## Exercise 2

**(ii)** The results of the analysis should be presented using plots similar to the ones in Figs. 1-4. They should show the median as most resilient to attacks of all considered magnitudes, with the 10% Windsorized mean and the 10% trimmed mean better than the mean at withstanding 5-10/20-40 fake-rating attacks and 100-200 fake-rating attacks, respectively.

**(iii)** The answer should rule out the median as too insensitive, and should therefore recommend the use of the 10% Windsorized mean for scenarios known to be affected by small- and medium-magnitude attacks, and the 10% trimmed mean as best suited for dealing with large-magnitude attacks (based on the definitions of a small, medium and large attack from the question).

**(iv)** In addition to resilience to self-promoting and slandering attacks, a good reputation metric should be sensitive to variations in genuine ratings, and should be easy to calculate. The students should note that the median does not satisfy the first of these criteria, so it is less useful in practice.
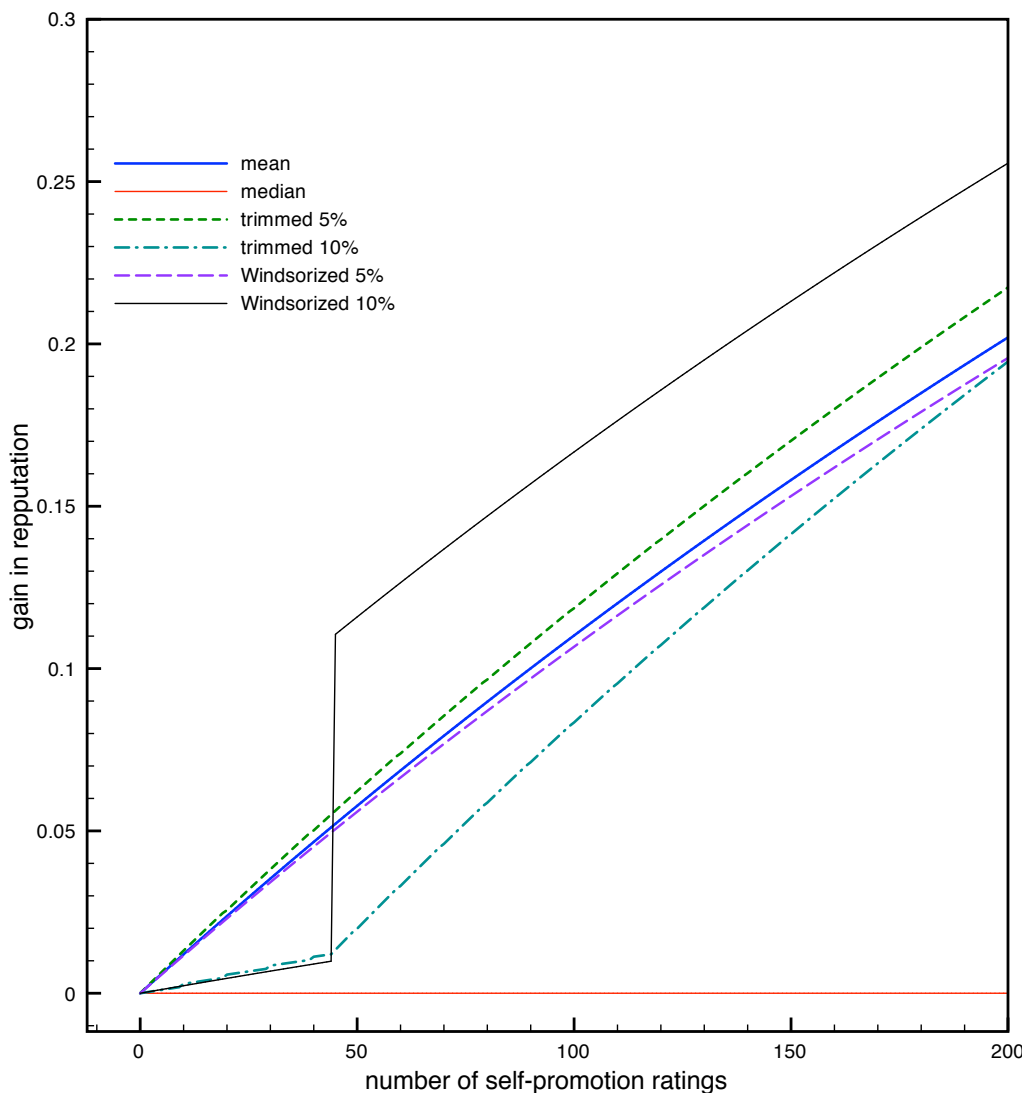


Fig 1. Effect of self-promotion on the reputation of the product with genuine ratings '5,4,30,200,706,60'

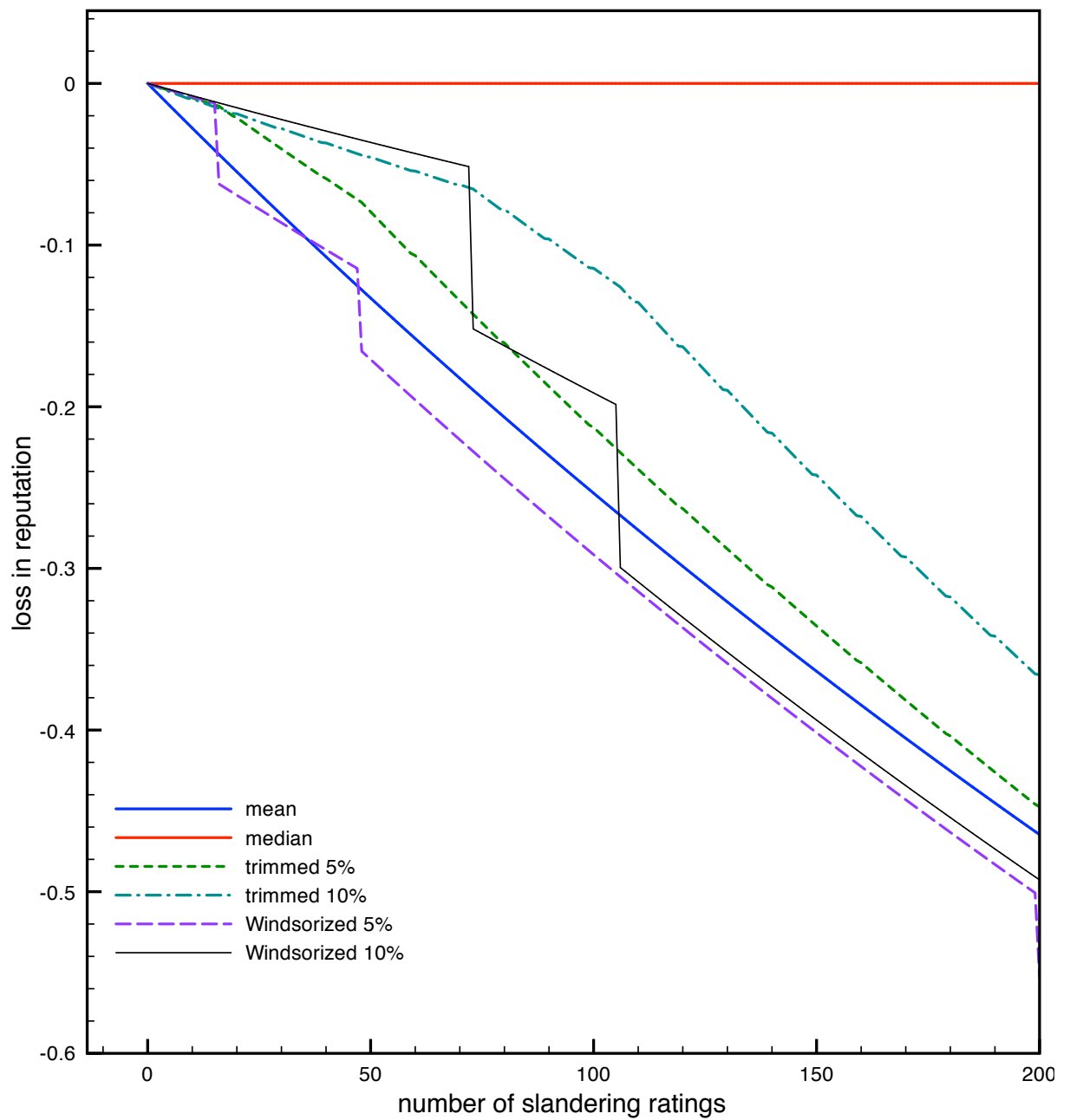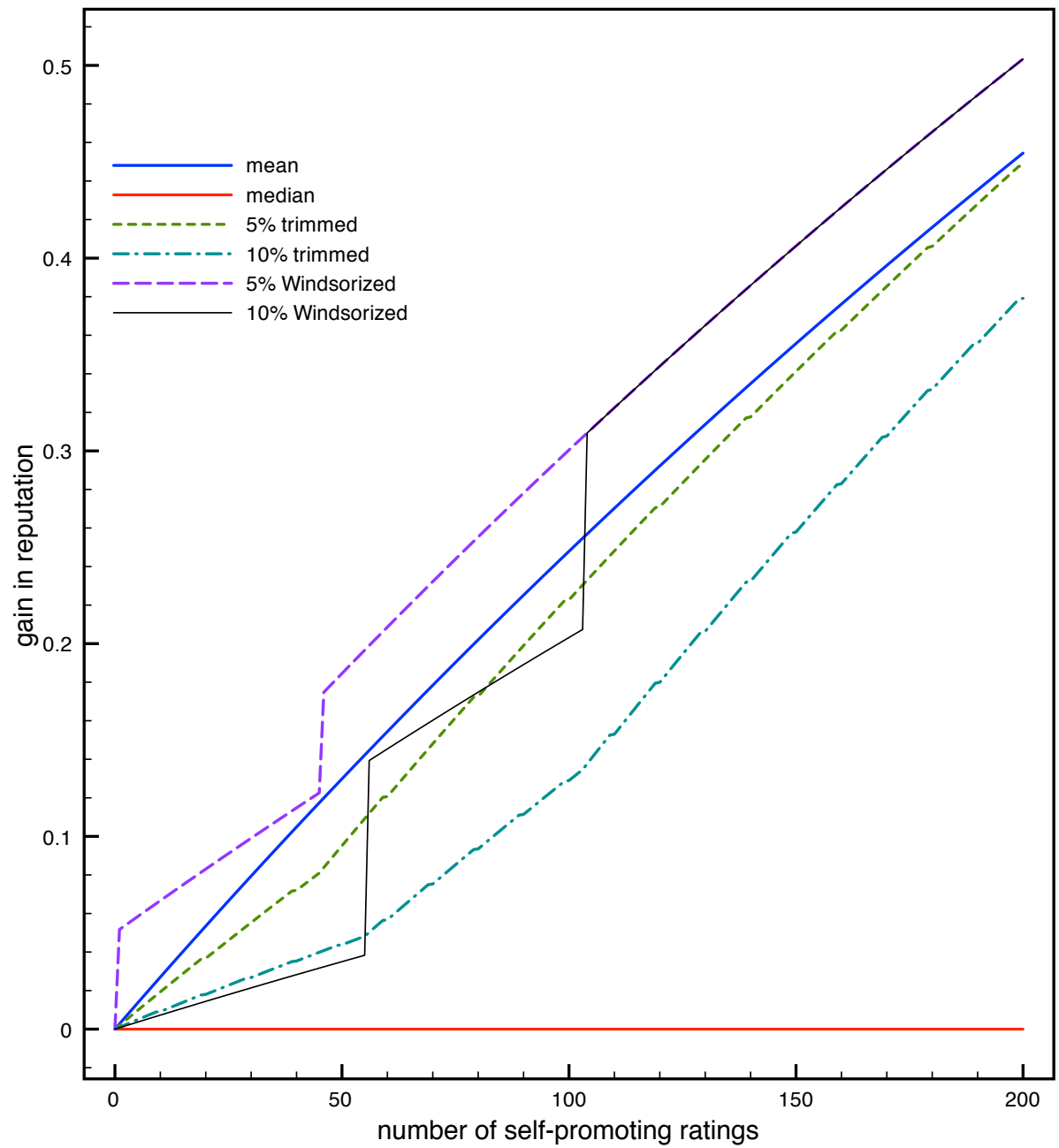Fig 2. Effect of slandering on the reputation of the product with genuine ratings
'5,4,30,200,706,60'

Fig 3. Effect of self-promotion on the reputation of the product with genuine ratings
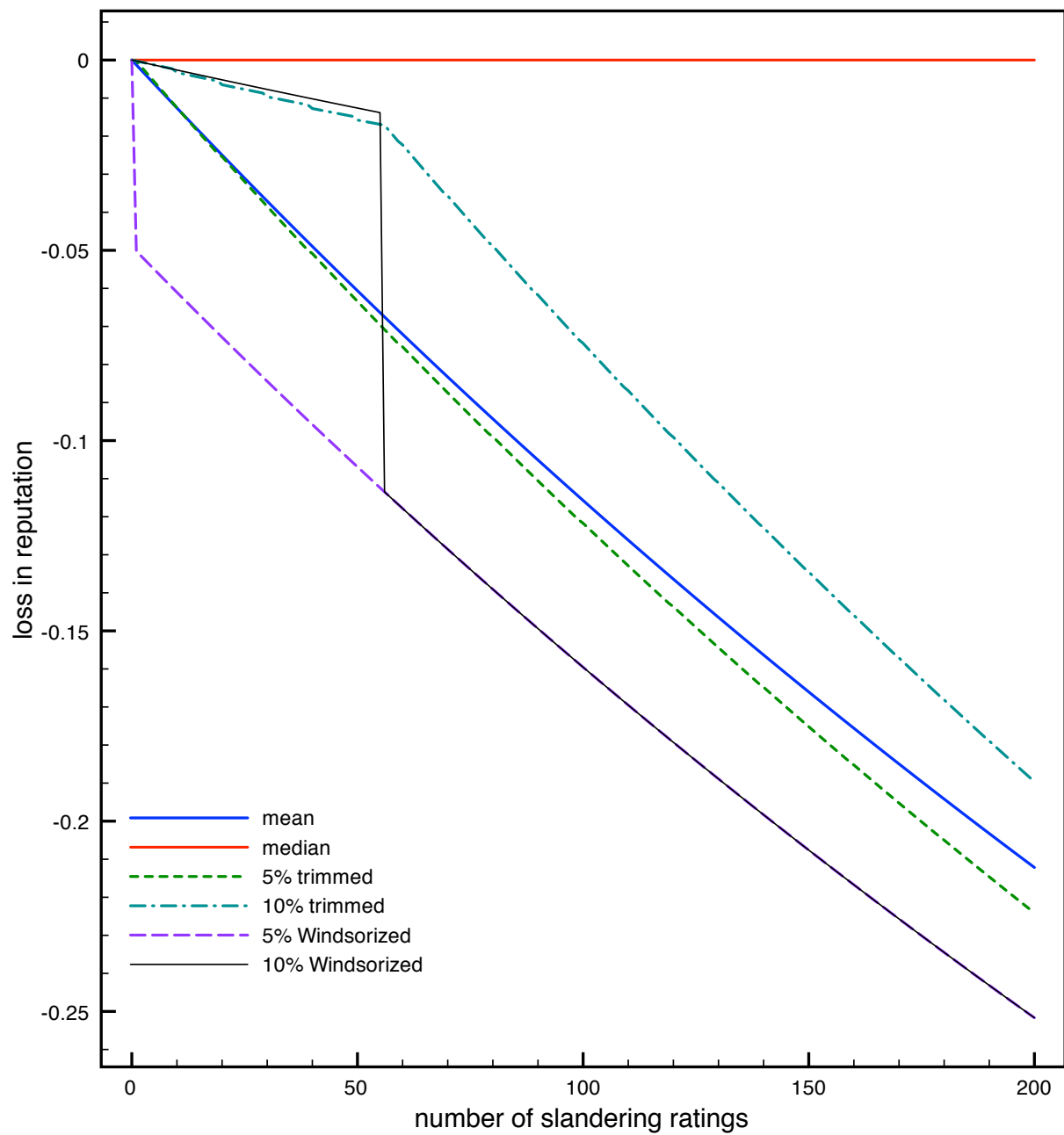'5,49,686,215,43,7'

Fig 4. Effect of slandering on the reputation of the product with genuine ratings
`5,49,686,215,43,7`