I apologize in advance that the level of insight I can provide is limited based on my very limited exposure to network theory and complexity science.

The level of detail you included in your paper is very insightful. For example, right away, within the first 3 sentences of your paper you state the background of the study stipulating that your social network is not traditionally considered a biological network but because it is a system arising from the interaction between human beings we can asses the biological components that govern it. This is an example of how the detail you chose to include put your study in the context of the greater study of biological systems. Because you include such precise and chosen detail there is nothing in the paper that seems unnecessary or excessive. Lastly, the level of detail found throughout your paper

Your description of your model is extremely clear. It is not only easy to understand but it displays a thorough understanding and possesses a command of the reasoning that led to your established model. Furthermore it leads me to believe that what you did was the best way to model your network given the resources you had access to.

Over all I think very highly of your paper, I only have the following suggestions and they are small suggestions:

Adding related/prior work or models that are similar to yours as a point of comparison in the model description. Or if feasible/reasonable I would include how your results differ than those of your reference paper. This will help put your network in context of similar studies and draw comparisons of results.

Something very small: in the first part of your model you allude to the possibility that if we use the same tools and parameters as in biological systems (as you did) we may be able to understand “these systems and the part that the biological component they posses play in their behavior.” As aforementioned, this was a great addition to your paper, however it is not brought up again at all. If the resolution of saying this was merely that this project is a part of a group effort to essentially understand the parameters that make biological and non-biological systems different then so be it. I would simply state that the comparison would not take place in this paper.

Other than these suggestions you did an amazing job with your paper in the above ways.