Knowledge, Dissent, and Influence Within Juries of Varying Heterogeneity

The original purpose of this research was to study individual differences members of a single heterogeneous jury deliberating as a part of Science Court[1]. After this research was proposed and prospective participants were invited, the study was met with overwhelming interest. Consequently, the Science Court staff expanded the scope of the study to become an experiment featuring three juries with the goal of comparing their effectiveness in using the evidence from the preceding Science Court trial to deliberate and reach a verdict. Shifting the focus from the individuals to the groups allowed the research to become more applicable to the improvement of the course. The three juries were composed as follows: a racially and politically heterogeneous jury (Jury 1), a racially heterogeneous but politically homogenous jury (Jury 2), and a racially and politically homogenous jury (Jury 3). Each jury followed a structured format to deliberate on the issue presented to them at the Science Court trial. Every participant across the three juries completed a pre-trial (Time 1) and a post-deliberation (Time 2) survey. The Time 1 survey measured the participants' knowledge of aspects of the Science Court topic, mandatory and voluntary national service. For the Time 2 survey, participants again assessed their knowledge as well as factors pertaining to the success of the deliberation: satisfaction, individual dissent from the other jurors, prevalence of dissent within the group, the group's ability to elaborate on information, views on diversity, and satisfaction.

Results: Across the body of participants, knowledge of the Science Court topic increased significantly following the trial and deliberation, which contributes to one of the aims of Science Court, education. No significant difference was found between the juries in the measures of satisfaction, information elaboration, or participation despite the tested reliability of these measures. Jury 3 reported significantly higher individual and group dissent than Jury 2. Note that

[1] https://scicourt.umn.edu/

the measure of group dissent had a somewhat low reliability ($\alpha = 0.68$) but was adapted closely from a study done by De Dreu and West[2] in which the measure was reliable ($\alpha = 0.81$). Jury 2 agreed that decision-making bodies benefit from the involvement of people of different ethnic backgrounds significantly more than Jury 3, while Jury 3 agreed that decision-making bodies are more harmonious if the people in them are similar significantly more than Jury 1 and Jury 2 in a self-affirming effect.

Discussion: This study did show that the Science Court experience for jurors increases knowledge. The lack of significant difference in three of the outcome variables makes this study inconclusive on the effects of diversity on group decision-making. As this study is a small part of a larger ongoing project examining both the pedagogical aspects and jury outcomes of Science Court, it is possible that further analysis of qualitative data could reveal the differences between the juries. There is promise on this level of analysis. For example, Jury 1 and Jury 2 decided in favor of mandatory national service in their final verdict whereas Jury 3 decided in favor of voluntary national service. This and other qualitative data continue to be synthesized in preparation for the forthcoming publications.

My contributions: One of my roles as a researcher was to organize and run reliability tests on our outcome variables, which I was able to accomplish quickly. I was also responsible for observing video of one of the jury deliberations and correcting its corresponding transcript. This proved to be a slow process and took up an unexpectedly large proportion of my time spent on this project. The poor audio quality of the recording, interrupting jurors, and background noise led me to spend many hours correcting per hour of audio. I was also assigned to draft a methodology section for one of the papers to be written by the team. I made little progress on this, largely because this second publication has been put on hold due to a stronger focus on the

[2] De Dreu, C. K., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology*, *86*(6), 1191.

first paper as well as a lack of promise shown in the quantitative data. Finally, I aided in the analysis of the notes that jurors took during the deliberations. We developed an efficient way to pull useful insights from these notes, which will likely be present in both papers.

My experience: My URS reports were slightly disconnected from the Science Court papers due to the different scopes of the two projects. Furthermore, my proposal did not accurately lay a foundation for my research or final report because our study was not yet in its final form when the proposal was submitted. Despite the incongruity in the process, I believe the URS has been a valuable experience in research. I have had a chance to play a part in the collection, analysis, and presentation of scientific data, which will all prove to benefit me as I prepare my thesis and start my career.