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Journal Name:	**Asian Journal of Probability and Statistics**
Manuscript Number:	**Ms_AJPAS_114033**
Title of the Manuscript:	**Estimation of Reliability under Conditional Stress – Strength Setup based on Weibull Distribution**
Type of the Article	

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	**Based on the details provided, the manuscript appears to make several useful contributions that could be important for the scientific community:** **- It introduces and studies the conditional stress-strength model, which extends the standard stress-strength model by conditioning on stress and strength exceeding certain thresholds. This allows for modeling reliability in cases where only "stronger" components are of interest.** **- It specifically studies this conditional model under the assumption that stress and strength follow Weibull distributions, which are widely used in reliability engineering. Deriving the form of the conditional reliability under Weibull assumptions is a useful theoretical contribution.** **- The manuscript compares different methods for estimating the conditional reliability - maximum likelihood, bootstrap, and Bayesian approaches. Conducting a simulation study to evaluate the estimators and construct confidence/credible intervals provides practical guidance on which methods perform best in different scenarios.** **- The application to real fiber strength data demonstrates how the methods could be applied in a real-world reliability context.** **Yes.** **Yes.** **Yes.** **Almost. The manuscript needs some grammatical corrections.** **Yes.** **Here are some potential corrections and suggestions I would recommend as a reviewer for improving the manuscript:** **Abstract:** **- The abstract could provide more motivation and background on why the conditional stress-strength model is useful. Why is it an important extension of the standard model?** **- Mention the use of Weibull distributions for stress and strength in the abstract. This modeling assumption is key.** **- Briefly mention the main findings on estimator performance from the simulation**	

	studies. **Introduction:** **- Expand the introduction to provide more background on applications where conditioning stress/strength is relevant. Where does this commonly arise?** **- Provide some more references to recent literature on conditional reliability modeling.** **- Explain why Weibull distributions were chosen to model stress/strength. Justify this based on their flexibility and common use in reliability.** **Methods:** **- Provide more details on the Bayesian prior selections and why they were chosen. Are they conjugate for computational convenience?** **- Consider adding some plots that visualize the Weibull conditional reliability surface as a function of the parameters. This would give more intuition.** **Results:** **- Add some remarks in the results on the key takeaways from the simulations. E.g. discuss how MSE decreases with sample size, or which confidence intervals had better coverage.** **- For the real data, include a plot of the fitted Weibull distributions. And report the p-values from the KS test for fit.** **Discussion/Conclusion:** **- Provide more interpretation of the results - why did methods perform as observed? E.g. why did Bayes often have lower MSE?** **- Discuss any limitations or assumptions that could be addressed in future work.** **- Highlight the practical implications from the research. When might the different estimation methods be recommended?**	

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Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	Need editions.	
Optional/General comments	Here are some general comments I would provide as a reviewer on this manuscript: Overall Impression - The paper addresses an important problem in reliability modeling by extending stress-strength models to a conditional case. Studying this under Weibull assumptions is useful given how widely applicable Weibull models are. - The methods are sound and leverage existing approaches like MLE, bootstrap, and Bayes estimators. The simulation studies provide good practical insights. - The manuscript is technically strong, but could be improved by providing more intuition and interpretation for readers less familiar with reliability theory. - The results appear sufficiently novel, as conditional stress-strength modeling has not been extensively studied under Weibull assumptions before. Strengths - Asking an interesting research question that expands reliability modeling tools. The conditional stress-strength model seems a useful generalization. - Using Weibull assumptions for stress and strength is very relevant, given how widely used Weibull models are in engineering reliability. - Thoroughly comparing multiple estimation methods via simulations - useful practical insights. - Real data example provides a good demonstration of how the methods could be applied. Weaknesses/Areas for Improvement - The introduction could be expanded to provide more motivation and background on the conditional model. Applications where it is useful? - More intuition could be provided, eg with visualizations of the Weibull conditional reliability surface. - The Bayesian prior selections need further justification - why/how were they chosen? - More interpretation of the results and findings would make the implications clearer. - Limitations and assumptions could be discussed more, and future work possibilities highlighted.	

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PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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