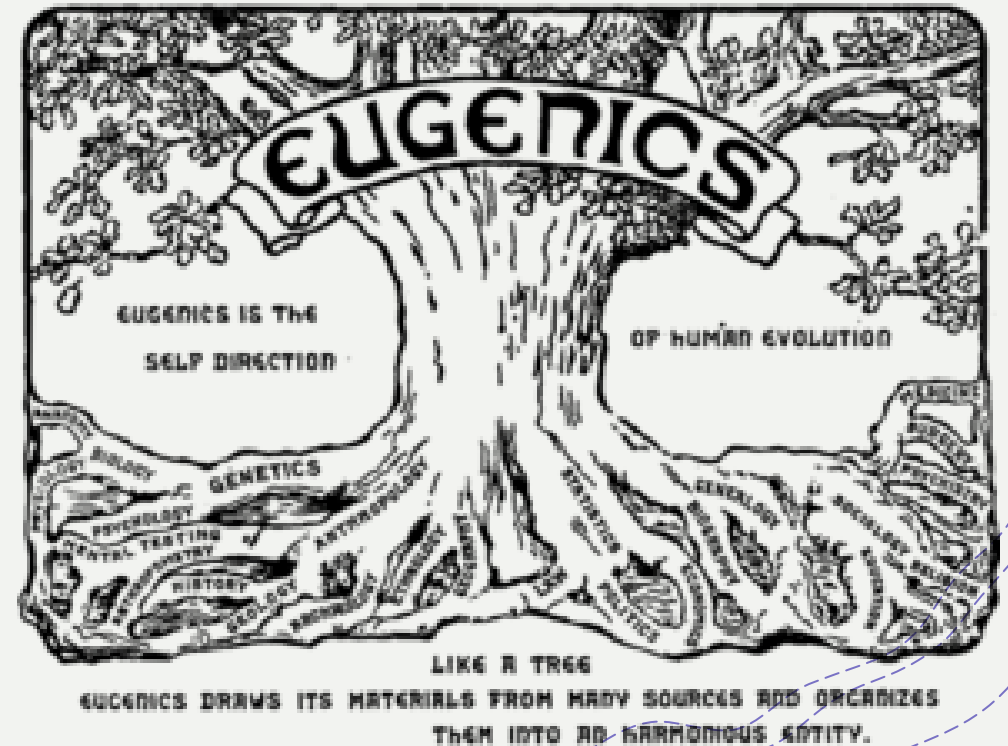
discuss

+what did you learn that was surprising/shocking?



what is eugenics?

- +an idea to “improve” society through the selective breeding of humans
- +a widespread, worldwide movement that perpetuated and institutionalized racism and white supremacy
- +led to many human rights violations

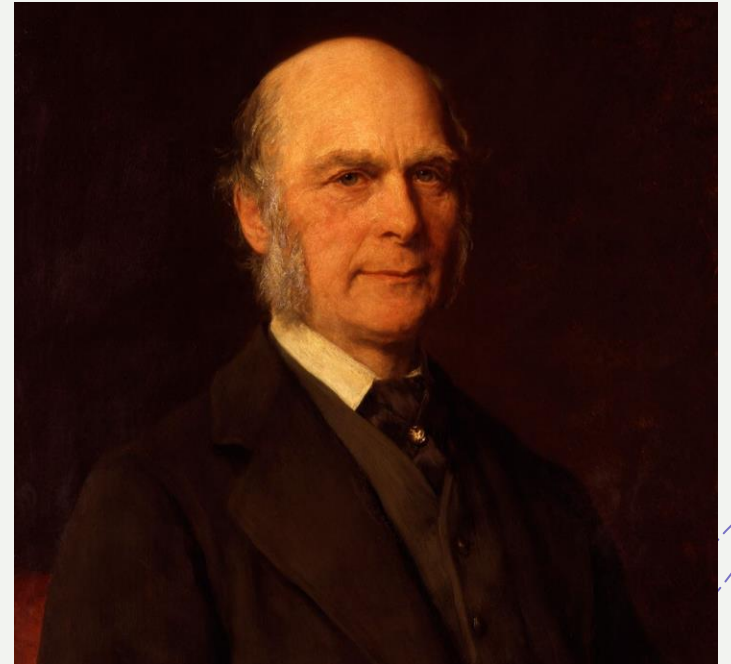


why are we talking about this?

- +many early psychologists were interested in **cognitive abilities** *because* they were interested in or part of the eugenics movement
- +to move forward, we must **acknowledge this past and learn from it**

Galton and eugenics

- + Galton's explorations into mental imagery had **hidden motives**
- + "The larger object of my inquiry is to **elicit facts** that shall define the natural varieties of mental disposition in the **two sexes and in different races**, and **afford trustworthy data** as to the relative frequency with which different **faculties are inherited** in different degrees"



broader **negative** consequences

- +Nazi propaganda and **war crimes**
- +forced **sterilization** and **institutionalization**
- +racial segregation and anti-miscegenation
- +IQ/standardized **testing**, **gifted** school programs
- +**employment selection** procedures

eugenics and psychology

- + Galton's anthropometric lab
- + legitimizing the study of people's abilities
 - + positive and negative eugenics
- + Karl Pearson (Galton's student)
- + known for inventing the correlation coefficient (Pearson's r) and Annals of Eugenics (now called Annals of Human Genetics)



Francis Galton's First Anthropometric Laboratory at the International Health Exhibition, South Kensington, 1884-5.



eugenics and psychology

- + The American Psychological Association (APA) and other prominent psychological organizations (e.g., APS) had several prominent eugenicists on their boards, as members, and even had/have awards that are named after them
 - + E.L. Thorndike Career Achievement Award (renamed)
 - + Granville Stanley Hall Award (renamed)
- + APA recently issued an apology for its complicity in perpetuating racism
- + psychology as a field legitimized eugenicist ideas by developing tests, tools, methods that were published in scientific journals

discussion time

- +how could they get away with it?
- +what can we do today?

brilliance = male stereotype

RESEARCH | REPORTS

WOMEN IN SCIENCE

Expectations of brilliance underlie gender distributions across academic disciplines

Sarah-Jane Leslie,^{1*} Andrei Cimpian,^{2*} Meredith Meyer,³ Edward Freeland⁴

The gender imbalance in STEM subjects dominates current debates about women's underrepresentation in academia. However, women are well represented at the Ph.D. level in some sciences and poorly represented in some humanities (e.g., in 2011, 54% of U.S. Ph.D.'s in molecular biology were women versus only 31% in philosophy). We hypothesize that, across the academic spectrum, women are underrepresented in fields whose practitioners believe that raw, innate talent is the main requirement for success, because women are stereotyped as not possessing such talent. This hypothesis extends to African Americans' underrepresentation as well, as this group is subject to similar stereotypes. Results from a nationwide survey of academics support our hypothesis (termed the field-specific ability beliefs hypothesis) over three competing hypotheses.

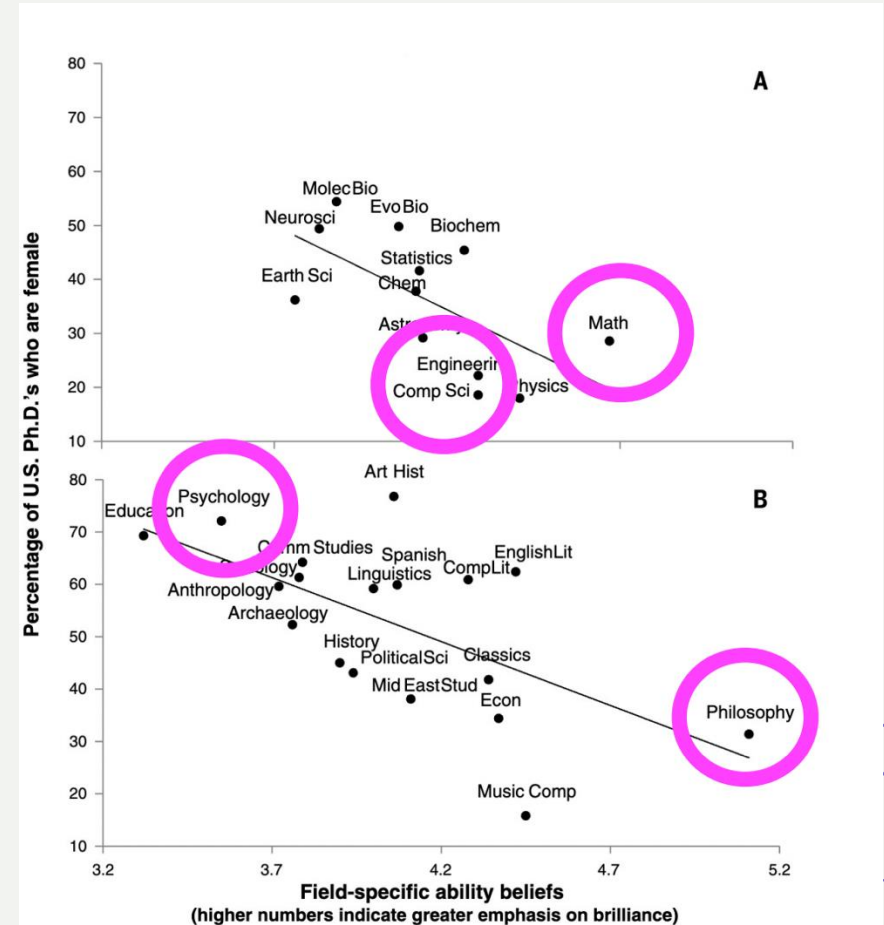


Fig. 1. Field-specific ability beliefs and the percentage of female 2011 U.S. Ph.D.'s in (A) STEM and (B) Social Science and Humanities.

supplementary materials

- + go to google scholar and search for the title of the article
- + find the official webpage for the article (science.org)
- + look for supplementary materials & download

the studies and tasks

+study 1

- +task 1: brief story about a “really, really smart/nice” person

- + asked to pick one adult out of 4 (2 men/ 2 women)

- +task 2: two pictures at a time

- + asked to pick the “really, really smart” adult

- +task 3: puzzle (2x4)

- + Row 1: faces

- + Row 2: smart, nice, heel, hammer

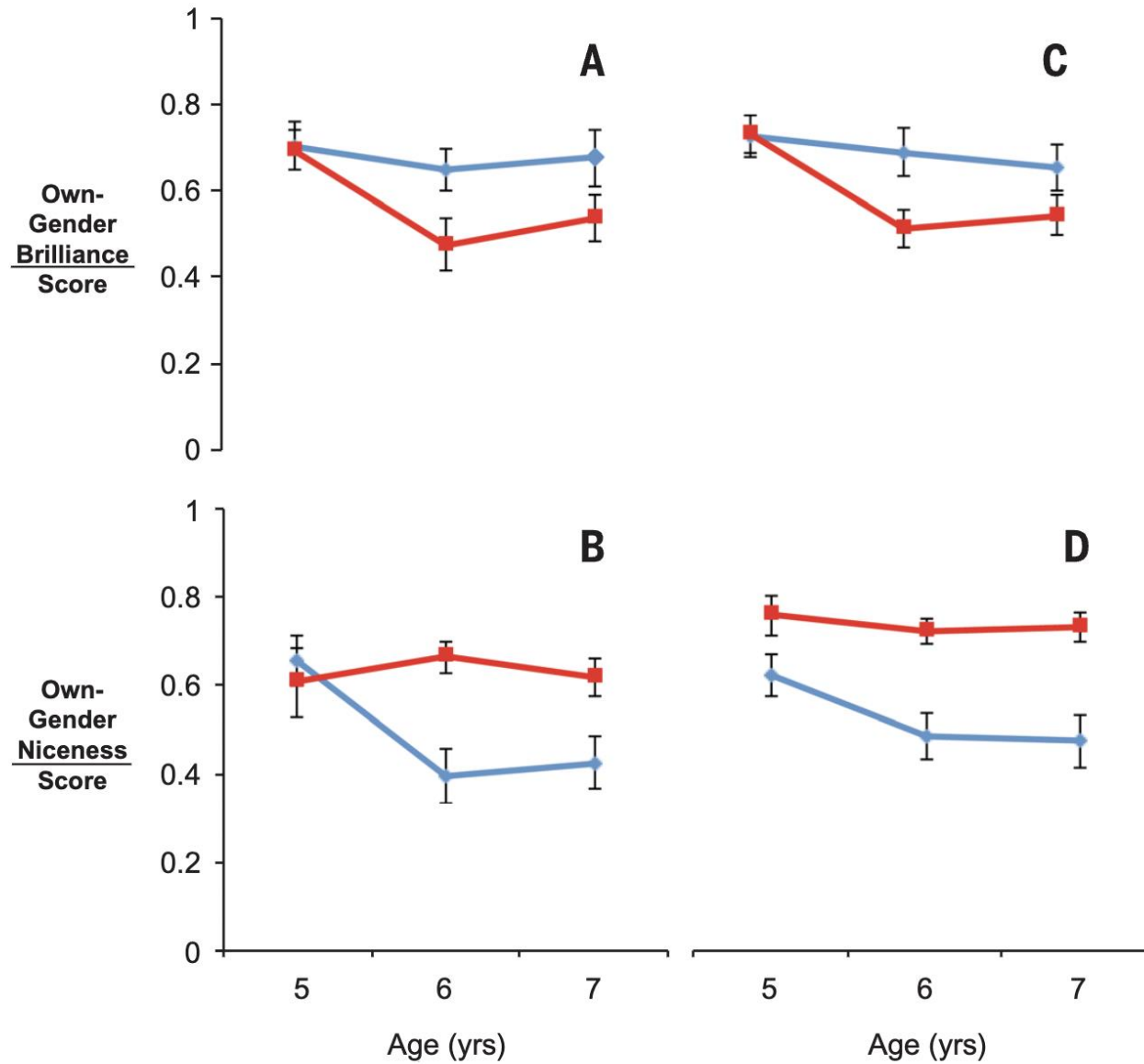
- +study 2: same but also with faces of boys & girls + school achievement questions

Table S1

The Gender-Neutral Stories Used to Assess Children's Stereotypes in Studies 1 and 2

	Story about an Adult (Study 1)	Story about a Child (Studies 1 and 2)
Trait: Smart	<p>There are lots of people at the place where I work. But there is one person who is really special. This person is really, really smart. This person figures out how to do things quickly and comes up with answers much faster and better than anyone else. This person is really, really smart.</p>	<p>When I was your age, there were lots of children at the kindergarten where I went. But there was one child who was really special. This child was really, really smart. This child learned things very quickly and could answer even the hardest questions from the teacher. This child was really, really smart.</p>
Trait: Nice	<p>There are lots of people at the place where I work. But there is one person who is really special. This person is really, really nice. This person likes to help others with their problems and is friendly to everyone at the office. This person is really, really nice.</p>	<p>When I was your age, there were lots of children at the kindergarten where I went. But there was one child who was really special. This child was really, really nice. This child shared their toys with everyone else, and really cared about the other kids. This child was really, really nice.</p>

Fig. 1. Results of studies one and two. Boys' (blue) and girls' (red) stereotype scores in study one (**A** and **B**) and study two (**C** and **D**), by age group (5- versus 6- versus 7-year-olds). Error bars represent ± 1 SE.



study 3

+ two games (for really, really smart or hardworking children)

Table S4

The Games Used to Assess Children's Interest in Studies 3 and 4

Zarky

I want to tell you about this game that I ask children to play sometimes. It's called Zarky, and it's a lot of fun. In this game, what you have to do is to bring the red pieces from this side to this side, one piece at a time, without going in a straight line and without getting them stuck in between the blue pieces. Oh, and here is something else about the Zarky game, and this is important so make sure you're paying attention. This game is not for everyone. It's only for children who are really, really smart [who try really, really hard]. Only smart [hardworking] children can be good at this game.



Impok

I want to tell you about this game that I ask children to play sometimes. It's called Impok, and it's a lot of fun. In this game, what you have to do is to figure out how to get the big pyramids next to each other in the black squares and get the small pyramids next to each other in the white squares in only ten moves and without crossing the grey squares. Oh, and here is something else about the Impok game, and this is important, so make sure you're paying attention. This game is not for everyone. It's only for children who are really, really smart [who try really, really hard]. Only smart [hardworking] children can be good at this game.

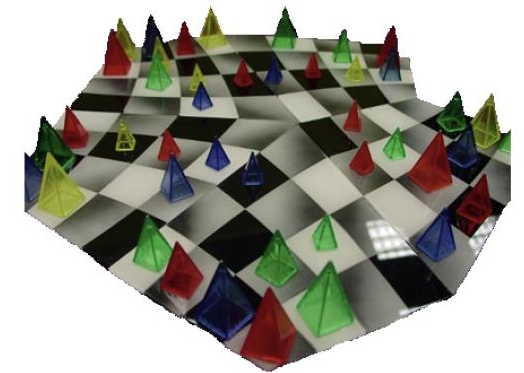
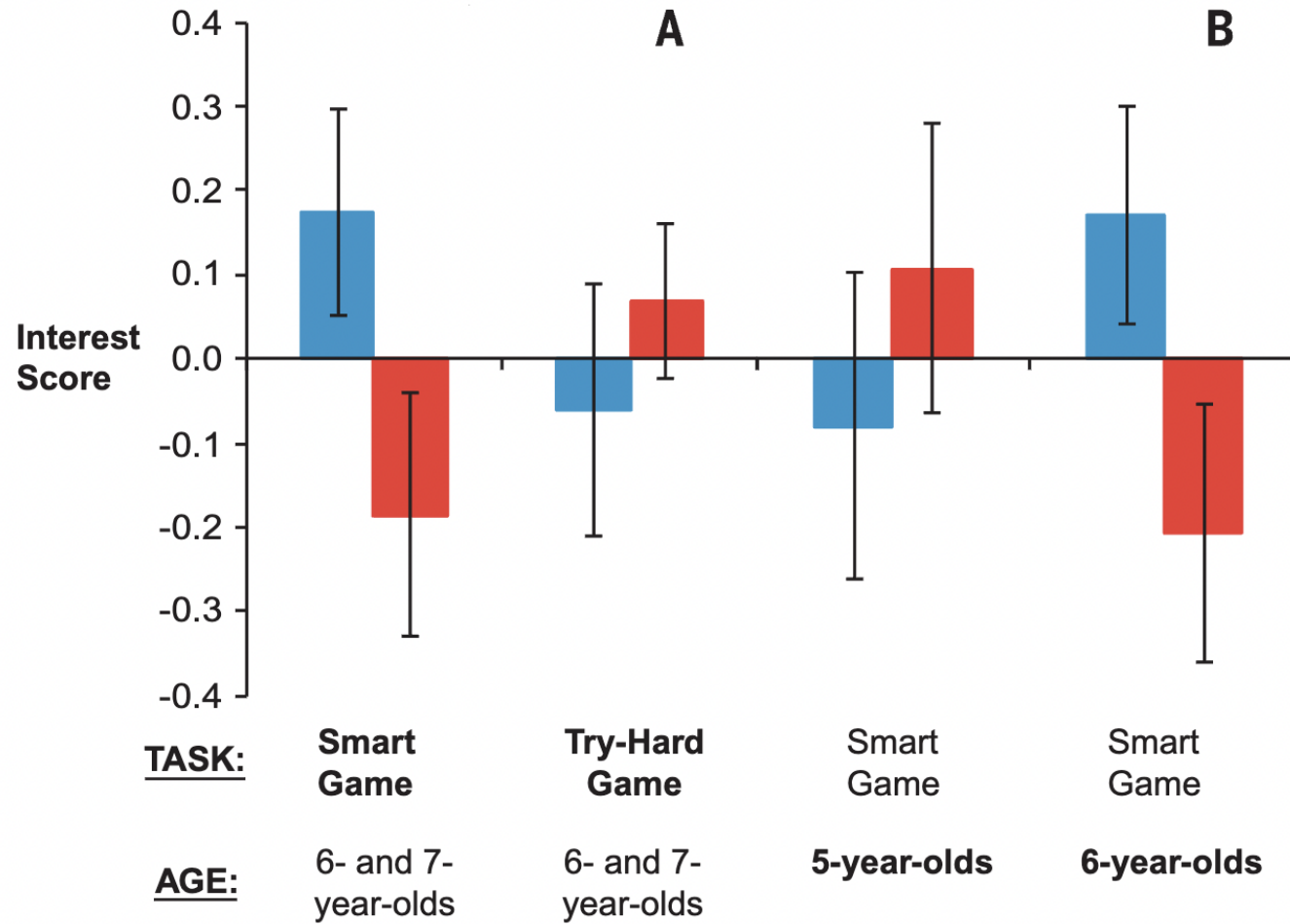
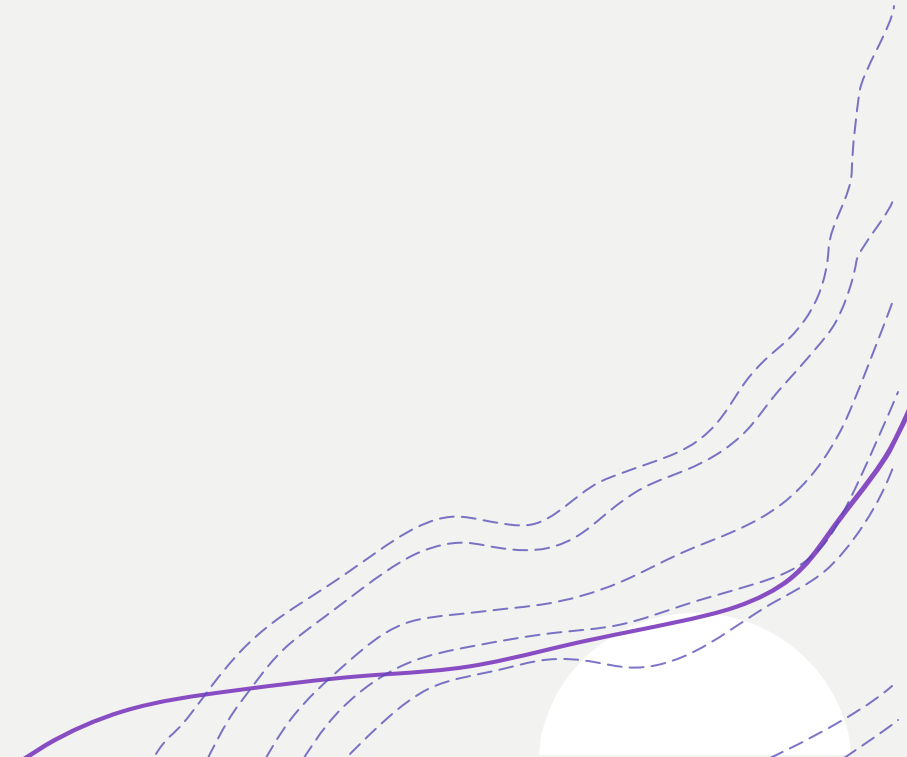


Fig. 2. Results of studies three and four. Boys' (blue) and girls' (red) interest (average of standardized responses to four questions) in novel games in study three (**A**) and study four (**B**). The main independent variable for each study (task in study three, age in study four) is shown in bold. Error bars represent ± 1 SE.





discussion



coming up

Sunday, September 8, 2024, 2024: Week 1 Assignments

- [Submit Week 1's Reflection](#)
- [Submit Week 1's Meme](#)

Week 2: Intelligence 101

Tuesday, September 10, 2024: Can we define intelligence?

- Coane, J. H., Cipollini, J., Barrett, T. E., Kavalier, J., & Umanath, S. (2024). Lay Definitions of Intelligence, Knowledge, and Memory: Inter-and Independence of Constructs. *Journal of Intelligence*, 11(5), 84. [\[ANNOTATE\]](#)
- Legg, S., & Hutter, M. (2007). A collection of definitions of intelligence. *Frontiers in Artificial Intelligence and applications*, 157, 17. [\[ANNOTATE\]](#)

Thursday, September 12, 2024: Cognition and intelligence

- Griffiths, T. L. (2020). Understanding human intelligence through human limitations. *Trends in Cognitive Sciences*, 24(11), 873-883. [\[ANNOTATE\]](#)