**Activity 4: Mind-mapping**

**Purpose of this assignment:** The purpose of this assignment is to help you think about the questions and issues associated with your projects, the existing literature, and necessary data for the analyses you are planning.

**How does it fit within the entire project?** This exercise will help you jumpstart your reflection on the analytical framework of your project, the basis of your work.

**Tasks required:** Read the two papers associated with your project following the approach we went over in class and complete this activity

**Deliverable:** PDF of your completed mind map

**Estimated time:** Less than two hours

**Group work or individual work?** Individual work

**Notes to instructor:**

* This activity can be undertaken on paper or in a graphics software like Microsoft Paint. One can also use VUE (<https://vue.tufts.edu/>) or Google Jamboard (<https://jamboard.google.com/>) to create concept maps that can easily be edited. Directions for the download, installation, and use of the software program should be added to the step-by-step guide below.
* This activity was developed for a CURE in which students were given the opportunity to select from a series of defined projects consisting of one main question.
* Each project was provided two recent papers from the primary literature that represented model papers that investigated similar questions in different study systems.
* Students had already completed an in-class activity on reading and analyzing the primary literature [**Activity 2**].

**Step-by-step:**

1. Start your mind map by entering the title/question of your project from the syllabus/class presentation.
2. Identify the three keywords/expressions of your project title. Create independent bubbles stemming from the title for each of them. Do not count the study system as one of the keywords; focus on concepts.
3. Away from the existing bubbles, create a new bubble and name it after one of the two example papers associated with your topic.
4. Do the same thing for the second paper.
5. For each of the two papers, create two new bubbles. One should be titled “Question”, the other “Hypothesis”.
6. Can you identify the question and hypothesis for each of the two papers associated to your project? Add them to your mind map.
7. Using the two papers and the data from the initial project presentation to the whole class, can you develop your own question(s) and hypothesis(-es) for your project?
8. Create bubbles for the three keywords/expressions you identified for your project but for the two example papers (as appropriate).
9. What other keywords and concepts come to your mind from reading the papers that are associated to each of the three keywords/expressions? Complete the bubbles for the two example papers. Use as many bubbles as necessary and selectively reread the papers as necessary.
10. Use the bubbles from the two example papers to expand the bubbles for your own project. Ask yourself questions like:
    1. “What data do I need to represent the variables associated to my project?”
    2. “How is this variable commonly measured in published analyses?”
    3. “What analyses have already been undertaken in the literature? What do we already know about the question and the study system?”
    4. Do you have any other question?