Review by ISZ_3 for ISZ_5

Reviewers: **Score:**
Dawid Bogon, 402452   24/27 points
Michał Święciło, 402247   89%

1. Problem formulation   [5/5 pts]
- Is the problem clearly stated   1 pt
  Yes, in Introduction
- What is the point of creating model, are potential use cases defined   1 pt
  No, there are no use cases shown
- Where do data comes from, what does it contain   1 pt
  It is described in dataset section
- DAG has been drawn   1 pt
  Yes, it has been drawn
- Confoundings (pipe, fork, collider) were describe   1 pt
  Yes, some confoudings are described

2. Data preprocessing   [2/2 pts]
- Is preprocessing step clearly describe   1 pt
  Yes, in Data preprocessing section
- Reasoning and types of actions taken on the dataset have been described   1 pt
  Yes, in Data preprocessing section

3. Model   [4/4 pts]
- Are two different models specified   1 pt
  Yes, but there are 8 models in total, with different priors
- Are differences between two models explained   1 pt
  Yes, there is different distribution.
- Are the differences in the models justified (e.g. does adding additional parameter makes sense?)   1 pt
  Due to low degree of freedom size it is justified.
- Are models sufficiently described (what are formulas, what are parameters, what data is required)   1 pt
  Yes

4. Priors   [3/4 pts]
- Is it explained why particular priors for parameters were selected   1 pt
  Yes, there was explanation.
- Have prior predictive checks been done for parameters (do parameters simulated from priors make sense)   0 pt
  No, parameters are not checked.
- Have prior predictive checks been done for measurements (do measurements simulated from priors make sense)   1 pt
  Yes, this data is visualized.

- How prior parameters were selected   1 pt
  Yes, priors are shown

5. Posterior analysis (model 1)   **[3/4 pts]**

- Were there any issues with the sampling? if there were what kind of   1 pt
  ideas for mitigation were used
  Authors stated that there were no issues with sampling.
- Are the samples from posterior predictive distribution analysed   1 pt
  Yes, they are
- Is the data consistent with posterior predictive samples and is it   1 pt
  sufficiently commented (if they are not then is the justification
  provided)
  No, but the inconsistency is explained
- Have parameter marginal distributions been analysed (histograms of   0 pt
  individual parameters plus summaries, are they diffused or
  concentrated, what can we say about values?)
  No, only samples are shown

6. Posterior analysis (model 2)   **[3/4 pts]**

- Were there any issues with the sampling? if there were what kind of   1 pt
  ideas for mitigation were used
  Authors stated that there were no issues with sampling.
- Are the samples from posterior predictive distribution analysed   1 pt
  Yes, they are
- Are the data consistent with posterior predictive samples and is it   1 pt
  sufficiently commented (if they are not then is the justification
  provided)
  No, but the inconsistency is explained
- Have parameter marginal distributions been analysed (histograms of   0 pt
  individual parameters plus summaries, are they diffused or
  concentrated, what can we say about values?)
  No, only samples are shown

7. Model comparison   **[4/4 pts]**

- Have models been compared using information criteria   1 pt
  Yes.
- Have result for WAIC been discussed (is there a clear winner, or is   1 pt
  there an overlap, were there any warnings)
  Yes, there is analysis of WAIC results.
- Have result for PSIS-LOO been discussed (is there a clear winner, or is   1 pt
  there an overlap, were there any warnings)
  Yes, there is analysis of PSIS-LOO results.
- Whas the model comparison discussed? Do authors agree with   1 pt
  information criteria? Why in your opinion one model better than
  another
  Yes, authors presented it in the conclusion.