Connector Game: Debriefing Form

What are we trying to learn in this research?

The goal of this research is to understand how parameters derived from large-scale models of semantic memory affect performance in a conceptual word game. We are interested in understanding how words are organized in memory, and whether "path length", which is conceptually a measure of the number of steps taken from one word to another, could predict performance in the game you were part of. For example, can our models predict how long it takes a person to generate a clue for two words, and specifically, can our models predict the specific word that a person generates? Further, can our models predict the words that another player will guess from the board, given a particular clue? Different models of semantic memory have very different structures and predictions, and our goal is to evaluate the predictive power of these models in this conceptual task. Results from this study will be compared to more than one measure of path length and also to other spatial models of word organization, to evaluate the most accurate model for semantic memory.

Why is this important to scientists or the general public?

This experiment has both theoretical and practical implications. Theoretically, it will help scientists better understand the ways in which people organizes words in memory and help us design better intelligent systems. Practically, such a task might help reveal strategies by which retrieval tasks such as word generation, word naming, picture naming etc. could be improved by understanding the semantic memory structure.

What are our hypotheses and predictions?

If there is a single correct model of semantic memory, then we might see either network-based or spatial models perform better on this conceptual word game task. However, it is also possible that humans use different types of representation for different tasks, and thus more than one model may explain performance. This performance may also be affected by other lexical variables such as age of acquisition and word frequency.

Where can I learn more?

Kenett, Y. N., Levi, E., Anaki, D., & Faust, M. (2017). The semantic distance task: Quantifying semantic distance with semantic network path length. Journal of Experimental Psychology: Learning, Memory, & Cognition.

Mikolov, T., Chen, K., Corrado, G., & Dean, J. (2013). Efficient estimation of word representations in vector space. arXiv preprint arXiv:1301.3781.

Steyvers, M., & Tenenbaum, J. B. (2005). The large scale structure of semantic networks: Statistical analysis and a model of semantic growth. Cognitive Science, 29(1), 41-78.

What if I have questions?

If you have any questions about the research study itself, please contact Abhilasha Kumar at: abhilasha.kumar@wustl.edu or 314-938-6685. If you feel you have been harmed in any way b your participation in this study, please contact Dr. David Balota at: dbalota@wustl.edu or 314 935-6524.

Thank you for participating!