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Title	Gender and matching to one's first-choice specialty: a cross-sectional analysis of the 2013–2019 Canadian Resident Matching Service data
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Reviewer 1	Larry Chambers
Institution	Elisabeth Bruyere Research Institute, Ottawa, Ont.
General comments (author response in bold)	No revisions requested.
Reviewer 2	Bart Harvey
Institution	Dalla Lana School of Public Health, University of Toronto, Toronto, Ont.
General comments (author response in bold)	To begin, the authors state the objective of the study is to "evaluate the CaRMS match for evidence of gender bias" (line 31 on page 5). Given the observational nature of this study, I would suggest the objective of this study be further clarified as in reality I believe it is exploring for potential associations between gender and being matched to one's first-choice specialty. That is, with the relatively weak study design and all of the potential confounding factors that could affect the study's observed results, I would respectfully suggest that obtaining 'evidence' of a causal relationship would be impossible with the many limitations inherent in the given study. **Thank you. We have changed the wording of the objective to reflect the limitations of our study design.** 2. Another concern I have with the study's conduct is that the authors carried out several (by my count, at least 47) individual univariate logistic regression analyses (ie, statistical analyses) rather than an initial multivariate analysis for both the 2018 and the combine 2013-2018 data. While the limitations section at the top of page 10 is reasonable complete, with the given analysis, I would suggest a further limitation that should be described is the risks associated with conducting these multiple statistical tests. However, the appropriate approach would be an initial, single overall statistical analysis and only then proceeding to explore individual specialties if, and only if, that overall statistical result met the specified level of statistical significance. As such, I would recommend the author-investigators carry out, interpret and report such an overall statistical analysis before the manuscript be considered for publication. Of course, an alternative, but less usual approach, would be to use adjusted levels of statistical significance for each of the univariate results. One such approach is the Holm adjustment, described on pages 64 and 65 of the 7th Edition of Glantz's Primer of Biostatistics. **Thank you, we have updated the statistical analysis (see above).** 3. Regarding the study's design, it is not clear why the authors chose to carry out two separate analyses: one of the combined 2013-2018 data, and also an analysis of the 2018 data. To further explore any of the possible changes "underway during the study period" (lines 31-33 on page 10), why wasn't a time-trend analysis, by year, carried out including each of the six individual years of data available rather than just the most recent year of available data? **Thank you. We have changed our methods to perform an analysis of the most recent 6 years of CaRMS data in a model that accounts for year of match participation.** 4. While I understand the primary research question for this study is whether being

	successfully match into one's first-choice specialty differs by gender, an examination of Tables 1 and 2 suggests that what specialties men and women choose as their first-choice specialty varies greatly by gender. I wonder if the author-investigators have considered carrying out and reporting on that analysis to provide an enhanced context potential gender differences and the CaRMS match? **We felt that this was outside of the scope of our manuscript but agree that this is an interesting study question.** 5. It's not clear that all "first-entry" specialties have been included in the analyses. For example, Laboratory Medicine is included in the table of combined 2013-2018 data but appears to have been omitted from the table of 2018 match results. In addition, it appears that Public Health and Preventive Medicine has been omitted from both tables. I would suggest the author-investigators either include all specialties that are included in the CaRMS match or explicitly described why some have been excluded. **Data on different specialties was not available for all years for all specialties. We were not able to include specialties that did not have at least one applicant who ranked the specialty as their first-choice for all years of analysis in our model. We have clarified this in the Methods and Results sections.** 6. On a more minor note, I would argue that the use of the word "rejected" on lines 12 and 15 of page 9 should be revised given that no applicant is 'rejected' via the CaRMS match but are simply matched or not matched to a given program they have included on their rank-ordered listing of programs that they wished to be considered for. **This is an important note and we have made this change. Thank you for this advice.** 7. For an editorial perspective, I think 'of' should be deleted in the last full line of the abstract (ie, …possible gender bias…), and 'as' should be revised to 'was' on line 31 of page 7. Further, I would suggest 'recent study' be revised to 'recently-published study' on line 26 of page 9 given the data being reported in that publication applies to the period 1990-2007 (ie, not that 'recent'). **Thank you, we have made these suggested changes.**
Reviewer 3	Steve Slade
Institution	
General comments (author response in bold)	However, the statistical methods and presentation of findings appear to have shortcomings that require significant revisions (see attached). **Thank you, we have addressed these comments by changing our statistical approach.**