The Relationship between Altmetrics and Retractions

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Introduction

- In the last years, the number of retractions in scientific literature has greatly increased, in a rate exceeding the growth in published articles [1, 2, 3].
- We used about 1,700 retractions which were listed in Pubmed between January 1st, 2012 and August 2nd, 2017, and extracted their altmetric data from a file of altmetric data provided to us by the firm Altmetric.com (altmetric data exist for 920 retractions). The extracted data were limited until June 2016.
- In this poster, we characterize the differences between top altmetric retractions and random retractions with an altmetric score (according to their score by altmetric.com)

Misconduct or error?

- We followed Moylan and Kowalczuk's broader definition of error and misconduct [1].
- They defined three classification categories: **misconduct, honest error**, and **unclear**.
- Additionally, we added an "**other**" category for cases that could not be classified under either of those categories.
- To classify a retraction we read its retraction notice, the Retraction Watch blog entry (if available) and its Retraction Watch database entry (if available). We noted the reason or reasons for retraction and according to them made the final classification decision to one of the four categories.

Examples for *misconduct*: plagiarism, faking data, compromised peer review

Figure 1: The reasons behind the top 50 retractions

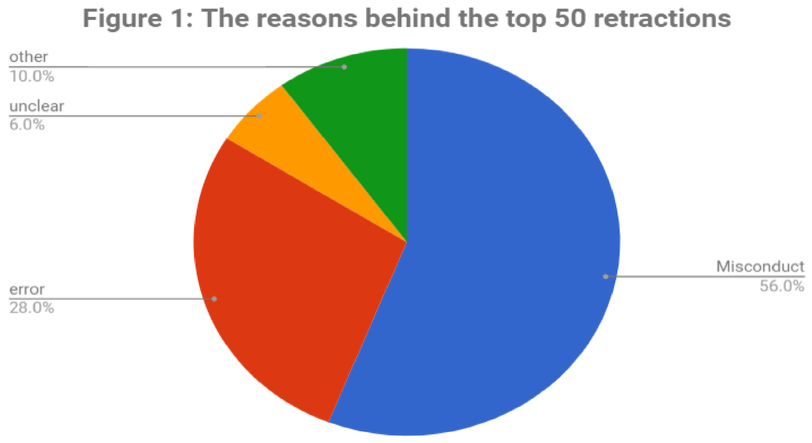
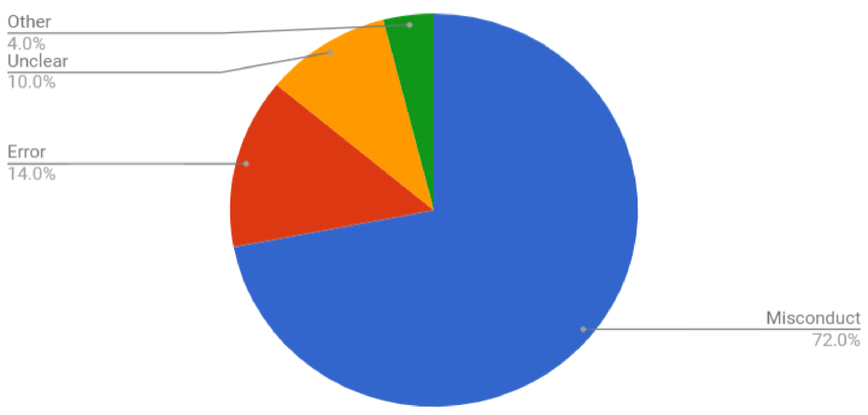


Figure 2: The reasons behind the 50 random retractions



Those who tend to initiate the retraction are the ***authors***, in line with findings by [1].

Figure 3: The retraction initiators for the top and random retractions

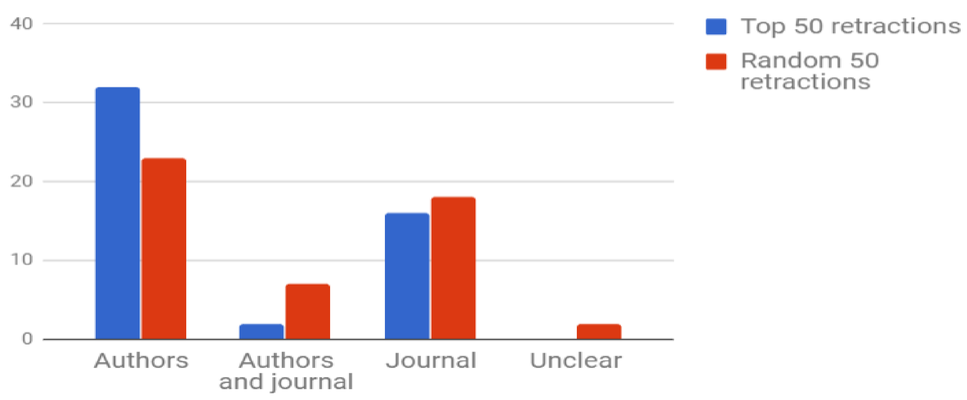


Figure 4: Mean and median Journal Impact Factor for 50 top and 50 random retractions

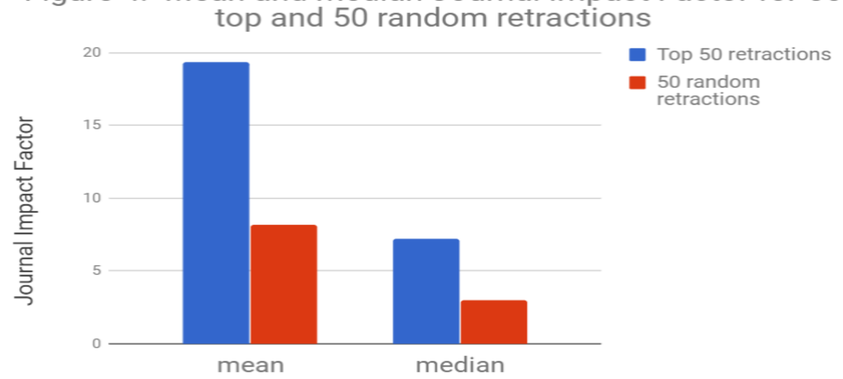
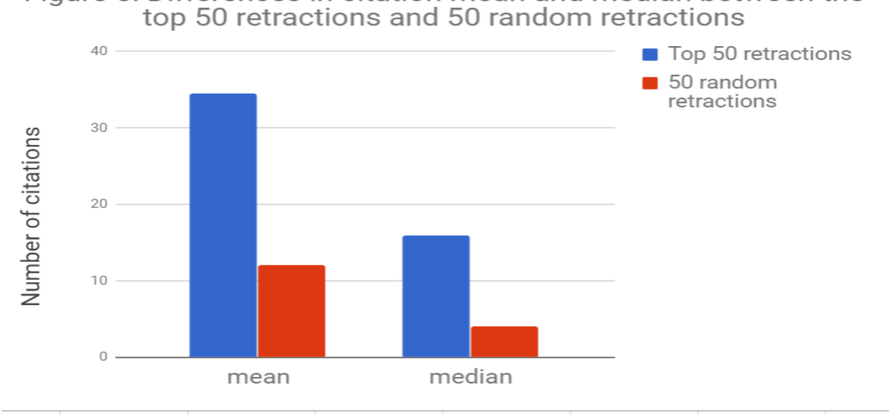


Figure 5: Differences in citation mean and median between the top 50 retractions and 50 random retractions



Time until retraction, and who retracts?

- The median time to retraction for the top 50 retraction was **436** days.
- The median time between publication and retraction for the 50 random retraction was **366.5** days.

Range for top 50 was 23-1435 days and range for 50 random was 51-1859 days, **extremely skewed distributions**

Conclusions

- While this is still a pilot research, our results suggest a connection between the attention retractions gather in the social media and their bibliometric qualities, such as the publishing journal and the number they have been cited.
- The leading cause for retraction in the study is misconduct, in line with findings by [1] and [4].

References

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