

visual encoding

The study has a clear and reasonable setting based on a previous paper. It's a good thing that you are going to add hypothesis testing into the data analysis. You are also careful in the assumptions of statistical tests.

As you are going to compute accuracy, I assume you let a participant choose from several answers. This is different from entering a number for the proportion freely. You may have to discuss the potential effect and justify this choice. On the other hand, for cheating, I think one direction is to remove incentives for participants to cheat. You may craft the wording of the instructions. For example, you can state that some graphs might be better ways of representing percentage than others, so a participant is not expected to be totally precise.

Besides your within-subject analysis, you may consider grouping responses by demographic categories such as age and education background. Such information can be collected in the screening stage, and it is relatively easy to do so on MTurk. Also, you may ask some subjective questions about different types of graph at the end of the survey, which may provide some quantitative insights.

The presentation covered important points. The progress and analysis steps are shown clearly. It would be better if you show some examples of the graphs.