

Does Overconfidence Persist Despite Precise, Accurate, and Objective Information About One's Own Skill?

A Study of 2,081 Rated Tournament Chess Players

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Summary

Nearly two-thirds of tournament chess players were overconfident in their abilities despite knowing their objective ratings. This effect persisted across skill levels and the weakest players were the most overconfident.

- I. Tournament chess ratings are widely distributed and known by players.
- II. A large sample of tournament chess players believed their official rating to underrate their true skill ($d = 0.52$).
- III. The lowest rated players were the most overconfident in their skill.

Method

We recruited chess players via two worldwide mailing lists (United States Chess Federation and New In Chess magazine), the Chessable training app, and social media (Twitter, Facebook, Reddit).

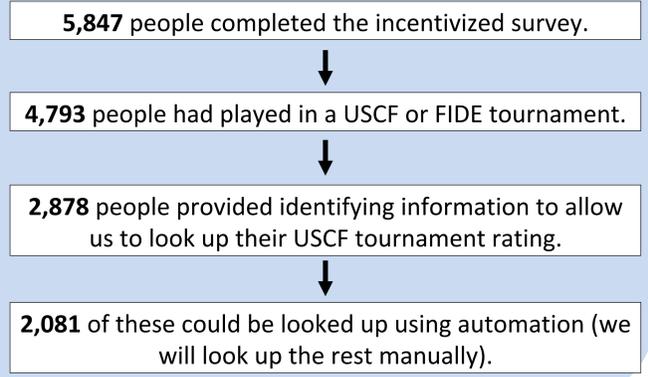
Participants who had played in a rated chess tournament were asked to report their current tournament (Elo) rating and the rating they believe reflects their current skill.

We solicited this "believed" rating by randomly assigning participants to read one of three versions of how this question was worded (see far right).

Using the US Chess Federation database, we looked up participants' actual ratings on 2/1/2019.

Chess ratings use the Elo system to make precise and accurate predictions for match outcomes between two players. A rating difference of 200 favors the higher rated player to win 3 out of 4 points in a match.

Final Sample (N = 2,081)

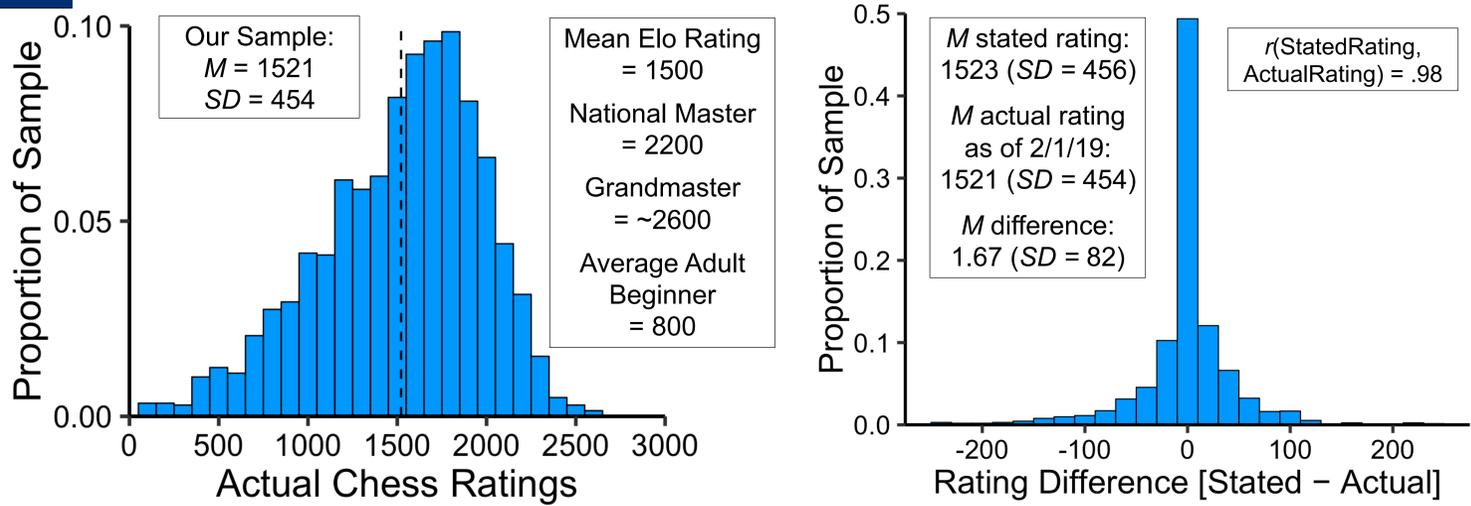


Preregistrations and Materials from this study are available at OSF https://osf.io/jqu3y/?view_only=d8ddeed6fc2d4c39afde37734bd7e4af

This work was conducted in collaboration with the United States Chess Federation and with full ethical approval from the Geisinger Institutional Review Board

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I A large, broad sample of chess players knew their ratings.

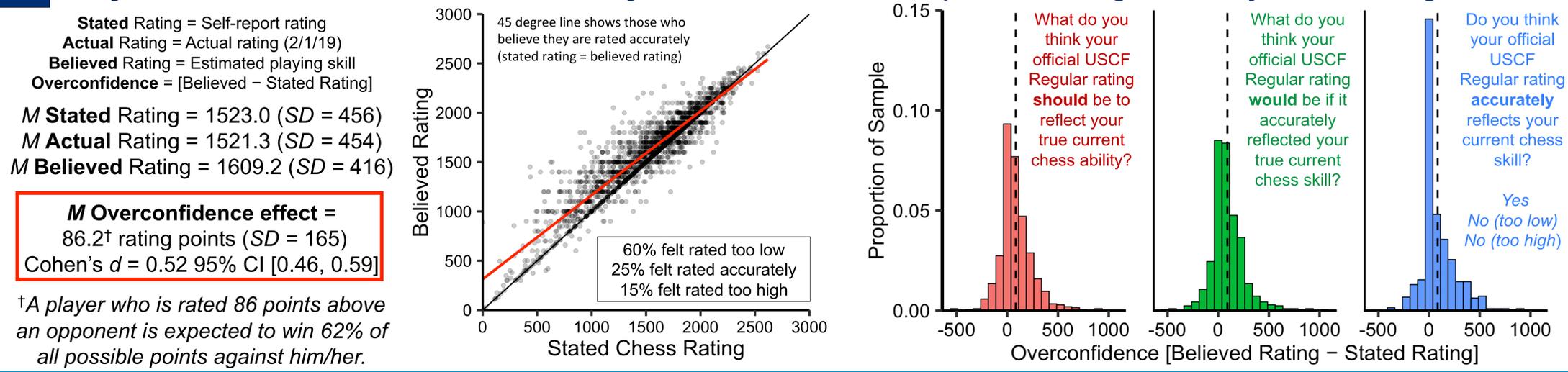


Sample Demographics

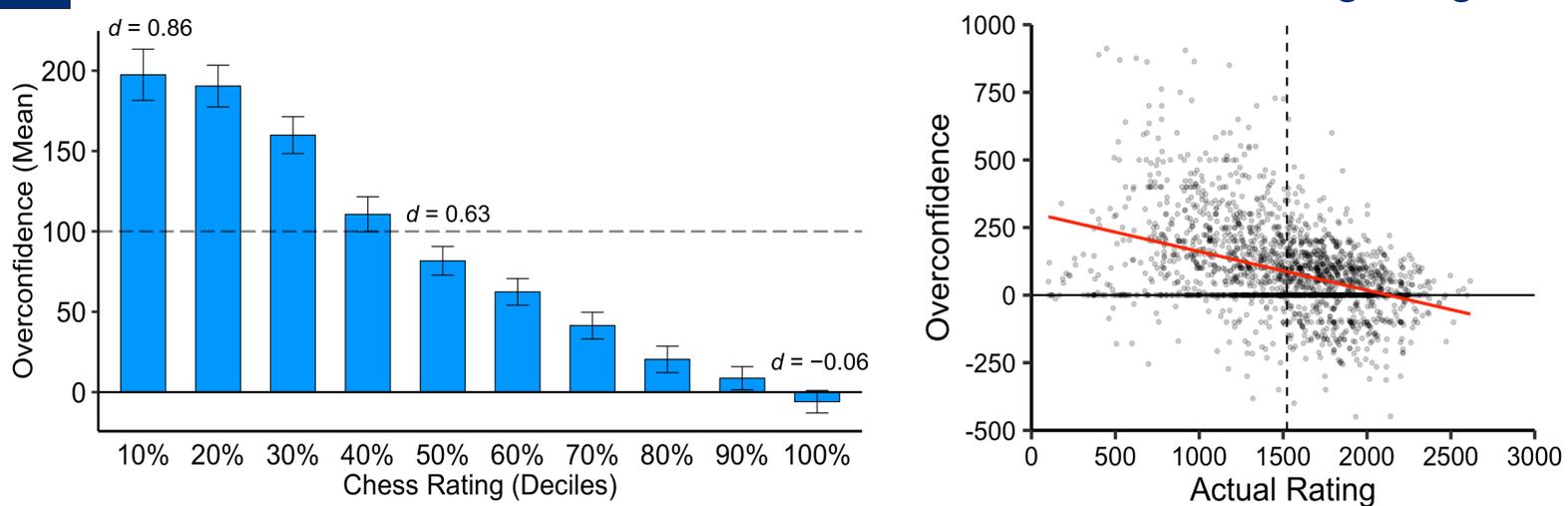
Age	Race/Ethnicity (select all that apply)	Household Income (per year)
5-10 years	White 79%	Less than \$20,000 4%
11-20 years	Asian 10%	\$20,000 - \$40,000 9%
21-30 years	Black 3%	\$40,000 - \$60,000 11%
31-40 years	Hispanic/Latino 5%	\$60,000 - \$80,000 12%
41-50 years	Pacific Islander 0.3%	\$80,000 - \$100,000 9%
51-60 years	Native American 1%	More than \$100,000 36%
61-70 years	Other 2%	Prefer not to disclose 19%
71-80 years	Prefer not to disclose 3%	
81-85 years		

Birth Region	Country of Residence	Education	
North America 88%	22 Unique Countries!	Less than High School 15%	
Europe 3%		High School Degree 4%	
South America 2%	Sex	Some College 18%	
Asia 6%		Male 95%	Four-Year Degree 19%
Africa 1%		Female 4.9%	Some Graduate School 8%
	Nonbinary/Other 0.1%	Graduate Degree 36%	

II Players were overconfident at nearly all skill levels, despite knowing their objective ratings.



III The least skilled were the most overconfident—a "Dunning-Kruger effect" in objective skill.



- The pattern was similar when using **stated** and **actual** chess ratings.
- It did not diminish when controlling for how **believed** rating was measured.
- Of 127 chess Masters (players rated 2200 or greater): 34% thought they were rated too low, 43% thought they were rated too high, and 23% thought their current rating accurately reflected their skill.