## **Peer Review Report**

# Review Report on Article type: original article Article title: Mental health and the intersection of perceived discrimination and social inequalities among students in Germany -A quantitative intersectional study

Original Article, Int J Public Health

Reviewer: Sakari Karvonen Submitted on: 01 Oct 2024

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#### **EVALUATION**

## Q 1 Please summarize the main findings of the study.

The study finds that certain intersections or combinations of variables measuring adversities among German students associate with poorer mental health. Variables include gender, whether the respondent is of first academic generation or not, whether they need to care for someone in their family and if they report having seen discrimination. According to the findings having several of these adversities increases the risk of poor mental health. The risk is additive, in other words, no intersection effect is found.

### Q 2 Please highlight the limitations and strengths.

Strengths include relatively large data comprising a uniform group of respondents that allows for exploring the contribution of the adversities. Another strength is the use of MAIHDA modelling the allows differentiating the observed variance according to clusters of background variables. The modelling appreas to have been done appropriately – even though I am not an expert – and the data fairly suitable for this approach. At times data are sparse but I do not think this is a major problem.

Limitations relate to the fairly random group of variables used that results from the use of a secondary data. This is addressed in the paper as well. One way of addressing some limitations of the data could have been iterating the model with other classifications, currently the variables are dichotomised crudely but surely other cutpoints could have been used.

Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

I find the ms. well-written and consistent. Data and methods are appropriate for the research questions and there appears to be a contribution to the field, even if rather small.

My main concern relates especially to the contribution that is not addressed and discussed clearly enough. Most of the findings corroborate with earlier studies which can be seen in the Discussion where the authors state on several occasions that they "align with", "are well–known" or "are consistent with" earlier studies. Thus it remains unclear, what the actual contribution would be. This should be highlighted clearer and discussed thoroughly. The authors seem to insist that providing results covering the gender–diverse group is one such thing. If this is the case, factors behind their mental poor health should be addressed more.

Minor points:

It seems to be that more could be made of the context of the study. Does the fact that the subjects are University students bring anything to the study? Is there something specific in German universities or does studying at a University influence the mental health challenges that are observed, or the intersections that are found? Given that according to the authors is the first of its kind (in focusing on students) this context could be addressed better.

Limitations of data are discussed well apart from the fact that nearly half of the data are excluded. What are the consequences of this selection? Is there any way of assessing if this introduces bias to the data? How representative was the original sample? What was the response rate?

One of the key variables concerns the perception of discrimination. As is openly discussed in the ms. some of the respondents received and reported perceptions based on online teaching. Yet it is unclear, how many of the sample this covers. It should further be discussed how valid these sorts of assessments in fact are.

Table 2 is presented quite sparingly. More should be spelled out, e.g. what were the largest groups in all, and what were the largest intersections.

Finally I find that much of the conclusion section does not arise from this study. We already knew that clusters of adversities may harm young people's mental health. From this perspective adopting the "intersectional lens" does not seem to provide much knew.

| PLEASE COMMENT   |  |
|--|--|
| Q 4  | Is the title appropriate, concise, attractive?   |
| Yes.   |  |
| Q 5  | Are the keywords appropriate?  |
| Yes.   |  |
| Q 6  | Is the English language of sufficient quality?   |
| Yes. I found only one typo on line 275: "Contrary as expected" |  |
| Q 7  | Is the quality of the figures and tables satisfactory?                                       |
| Yes.   |  |
|  |  |
| Q 8  | Does the reference list cover the relevant literature adequately and in an unbiased manner?) |
| Yes.   |  |
| QUALITY /  | ASSESSMENT   |
| Q 9  | Originality  |
| Q 10   | Rigor  |
| Q 11   | Significance to the field  |
| Q 12   | Interest to a general audience   |
| Q 13   | Quality of the writing   |
| Q 14   | Overall scientific quality of the study  |
| REVISION LEVEL   |  |
| Q 15   | Please make a recommendation based on your comments:   |

Minor revisions.