Are finance students over- or under confident

- a study on the ability to predict grades

Emil Numminen
Ola Olsson

Disposition

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- Method
- Results
- Conclusions
- Suggestions for further research

Background and Theoretical Approach

- People suffer from overconfidence when their own subjective estimation of an ability is significantly higher than an objective estimation of the same ability. This is called a cognitive bias[1] and makes people make decisions based on one-sided information[2].
- Studies in several areas such as e.g. finance, economics, psychology confirms overconfidence bias.

1. Tversky and Kahnemann, 1974
2. Plous, 1983

Previous Research and Contribution

- In a pedagogical setting overconfidence is interesting to study as it effects the willingness of learning the subject.
  - Overconfident students may study less than required
  - Overconfident students may not meet their full potential
- This study adds to previous studies of overconfidence and grade expectations[1] by measuring how this bias evolves during an entire course instead of at one occasion.
  - We control for the effect of gender and academic experience in accordance to previous research.
- This enables us to further understand the relation between overconfidence and learning/student performance.

1. Grimes, 2002; Koku and Qureshi, 2004; Novel and Alston, 2007

Method and Data Collection

- The data was collected using students (46) taking a course in finance at Kristianstad University in 2016, with different gender and learning experiences (BF/RR).

		Academic focus		
		BF	RR	Total
Gender	Men	22	4	26
	Women	13	7	20
	Total	35	11	46

- BF = finance students, bachelor level. RR = accounting students, master level

Method and Data Collection

- They were asked to predict their expected score (1-100) on the final exam at five pre-specified times, called measurement occasions (MOs). This translated into means or class grade points (GPAs). These were compared to the actual performance to identify overconfidence[1].

	Expectations					Performance
MO schedule for GPA	(1) Start	(2) 2 weeks	(3) 4 weeks	(4) pre-test	(5) post-test	(6) Actual
Means	69,8	67,4	66,2	69,1	59,4	56,2
Standard deviation	9,7	9,9	8,5	8,5	14,3	15,9
Participants	44,0	38,0	30,0	44,0	44,0	45,0
Diff of means, expected and actual performance	13,6					
Diff of means, expected and actual performance		11,1				
Diff of means, expected and actual performance			10,0			
Diff of means, expected and actual performance				12,8		
Diff of means, expected and actual performance					3,1	
Diff of means, expected and actual performance						0,0

- Test of overconfidence was done using t-tests and ANOVA with post hoc analysis

1. Grimes, 2002

Study Results – Overconfidence: All students

Expectations - actual performance			Diff of means	Sig. (2-tailed)
Pair 1	MO1	MO6	14,03	0,000
Pair 2	MO2	MO6	9,39	0,002
Pair 3	MO3	MO6	8,67	0,015
Pair 4	MO4	MO6	12,93	0,000
Pair 5	MO5	MO6	3,20	0,183

- The result shows that students suffer from overconfidence during the entire course, results are statistically significant at the 95% level
- Teaching activities/learning do not seem to calibrate overall grade prediction ability during the course

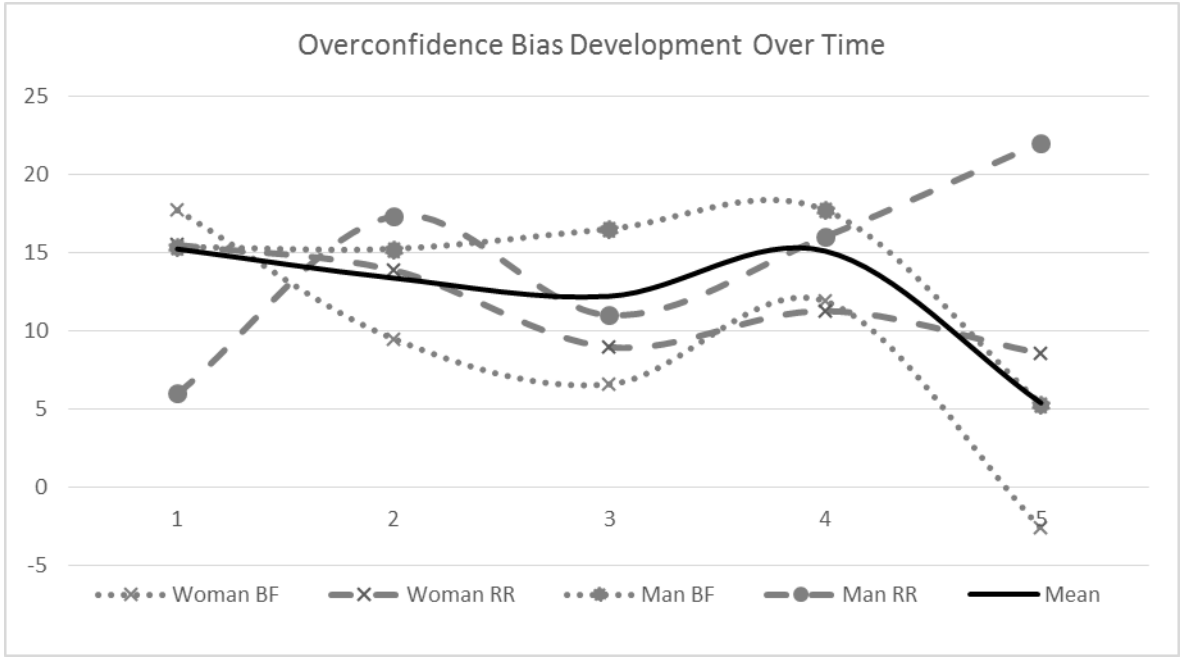
Overconfidence – Gender and Experience

Expectation - Actual performance	Male Students	Female students	Low academic experience	High academic experience
MO1-MO6	13,8600	17,0526	16,2794	11,7000
MO2-MO6	15,6579	11,1053	12,6852	15,0909
MO3-MO6	15,3056	**7,5833**	13,2143	9,8889
MO4-MO6	**17,4615**	11,6667	15,7879	13,0000
MO5-MO6	7,8846	1,7222	2,6667	**13,4545**

Bold text denotes significance at 95% level

- Female students calibrated their expectations downwards at MO3, i.e. after the last class
- Male students overconfidence increased at MO4, i.e. just before the final exam
- High academic experienced students overconfidence increased at MO5, just after the final exam

Study Results – Gender and Experience



- Men were more overconfident than women, in the less academic experienced group, after the final lecture (BF), M03. Result is statistically significant at the 95% level.
- More academic experienced men were more overconfident versus less academic experienced women that were under-confident after the final exam (RR vs. BF), MO5. Result is statistically significant at the 95% level.

Conclusions

- Students do exhibit overconfidence and do not calibrate their expectations enough during the course as a response to their learning on a general level.
  - In-line with previous research but measured differently
- Male students' overconfidence increased during the course whereas female students' overconfidence decreased.
  - Partly in-line with previous research.

Conclusions II

- More experienced students' overconfidence increased during the course whereas less experienced students' overconfidence decreased during the course.
  - Differs in comparison to previous research!
- The study also found that less academic women suffered from under-confidence when given feedback.
  - Partly in-line with previous research.

Future research

- The given one: Larger sample to validate the results…

- The effect of (self regulated) feedback
  - E.g. non-mandatory online tests to validate knowledge and suggestions on what to study harder

Thank you for listening!

Any questions?