



SHORT ANALYSIS

Room for improvement: Reducing the power imbalances in academic letters of reference

Title	Room for improvement: Reducing the power imbalances academic in letters of reference
Short Title	Reducing the power imbalances in academic letters of reference
Author	Lucy Gwen Gillis
Author affiliation	Leibniz Centre for Tropical Marine Research (ZMT)
Author bio	Lucy is a natural scientist developing nature-based solutions for coastal management. Her research concentrates on understanding climate change impacts on ecosystem engineer based ecosystems in a connected seascape. She also develops multi-discipline studies on provision of ecosystem services combining natural and social science perspectives. She completed her PhD in the Netherlands, her post-doctorate in Germany and now has a permanent position in Belgium and has completed fieldwork in every continent. Lucy is interested in reducing power in-balances in all areas of science, so that research is driven by innovation and merit, as this has broader societal implications.
Social Links	Lucy Gwen Gillis: LinkedIn – Twitter – ResearchGate
Date published	29 March 2021
DOI	10.5281/zenodo.4642677
Cite as (APA)	Gillis, L. G. (2021). Room for improvement: Reducing the power imbalances academic letters of reference. <i>Elephant in the Lab</i> . DOI: 10.5281/zenodo.4642677

Letters of reference (LORs) from early career researchers (ECRs) laboratory leaders are an integral part in moving ECRs to their next position. Due to the opaque and unstructured nature of LORs and the very fact that they are often shrouded in secrecy, make them liable to be used in games of power play between laboratory leaders and ECRs (Arroyo-López et al. 2020). This causes major issues not only at the individual level, but also undermines the integrity of academia. LORs are used as selection tools in academia (Kuncel et al. 2014). They are generally written and kept in total secrecy and it is unusual for ECRs to be aware of their content. However, LORs rely on

distortional subjective performance evaluations that influence the accuracy and reliability of the LORs. This essay reviews the potential biases in LORs formed either consciously or unconsciously by the letter writer and the letter reader.

Such letters are indeed invaluable. They prove useful when emotions, and biased, subjective perspectives do not influence letter content. Yet, given the lack of transparency, allow space for destabilizing power dynamics. LORs are ambiguous and unstructured, which allows for biases to occur. These letters control the early-stage selections into student programs or tenure track positions and cause biases in the selection of candidates. This essay explores the issues associated with transparency in LORs, such as how this impacts on ECRs and their mental health. More importantly, this essay identifies what this means for the perception of academia and the resilience of the individual, and how we can reduce the pitfalls of LOR issues.

The main weakness and also the power of LORs is their secrecy, which allows scientific leaders to be honest in the abilities of ECR's. The flip side is that these leaders control the narrative of the ECR's abilities. Once this narrative is established, there is little opportunity for ECRs to change a negative impression given by a bad or neutral LOR. Universities rely largely on letters of references when shortlisting for hiring or promotion (Abbott et al. 2010, Sheehan et al. 1998). Prestigious universities such as Stanford rate LORs as the most important factor in making decisions on tenure-track positions (Abbott et al. 2010). Cultures, genders, languages, emotions, perspectives of the letter writer all have impacts on the content of LORs, but these are rarely taken into account when reading or evaluating a LOR.

Reference letters for woman have been shown to have a greater number of communal words used (affectionate, kind, warm, caring) compared to letters for men which have more words in agentic terms (e.g., ambitious, dominant, and self-confident) (Madera et al. 2009, Schmader et al. 2007). A negative relationship was found between communal characteristics and positive hiring recommendations because there is a perceived lack of fit between communal characteristics and the work role as a leader in academia (Madera et al. 2009). This pattern is also shown for underrepresented minorities in medicine; where these applicants had fewer positive descriptors like "best," "leader," and "exceptional" in their LORs compared to their White and Asian counterparts (Chapman et al. 2020). Research has found that women have a greater number of 'doubt raisers' in their LORs such as "At first, despite truly spectacular GRE scores, she seemed quite unsure of herself" or "I assume she will be a relatively good teacher of undergraduate and graduate students" (Madera et al. 2018). This corresponded to women having lower ratings compared to male counterparts even when controlled for definable performance measures such as paper number, grants awarded etc. (Madera et al. 2018). Doubt raisers may not be negative but instead neutral as they indicate that the referee does not have a positive impression of the candidate (Madera et al. 2018). Given that LORs are not centered around definable variables such as papers published, grants awarded but are written by a person's particular 'feeling' about a

candidate such as excellence, ambition, fit etc. All these and more make such processes open to biases and potential power plays.

Early career researchers are under pressure to remain on good terms with laboratory leaders, otherwise they may not receive a positive LOR. If ECRs perceive that they cannot critic any issues in their working group for fear of affecting the good will of the laboratory leaders, this strain can lead to mental health issues and the secretive nature of LORs stifles the voice of ECRs. Negative practices in laboratories (bad scientific practice, labour abuse, bullying, favoritism) create poor working conditions. However, in these conditions ECRs cannot raise their voice because of concerns of having been labelled as difficult and subsequently not given a good reference, or any reference at all. A recent survey found that 62.3 % of bullied respondents did not complain because they had concerns about their LORs (Arroyo-López et al. 2020). When people cannot control their own narrative, this has a detrimental effect on ECR's mental health (Woolsten et al. 2020), which enhances feelings of powerlessness, guilt and lack of control. Negative, neutral or missing LORs jeopardizes scientific opportunities and future career perspectives.

LORs should provide objective, factual, and verifiable information that are 'made in good faith' (Wright and Zigelstein 2004). However, negative or neutral LORs are predominantly attributed to women and minorities (Trix and Psenka 2003, Dutt et al. 2016, Thornhill et al. 2019). These groups are identified as having greater barriers to continue in academia, and more vulnerable to power imbalances (O'Connor 2018, Whittaker et al. 2015). Given the lack of transparency in LORs, they are used as a tool for gatekeepers to exclude people considered as 'undesirable'. In the early 20th century they were initially required as part of the application process for admission to Harvard, Princeton and Yale Universities expressly to limit admission to marginalized groups, including African Americans, Catholics and especially Jews (Karabel 2006). Karabel states "it granted the director of admissions broad latitude to admit boys of good background with weak academic records" which was predominantly white and wealthy Protestants. This was their original intention to prevent certain people from attending Ivy league universities (Karabel 2006). A particular problem as ECRs cannot speak out against this issue or they risk further damaging their network or reputation.

The approach to writing LORs is unscientific, many highlight unmeasurable vague attributes (ambition, excellence, fit) rather than specific quantifiable attributes. Letters of reference need to be structured with clear protocols which should reduce unconscious (and conscious) bias (see below). Universities rarely have mechanisms that reduce biases or training in writing LORs. LORs ultimately reinforce the idea that academia hiring is opaque with no accountability and equitable criteria of evaluation (Fernandes et al. 2020). In this manner LORs reduce diversity by developing a potential bias in the earliest stage of selection, ultimately affecting the integrity of the academic system and bolstering power amongst gatekeepers.

The strength and weakness of LORs is that they allow laboratory leaders to be honest and therefore this facet should remain. Here protocols are proposed that should be developed to minimize power dynamics in LORs and improve its accountability, while also keeping the crucial aspects intact.

- Academia needs to develop fairer reference guidelines rather than allowing the referee to write the narrative. LORs should have a defined structure, forcing referees to validate opinions with evidence and having clear definitions of ambition, excellence; fit etc.
- Hiring committees should ensure that neutral or negative LORs are also considered in combination with the ECR's CV. We should not blindly accept references as they stand, but should analyze them especially if one reference occurs neutral and the others are excellent.
- Reviewers should be more inclusive of references and ask for more rather than only two to give a better overview of the candidate, this is especially important for tenure track positions.
- It should not be taken as a negative if an ECR does not include the leader of their last project. There may have been important reasons why this reference was excluded and as long as other references cover the same period then this should be acceptable.
- Lastly, examiners should be aware of potential biases in LORs and higher education facilities need to provide diversity/unconscious biases training.

By completing all steps outlined above, the biases and power imbalance, which are adherent to LORs, are reduced and prevent deliberate negative references that disproportionately affect women and minorities. Diversity is important in academia, but increasing diversity is still an ongoing problem. In US doctorate graduating institutes 68% of professorships are men whilst in the EU it is 79%, additionally 80-90% of institute heads are men (O' Connor 2016). LORs by their lack of accountability allow gatekeepers to continue keeping unwanted persons out, and this urgently needs to be addressed. Mechanisms that prevent women and minorities from gaining access to permanent positions have been identified and attempts are being made to reduce their impacts. The LOR should also be included and identified as a barrier susceptible to power imbalances and more constructive steps need to be taken in addressing their impact. If actions are not implemented and still 'opinions' are counted as more important, then science will never develop into a diverse structure representing the populations it advocates.

References

- Abbott, A., Cyranoski, D., Jones, N., Maher, B., Schiermeier, Q., & Van Noorden, R. (2010). Metrics: Do metrics matter? *Nature News*, 465(7300), 860–862.
- Arroyo-López, C. (2020) Are letters of recommendation the ace under the sleeve of bully mentors? Surviving Bullying in higher education — Part 2
<https://medium.com/marie-curie-alumni/are-letters-of-recommendation-the-ace-under-the-sleeve-of-bully-mentors-cdc56ec3e41>
- Dutt, K., Pfaff, D.L., Bernstein, A.F., et al. (2016) Gender differences in recommendation letters for postdoctoral fellowships in geoscience. *Nature Geoscience* 9: 805–808.
- Fernandes, J.D., Sarabipour, S., Smith, C.T., et al. (2020) Research Culture: A survey-based analysis of the academic job market. *eLife* 9.
- Karabel, J. (2016) *The Chosen: The Hidden History of Admission and Exclusion at Harvard, Yale, and Princeton*. Mariner Books. <https://www.amazon.com/Chosen-History-Admission-Exclusion-Princeton/dp/061877355X>
- Kuncel, N.R., Kochevar, R.J. and Ones, D.S. (2014) A meta-analysis of letters of recommendation in college and graduate admissions: Reasons for hope. *International Journal of Selection and Assessment*, 22, 101–107. <https://doi.org/10.1111/ijsa.12060>.
- O'Connor, P. (2016) Gender imbalance in senior positions in higher education: what is the problem? What can be done? *Policy Reviews in Higher Education*. DOI: 10.1080/23322969.2018.1552084
- Madera, J. M., Hebl, M. R., & Martin, R. C. (2009). Gender and letters of recommendation for academia: Agentic and communal differences. *Journal of Applied Psychology*, 94(6), 1591–1599. <https://doi.org/10.1037/a0016539>.
- Madera J.M., Hebl M.R., Dial, H., Martin, R. and Valian, V. (2018) Raising Doubt in Letters of Recommendation for Academia: Gender Differences and Their Impact *Journal of Business and Psychology* <https://doi.org/10.1007/s10869-018-9541-1>
- Schmader, T., Whitehead, J., & Wysocki, V. H. (2007). A linguistic comparison of letters of recommendation for male and female chemistry and biochemistry job applicants. *Sex Roles*, 57(7–8), 509–514. <https://doi.org/10.1007/s11199-007-9291-4>.
- Sheehan, E. P., McDevitt, T.M., & Ross, H. C. (1998). Looking for a job as a psychology professor? Factors affecting applicant success. *Teaching of Psychology*, 25, 8–11. https://doi.org/10.1207/s15328023top2501_3.
- Thornhill (2019) We Want Black Students, Just Not You: How White Admissions Counselors Screen Black Prospective Students. *Sociology of Race and Ethnicity* 2019, Vol. 5(4) 456–470 DOI: 10.1177/2332649218
- Trix, F. and Psenka, C. (2003) Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty. *Discourse & Society* 14: 191–220.
- Whittaker, J.A., Montgomery, B.L. and Martinez Acosta, V.G. (2015) Retention of Underrepresented Minority Faculty: Strategic Initiatives for Institutional Value Proposition Based on Perspectives from a Range of Academic Institutions. *Journal of Undergraduate Neuroscience Education* 13 (3): A136-A145.
- Woolston, C. (2020) Pandemic darkens postdocs' work and career hopes. *Nature* 585, 309-312 doi: <https://doi.org/10.1038/d41586-020-02548-2>

OPINION

Wright, S. M. and Ziegelstein, R.C. (2004) Writing More Informative Letters of Reference. *Journal of general internal medicine* 19,5 Pt2: 588–593.