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The pro-endogroup bias in the binarity vs. non-binarity challenge: through the perception of a CV

sorting performed by a human vs. an algorithm

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The aim of the present study is 1/ to examine the perception of the selection of a binary vs. non-binary candidate by a human vs. an algorithm and 2/ to identify or not a pro-endogroup bias in the justifications of participants concerning this perception.

The pro-endogroup bias consists for individuals to favour the members of their respective categories to the detriment of others. In the context of recruitment, it leads recruiters to discriminate against candidates on the basis of criteria such as gender and ethnic origin (Petit *et al.*, 2020). To tackle this subjectivity, algorithms have been developed (Amadiou & Roy, 2019). Are they perceived in this way? For some authors, they are effective (Lacroux & Martin-Lacroux, 2021) but not for others (Peña *et al.*, 2020). Chen *et al.* (2018), for example, found that automatic CV sorting removed direct, but not indirect, discrimination that would relate information about an applicant to those of a category. Indicators such as hobbies (Delroisse, 2011) included in a CV can give information about belonging to a gender category. What then happens when that membership is ambiguous, such as non-binarity? Dovidio & Gaertner (2000) suggest that this ambiguity is a source of discrimination. This raises the question of whether this pro-group bias is present in the perception of a decision about a CV sorting made by a human vs. an algorithm when heterosexual vs. LGBTQIA+ respondents give their opinions. It is hypothesized that binary/heterosexual vs. LGBTQIA+ respondents will agree more with a decision selecting the candidate of their group affiliation, when the CV sorting is performed by a human, rather than an algorithm. To deepen the understanding of the choices, it is relevant to look at the justifications given by respondents to explain a CV sorting decision. Indeed, as justification is at the heart of discrimination (Delroisse, 2011), it seems appropriate to study the content of the explanations provided in order to identify possible indirect forms of discrimination and therefore of pro-endogroup bias. For instance, a passive position in a sentence indicates an indirect discrimination and the individuals are perceived as enduring the action unlike ones in a subject position (N'Dobo & Gardair, 2006). In addition, it is expected that the content of the justifications will put the binary candidate in a more favourable position when produced by heterosexual/binary respondents than when produced by LGBTQIA+ respondents.

98 heterosexual/binary and 84 LGBTQIA+ individuals were presented vignettes relating a story of a CV sorting, performed by an algorithm vs. a human, involving a non-binary vs. binary candidate. Participants were asked to indicate on a 5-point scale their level of agreement vs. disagreement with the CV sorting performed by the algorithm vs. human. Then, they had to justify it in 100 words. The data processed using

non-parametric tests. They show that the heterosexual binary respondents agree more with a CV sorting selecting the binary candidate rather than the non-binary one, only when the CV sorting is performed by a human ($p=.03$). LGBTQIA+ respondents do not make a difference. Explanations processed using the TROPES software (version 8.5). They indicate that heterosexual/binary ($\chi^2(N=80) = 9.49$; $p=.02$; $V=0.20$) and LGBTQIA+ ($\chi^2(N=75) = 4.25$, $p=.04$; $V=0.23$) respondents place the non-binary candidate in a passive position in the sentence more than the binary one, when the CV sorting is performed by a human or an algorithm.

Thus, heterosexual/binary respondents seem to agree more with a decision selecting the binary candidate over the non-binary one when a human conducts the CV sorting. This result appears to show the existence of a pro-endogroup bias. In contrast, the justifications indicate an indirect discrimination against the non-binary candidate, by all respondents, when the CV sorting is conducted by a human and an algorithm. This evidence may indicate that algorithms are perceived as addressing direct but not indirect discrimination, against non-binary candidates. Thus, these data do not support the results of the study by Hasselberger & Agnoletti (2022). This suggests differences in the CV sorting processes underlying sexual orientation and gender identity discrimination. This is the originality of our work.

Although the small number of participants seems to be a limitation of this study, it offers interesting perspectives to be communicated during this congress by exploring the perception of the use of algorithms in the face of crucial social changes: diversity management. This presentation is at the centre of new social concerns for companies, hoping to provide ideas to contribute to an egalitarian recruitment of non-binary candidates.

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