



Peer review “di sviluppo”: prime evidenze empiriche

V incontro seminariale CRIS - “La peer review: tra technicalicità e politica editoriale”
Università degli Studi di Firenze, 11/11/22

Federico Bianchi

Behave Lab
Dipartimento di Scienze Sociali e Politiche
Università degli Studi di Milano

Introduzione

- Crescente proliferazione di materiale scientifico pubblicato e di forme di pubblicazione alternative alla tradizionale rivista scientifica: pre-prints, repositories, post-publication, ecc. (Tennant *et al.*, 2017)
- *Peer review* non è solo barriera di accesso (controllo della qualità o adesione alla linea editoriale) (Fyfe *et al.*, 2020; Fyfe, 2022)
- La *peer review* può assumere una funzione di “cura” del manoscritto, accompagnandone lo sviluppo –> funzione trasformativa

“The generous feedback provided by reviewers, coupled with editors’ guidance in navigating feedback from multiple reviewers, can produce papers that are clearer, more impactful, and more effectively executed.” (Rory McVeigh, co-editor of the American Sociological Review, 2016)

Qualche evidenza empirica



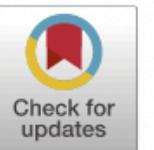
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Journal of Informetrics

journal homepage: www.elsevier.com/locate/joi



Measuring the effect of reviewers on manuscript change: A study on a sample of submissions to Royal Society journals (2006–2017)



Federico Bianchi^a, Daniel García-Costa^b, Francisco Grimaldo^b, Flaminio Squazzoni^{a,*}

^a Department of Social and Political Sciences, University of Milan, Via Conservatorio 7, Milan, 20122, Italy

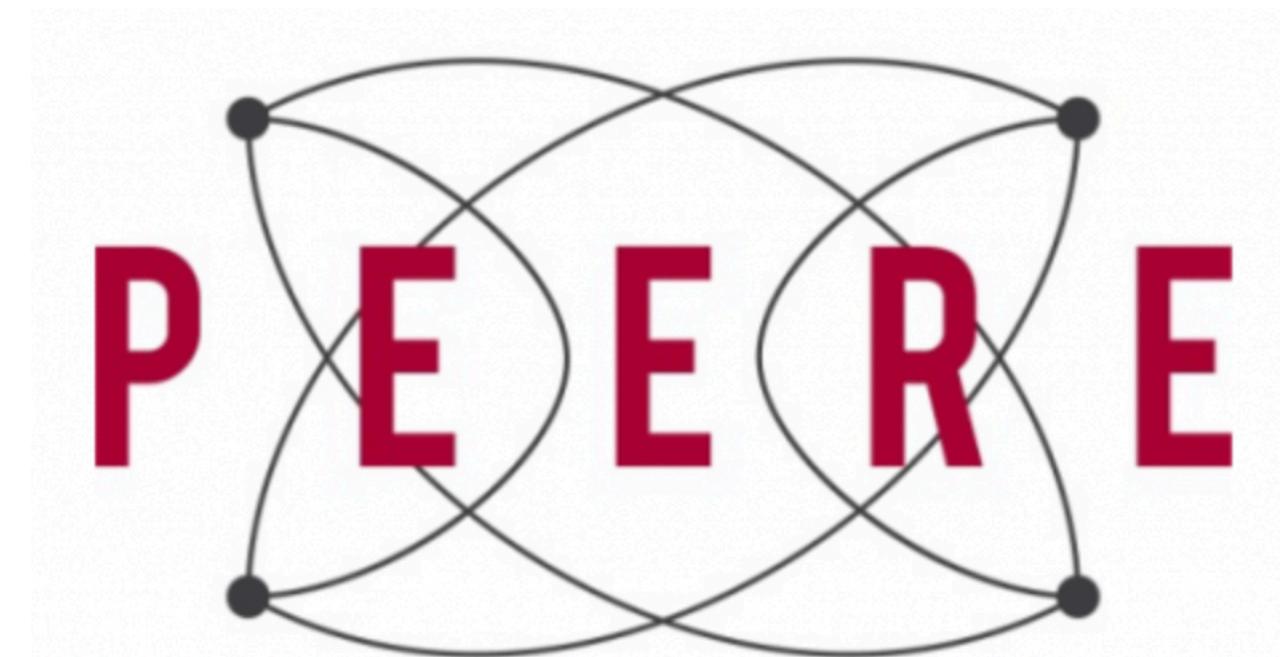
^b Department of Computer Science, University of Valencia, Avinguda de la Universitat s/n, Burjassot, 46100, Spain

ARTICLE INFO

Keywords:
Peer review
Journals
Manuscripts
Reviewers
Manuscript changes

ABSTRACT

Peer review is key for public trust of academic journals. It ensures that only rigorous research is published but also helps authors to increase the value of their manuscripts through feedback from reviewers. However, measuring the developmental value of peer review is difficult as it requires fine-grained manuscript data on various stages of the editorial process, which are rarely available. To fill this gap, we accessed complete data from Royal Society journals from 2006 to 2017, and measured manuscript changes during peer review from their initial submissions. We then estimated the effect of the number of reviewers and the evaluation of reviewers on manuscript development and their citations after publication. We found that the number of reviewers had an almost linear effect on manuscript change although with decreasing marginal effects whenever more than two reviewers were involved. This effect did not depend on the initial quality of manuscripts. We also found that changes due to reviewers tended to increase a manuscript's probability of being cited at least once after publication. While our findings show the multiple functions of peer review for manuscript development, research with larger and more representative journal samples is needed to develop more systematic measures that reflect the complexity of peer review.

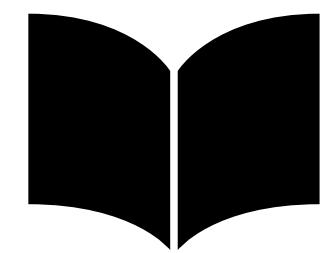


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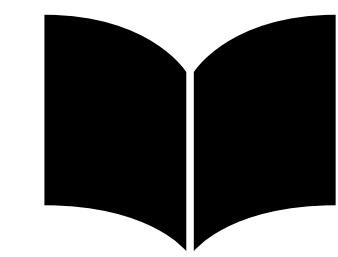
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Dati: 7 riviste Royal Society



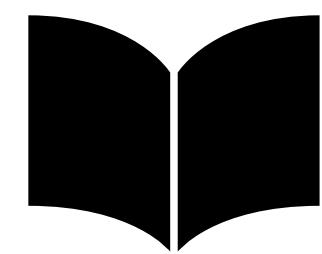
Philosophical Transactions
(fascicoli tematici)

A: matematica, fisica, ingegneria
B: biologia

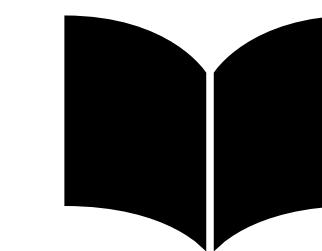


Proceedings
(candidature spontanee)

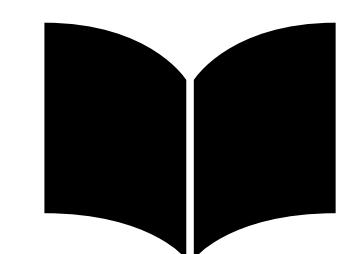
A: matematica, fisica, ingegneria
B: biologia



Biology Letters
(articoli brevi)



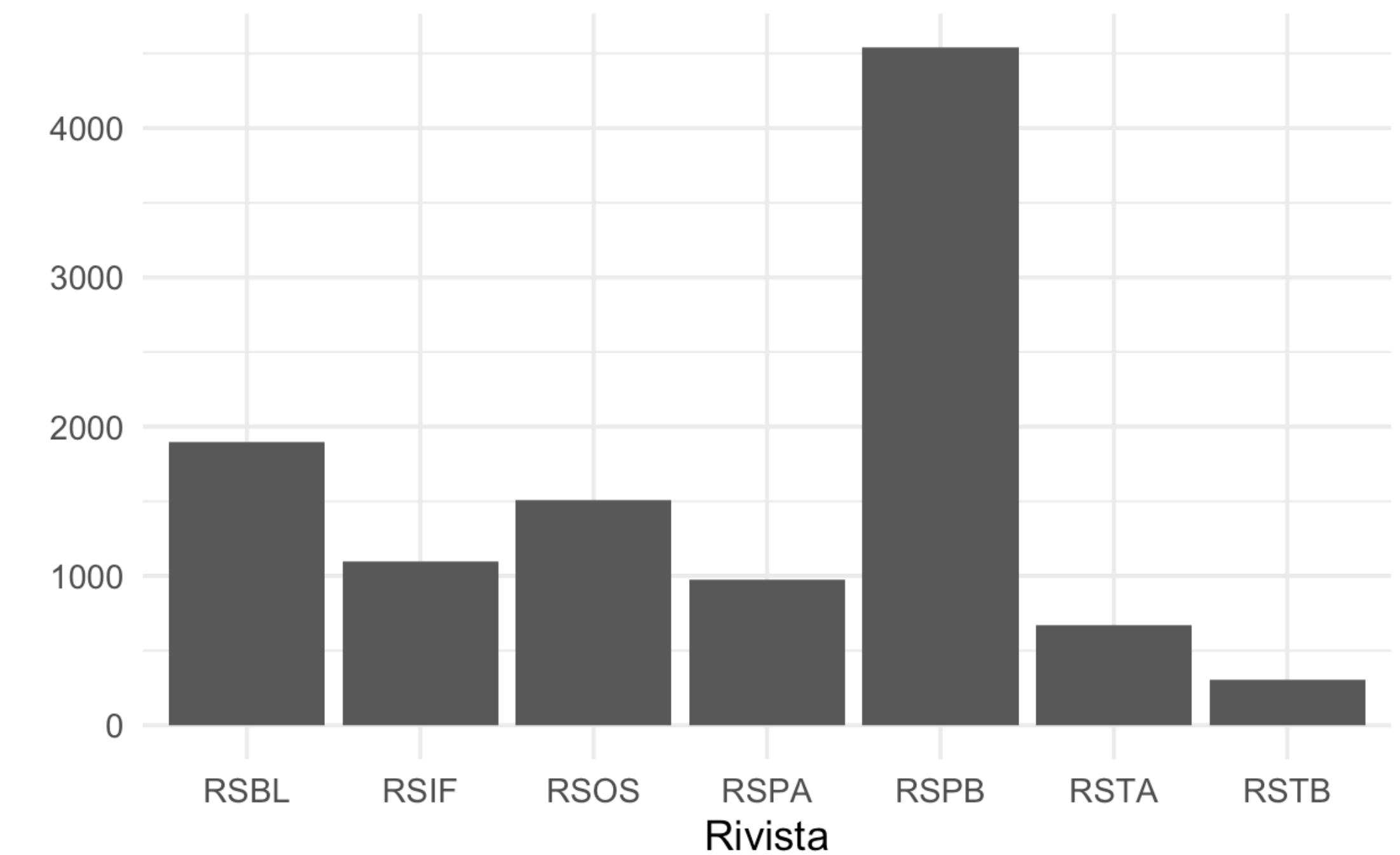
Royal Society Open Science
(interdisciplinare - peer review trasparente)



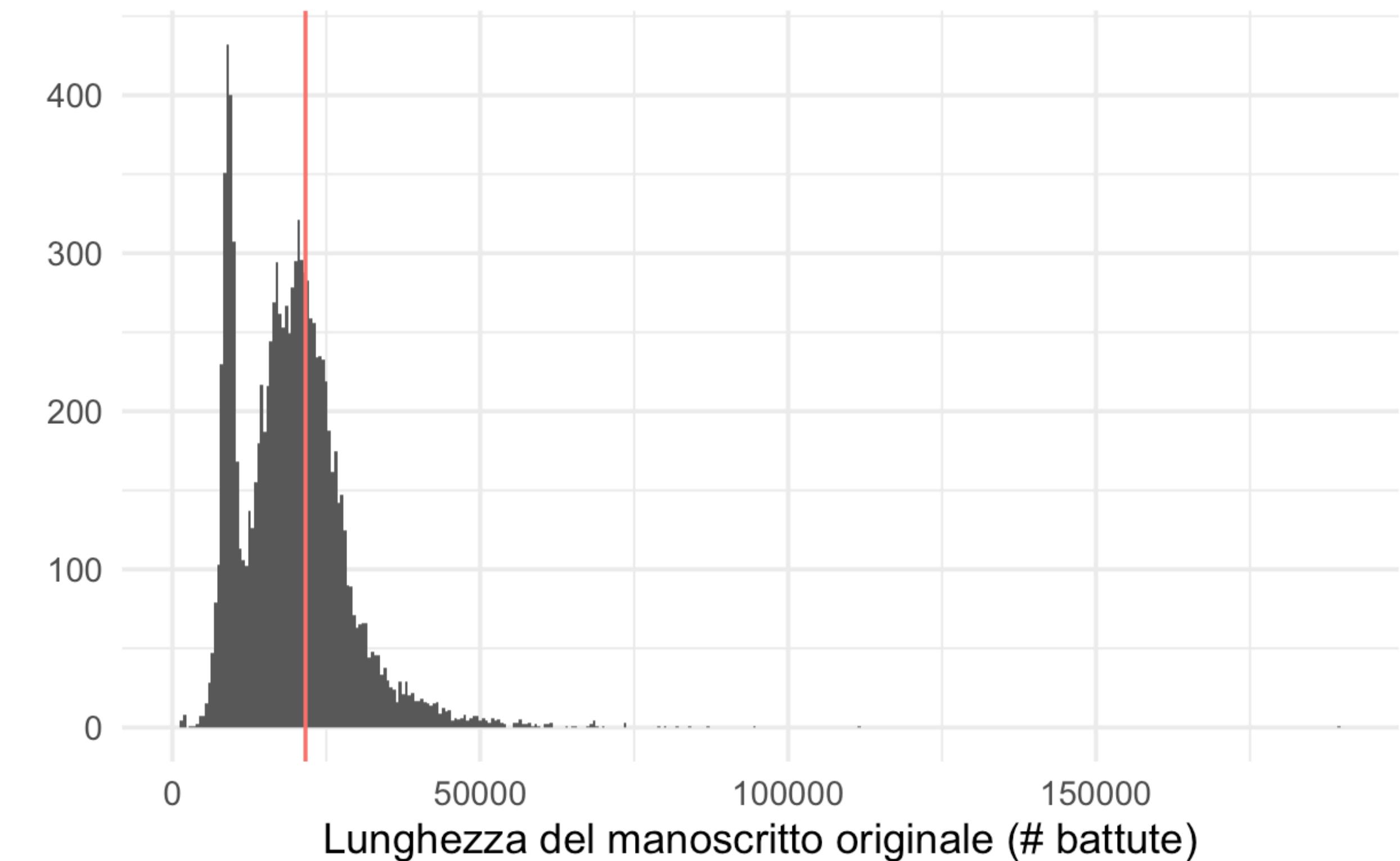
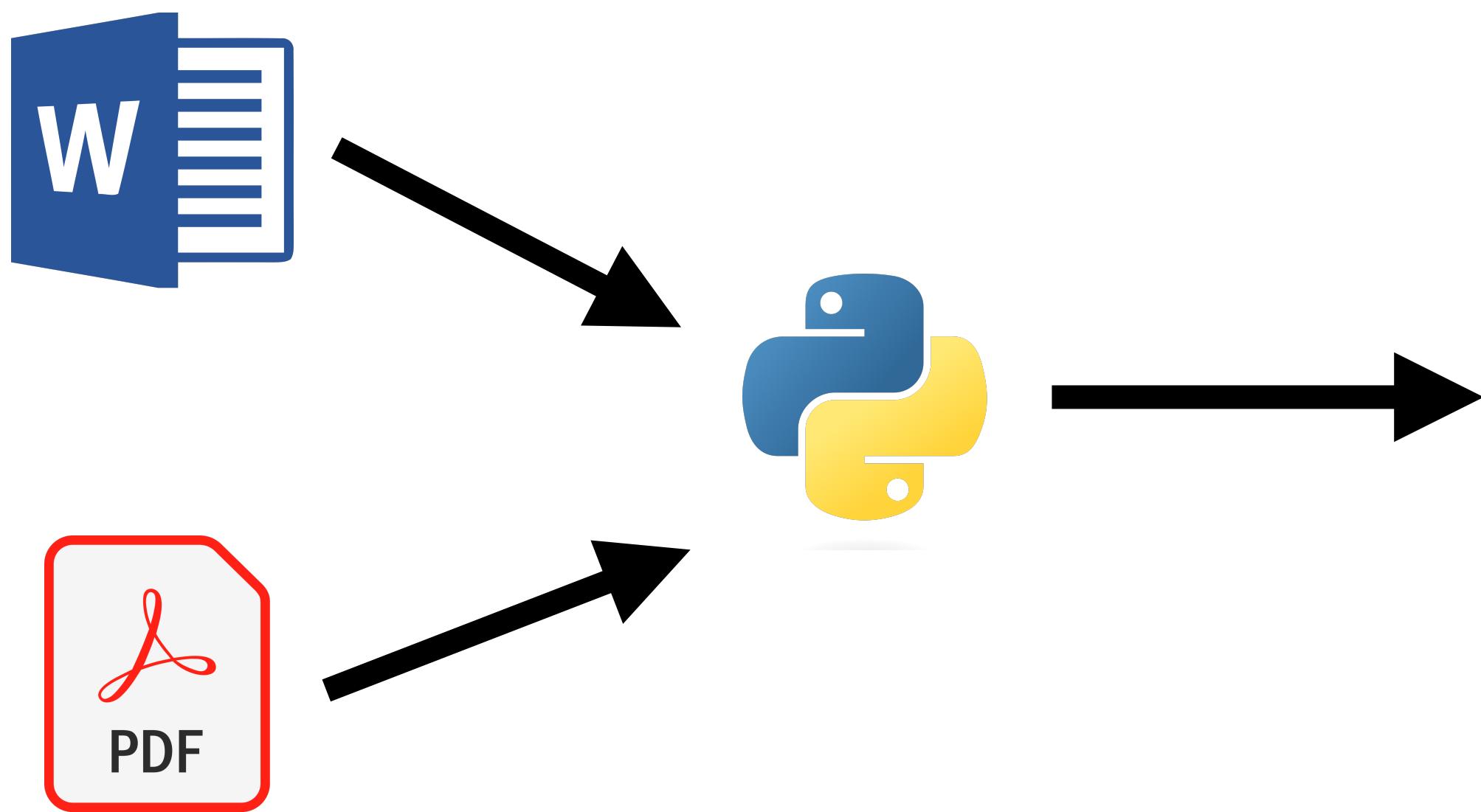
Interface
(Interdisciplinare)

Dati

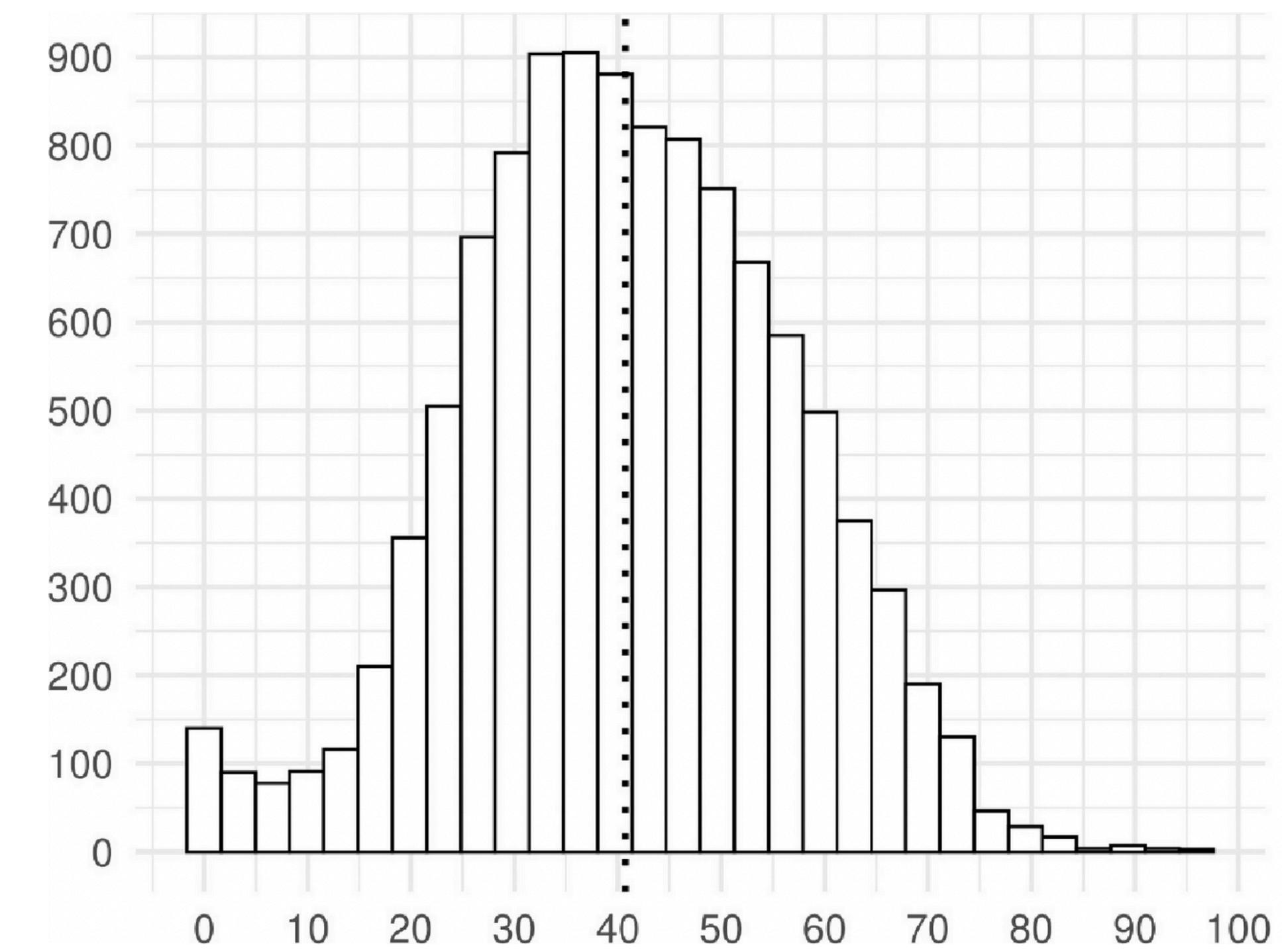
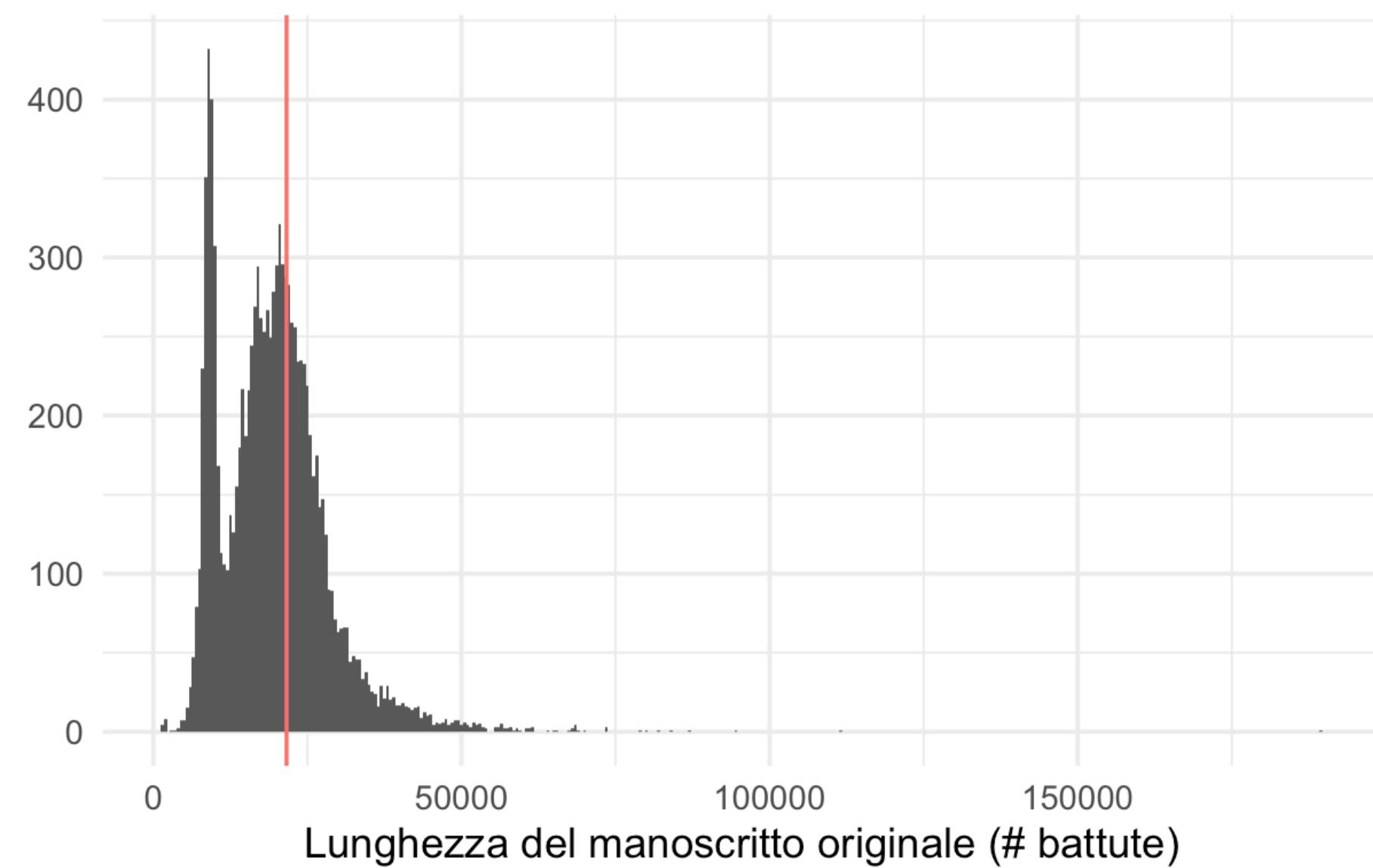
- Dati temporali su *peer review* 2006 - 2017
- Testo di 24.636 report di *peer review*
- Metadati su identità dei revisori
- 10.996 manoscritti ammessi alla fase di revisione
- 20.959 revisori



Dai testi ai numeri



Trasformazione dei manoscritti

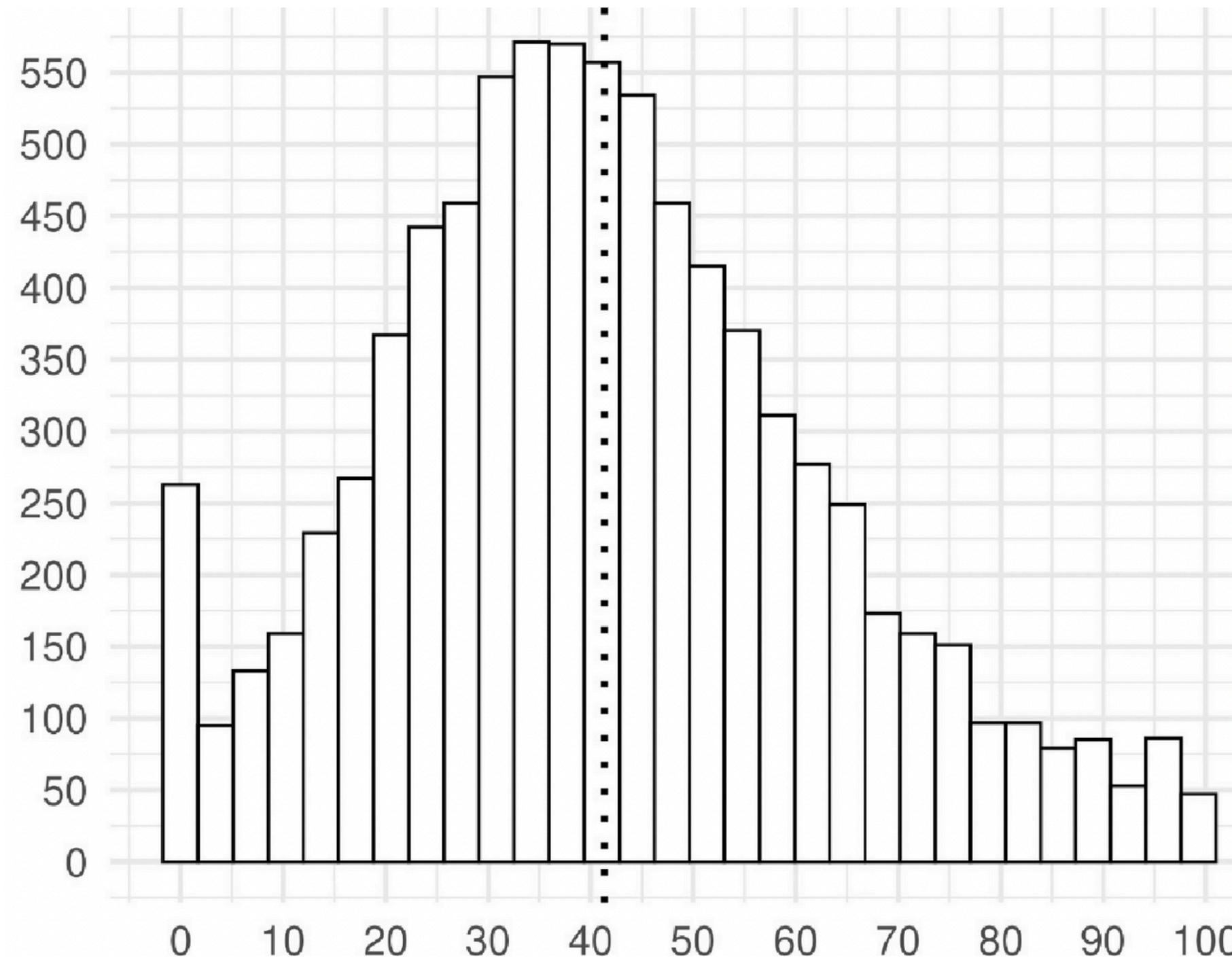


Mediana: 19.085 battute (IQR = 10.945,75)
Range: 1.629 - 189.404 battute

Distanza di Levenshtein (%): trasformazione
nel contenuto (originale - pubblicato/rifiutato)

Media: 40,73 % (SD = 15,67)
Range: 0 - 95,95 %

Trasformazione (riferimenti bibliografici)



Differenza (%):

1 - (# riferimenti simili / max # riferimenti)

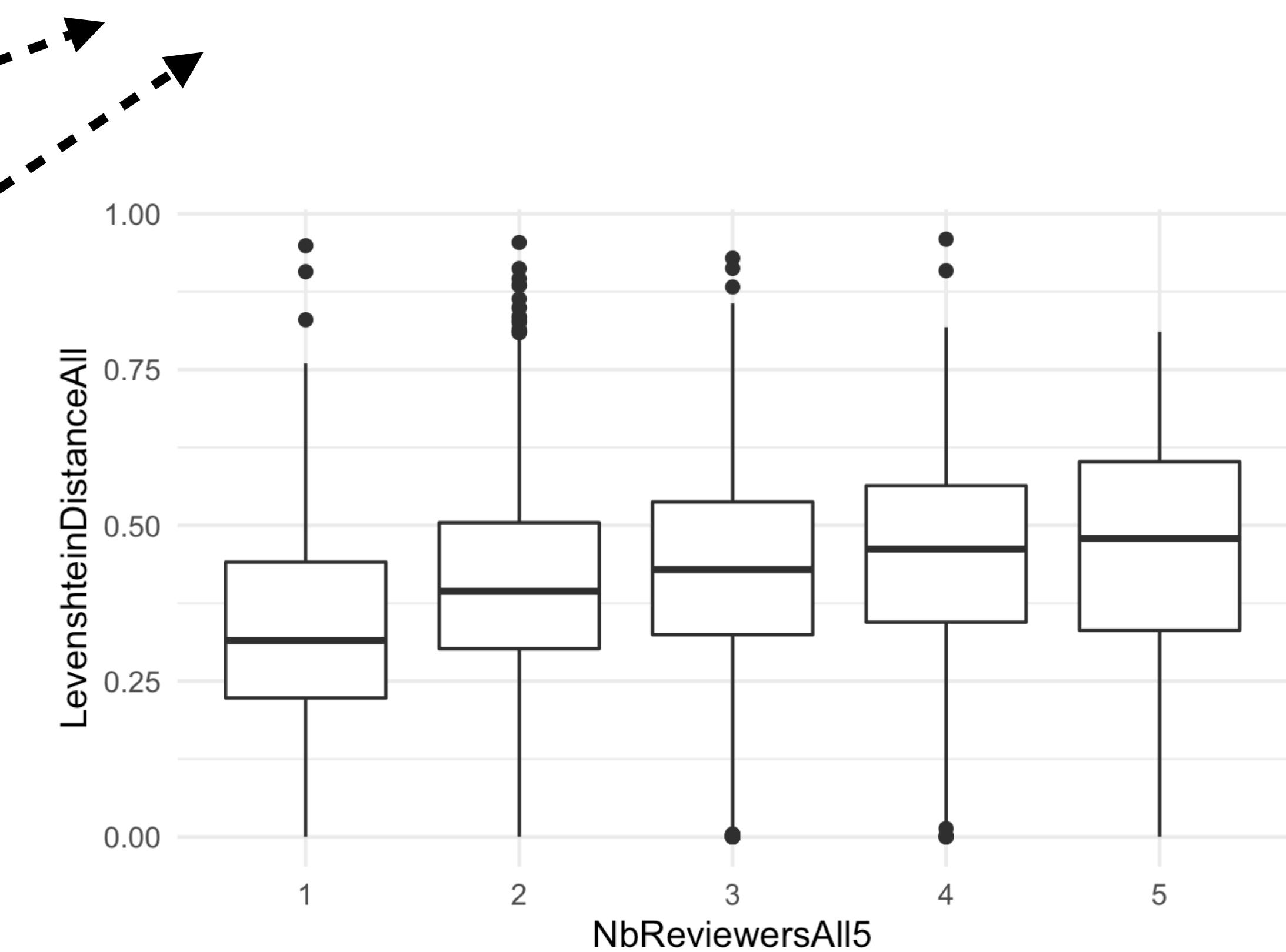
Media: 41,33% (SD = 21,42)

Range: 0 - 99,28 %

Effetto del # di revisori su trasformazione

Numero di revisori → ? → Trasformazione del manoscritto

Lunghezza iniziale
Qualità percepita
del manoscritto

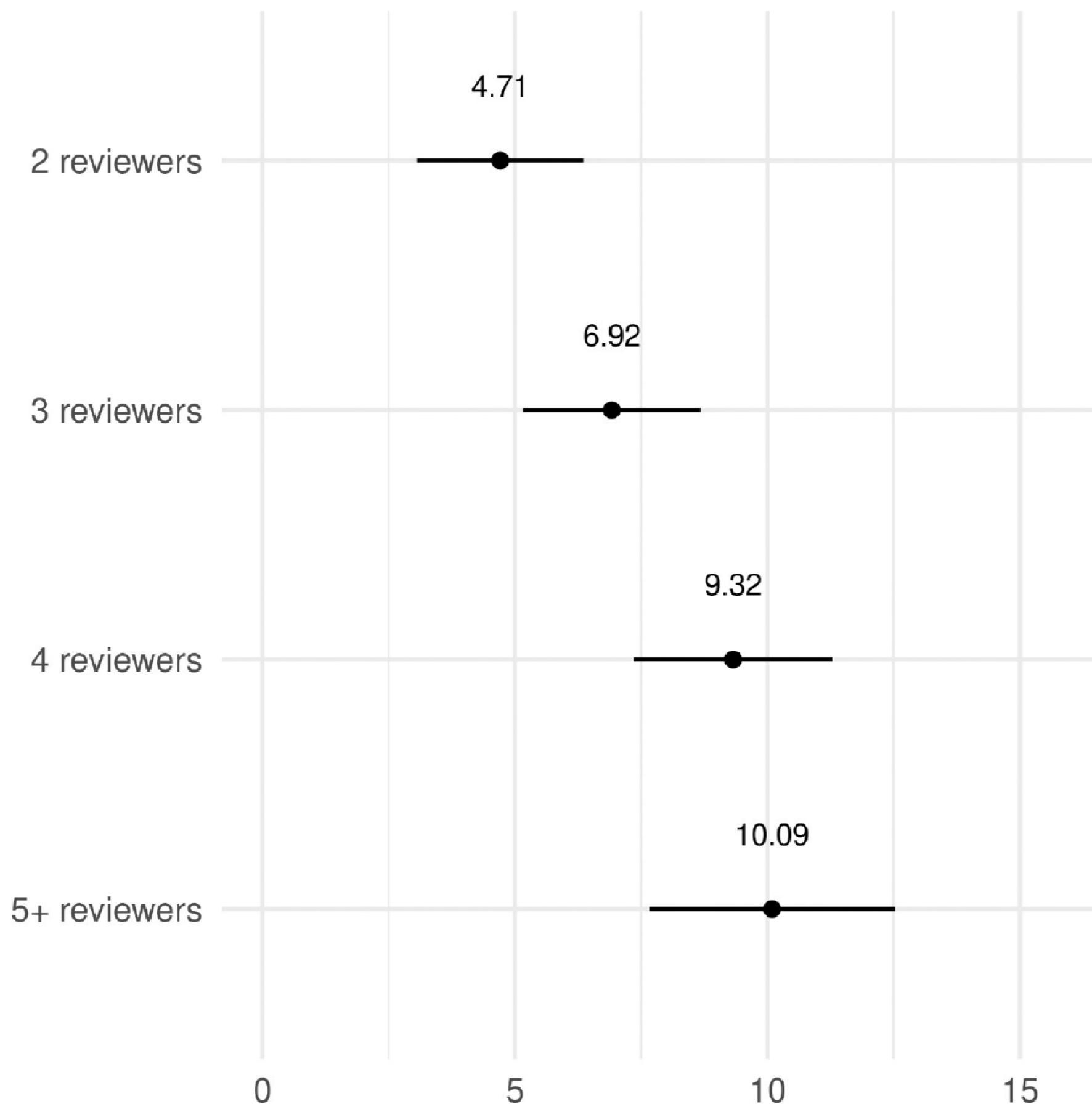


Qualità percepita del manoscritto

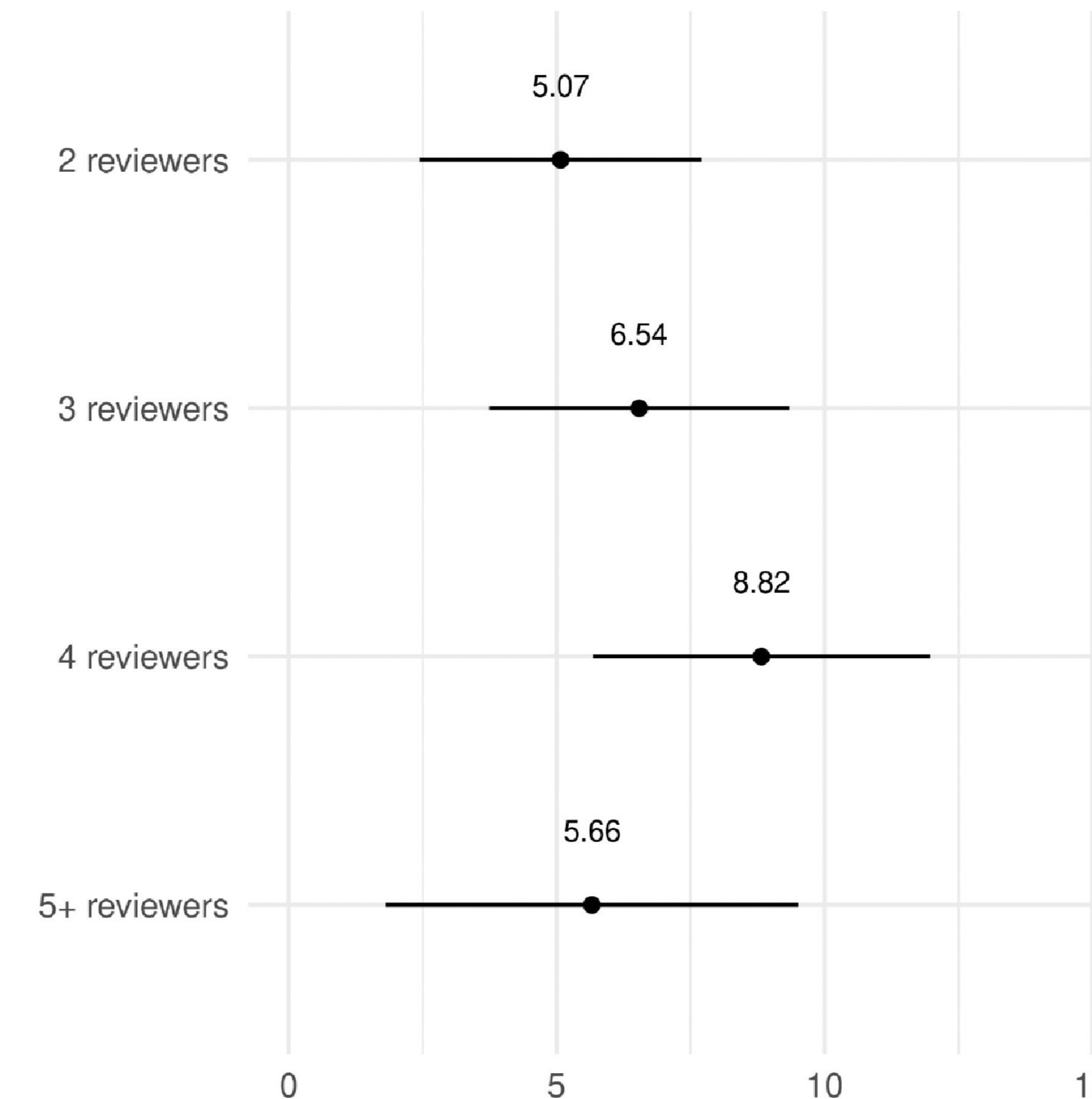
- “Review score” (Bravo *et al.*, 2018)
- Conteggio delle possibili combinazioni *peggiori* di giudizi dei revisori (accept > R&R > minor revision > reject)
- # combinazioni peggiori / tot. combinazioni possibili

Recommendations	Potential recommendation set			Review score	
	#better	#worse	#unclear	Pessimistic	Optimistic
{accept, accept}	0	9	0	1.00	1.00
{accept, minor revisions}	1	8	0	0.89	0.89
{accept, major revisions}	2	6	1	0.67	0.75
{minor revisions, minor revisions}	2	5	2	0.56	0.71
{minor revisions, major revisions}	4	4	1	0.44	0.50
{accept, reject}	3	3	3	0.33	0.50
{major revisions, major revisions}	5	2	2	0.22	0.29
{minor revisions, reject}	6	2	1	0.22	0.25
{major revisions, reject}	8	1	0	0.11	0.11
{reject, reject}	9	0	0	0.00	0.00

revisori -> trasformazione (effetto stimato)



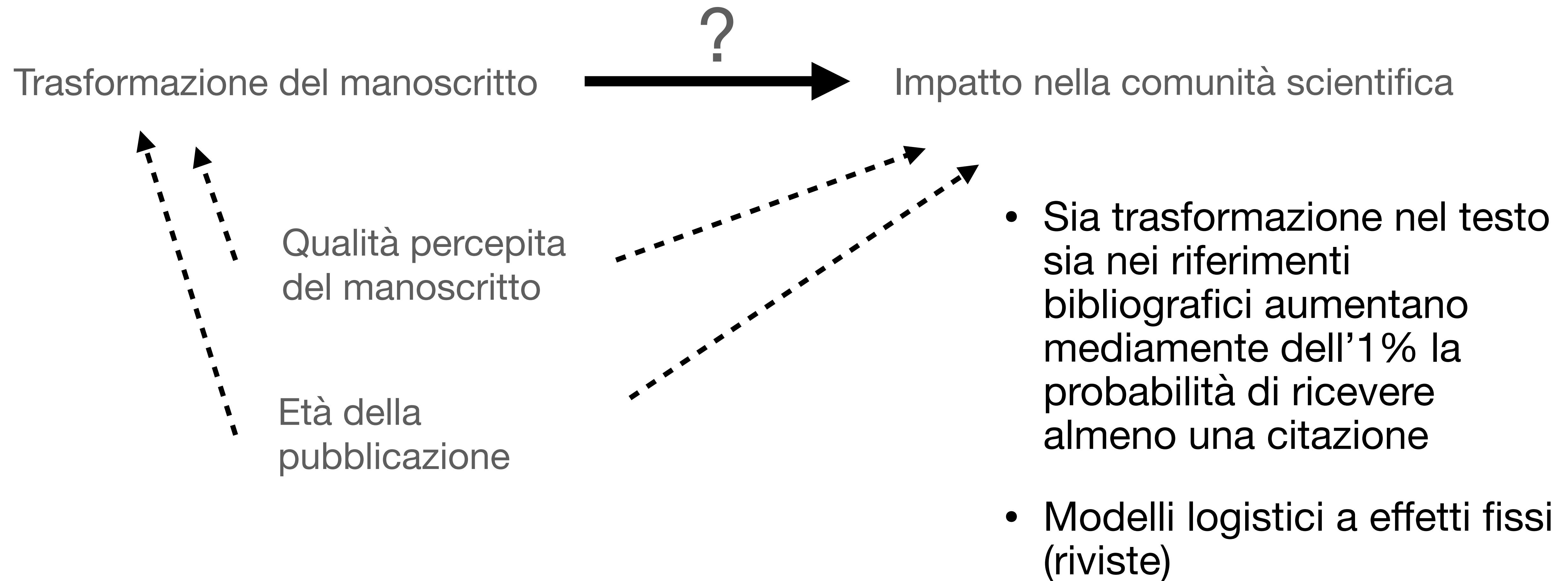
Testo (senza riferimenti bibliografici)



Riferimenti bibliografici

- Effetto trasformativo positivo (curvilineo)
- Modelli lineari a effetti casuali (riviste)

Effetto della trasformazione sull'impatto nella comunità scientifica



Problemi aperti



- Effetto trasformativo esiste e aumenta insieme al numero dei revisori
- L'effetto della trasformazione sull'impatto nella comunità scientifica *nel nostro campione* è minimo
- Siamo all'inizio di un filone di ricerca: presto per tirare conclusioni forti
- Domande aperte:
 - Se si vuole perseguire la funzione trasformativa, problema di sostenibilità data scarsità di revisori
 - *Peer review* di sviluppo come limite all'innovazione?

Grazie per l'attenzione

federico.bianchi1@unimi.it

@federico_fb

@BehaveLab_unimi

