

## Review by ISZ\_2 for CPS\_1

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### Reviewers:

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### Score:

16/27 points

59%

### 1. Problem formulation

[4.5/5 pts]

- Is the problem clearly stated  
*Problem was clearly stated in a business-style presentation* 1 pt
- What is the point of creating model, are potential use cases defined  
*Use cases and the point of creating the model were present* 1 pt
- Where do data comes from, what does it contain  
*Data sources and their contents have been listed* 1 pt
- DAG has been drawn  
*Dag was present* 1 pt
- Confoundings (pipe, fork, collider) were described  
*Confoundings were only partially present* 0.5 pt

### 2. Data preprocessing

[0.5/2 pts]

- Is preprocessing step clearly described  
*Preprocessing is mentioned but the only thing we know is that means were calculated and (here I quote) "The data was slightly changed"* 0.5 pt
- Reasoning and types of actions taken on the dataset have been described  
*As above ("The data was slightly changed") no further reasoning has been provided* 0 pt

### 3. Model

[2.5/4 pts]

- Are two different models specified  
*Models were described, but some parts had to be guessed* 0.5 pt
- Are differences between two models explained  
*Although spread throughout the report, the differences have been stated* 1 pt
- Are the differences in the models justified (e.g. does adding additional parameter makes sense?)  
*It is said that in model 1 irradiation was omitted due to low impact on generation* 1 pt
- Are models sufficiently described (what are formulas, what are parameters, what data is required)  
*No formulas were shown for the models* 0 pt

<b>4. Priors</b>	<b>[3.5/4 pts]</b>
<ul style="list-style-type: none"> <li>Is it explained why particular priors for parameters were selected <i>Priors for parameters have been thoroughly described</i></li> </ul>	1 pt
<ul style="list-style-type: none"> <li>Have prior predictive checks been done for parameters (do parameters simulated from priors make sense) <i>Checks for parameters have been done, parameters tend to follow real world distributions</i></li> </ul>	1 pt
<ul style="list-style-type: none"> <li>Have prior predictive checks been done for measurements (do measurements simulated from priors make sense) <i>Measurements were visualised, but further comments could have been provided</i></li> </ul>	0.5 pt
<ul style="list-style-type: none"> <li>How prior parameters were selected <i>Although a bit spread out in report, sufficient arguments have been given</i></li> </ul>	1 pt
<b>5. Posterior analysis (model 1)</b>	<b>[1/4 pts]</b>
<ul style="list-style-type: none"> <li>Were there any issues with the sampling? if there were what kind of ideas for mitigation were used <i>Not stated in the report</i></li> </ul>	0 pt
<ul style="list-style-type: none"> <li>Are the samples from posterior predictive distribution analysed <i>Results are shown but not described</i></li> </ul>	0.5 pt
<ul style="list-style-type: none"> <li>Is the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) <i>Data is shown, but no commentary was provided</i></li> </ul>	0.5 pt
<ul style="list-style-type: none"> <li>Have parameter marginal distributions been analysed (histograms of individual parameters plus summaries, are they diffused or concentrated, what can we say about values?) <i>No distributions of parameters for posterior have been shown</i></li> </ul>	0 pt
<b>6. Posterior analysis (model 2)</b>	<b>[1/4 pts]</b>
<ul style="list-style-type: none"> <li>Were there any issues with the sampling? if there were what kind of ideas for mitigation were used <i>No information was given</i></li> </ul>	0 pt
<ul style="list-style-type: none"> <li>Are the samples from posterior predictive distribution analysed <i>Samples have been shown, but not discussed</i></li> </ul>	0.5 pt
<ul style="list-style-type: none"> <li>Are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) <i>Data was shown but without any commentary</i></li> </ul>	0.5 pt
<ul style="list-style-type: none"> <li>Have parameter marginal distributions been analysed (histograms of individual parameters plus summaries, are they diffused or concentrated, what can we say about values?) <i>No distribution of parameters have been shown in posterior</i></li> </ul>	0 pt

## 7. Model comparison

[3/4 pts]

- Have models been compared using information criteria  
*Models have been compared with information criteria* 1 pt
- Have result for WAIC been discussed (is there a clear winner, or is there an overlap, were there any warnings)  
*Results for WAIC have been shown and discussed* 1 pt
- Have result for PSIS-LOO been discussed (is there a clear winner, or is there an overlap, were there any warnings)  
*Results of LOO have been visualised and commented* 1 pt
- Whas the model comparison discussed? Do authors agree with information criteria? Why in your opinion one model better than another  
*No further discussion was found in the report. No opinions from the authors were present, only descriptions to information criteria. We believe both models to overlap due to extremely similar results shown by WAIC and LOO criteria.* 0 pt