Review ISZ_18

reviewers

Jakub Eliasz	Points:	23.5/27
Arkadiusz Kontek	Percent:	87%

Problem formulation [5 | 5 pts]:

- is the problem clearly stated **[1/1 pt]**
  Problem is stated clearly.
- what is the point of creating model, are potential use cases defined **[1/1 pt]**
  Potential use cases are defined clearly.
- where do data comes from, what does it contain **[1/1pt]**
  It is mentioned where do data comes and what it contains.
- DAG has been drawn **[1/1 pt]**
  DAG is provided.
- confoundings (pipe, fork, collider) were described **[1/1 pt]**
  Possible confoundings provided.

Data preprocessing [1.5 | 2 pts]:

- is preprocessing step clearly described **[1/1 pt]**
  Steps were clearly described
- reasoning and types of actions taken on the dataset have been described **[0.5/1 pt]**
  Actions taken on dataset are explained and why there are relatively few changes.

Model [3.75 | 4 pts]

- are two different models specified **[1/1 pt]**
  They are specified clearly.
- are difference between two models explained **[1/1 pt]**
  They are clearly explained.
- is the difference in the models justified (e.g. does adding additional parameter makes sense?) **[1/1 pt]**
  Justification provided but shortly.
- are models sufficiently described (what are formulas, what are parameters, what data are required) **[0.75/1 pt]**
  Choice of model is explained with model description, but no formulas are provided.

Priors [4 | 4 pts]

- Is it explained why particular priors for parameters were selected **[1/1 pt]**
  Reasoning explained enough.
- Have prior predictive checks been done for parameters (are parameters simulated from priors make sense) **[1/1 pt]**
  Prior parameters checks were simulated and make sense.
- Have prior predictive checks been done for measurements (are measurements simulated from priors make sense) **[1/1 pt]**
  Histograms are provided with descriptions.
- How prior parameters were selected **[1/1 pt]**
  Selection is broadly described.

Posterior analysis (model 1) [3 | 4 pts]

- were there any issues with the sampling? if there were what kind of ideas for mitigation were used **[1/1 pt]**
  There were not any issues with the sampling.
- are the samples from posterior predictive distribution analyzed **[0.5/1 pt]**
  Samples are analyzed, but poorly described.
- are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) **[0.5/1 pt]**
  Data is consistent with posterior predictive samples, but poorly described.
- have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values) **[1/1 pt]**
  There is histogram of lambda, but poorly described.

Posterior analysis (model 2) [3 | 4 pts]

- were there any issues with the sampling? if there were what kind of ideas for mitigation were used **[1/1 pt]**
  There were not any issues.

- are the samples from posterior predictive distribution analyzed **[0.5/1 pt]**
  Samples are analyzed on histograms, but poorly described.

- are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) **[1/1 pt]**
  Data is mostly inconsistent, but it is sufficiently commented.

- have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values) **[0.5/1 pt]**
  There is analysis of the marginal distributions of the parameters, but it is poorly described.

Model comparison [3.25 | 4 pts]

- Have models been compared using information criteria **[1/1 pt]**
  All required comparison metrics are provided.

- Have result for WAIC been discussed (is there a clear winner, or is there an overlap, were there any warnings) **[0.5/1 pt]**
  WAIC is provided, there is overlap and warnings are not described.

- Have result for PSIS-LOO been discussed (is there a clear winner, or is there an overlap, were there any warnings) **[0.75/1 pt]**
  LOO is provided, there is no explanation of overlap, the winner is highlighted.

- Whas the model comparison discussed? Do authors agree with information criteria? Why in your opinion one model better than another **[1/1 pt]**
  Comparison are discussed, the second model is better. The reason for this may be that it uses more specific data.