Josh Thompson

Easy Lesson Plan Template[1]

P = Pretest (think essential questions)
O = Objectives (measurable - see Bloom's taxonomy)
C = Catch (hook, anticipatory set, etc... use different senses, not a question)
A = Activity (procedure of what the students should do)
R = Review (how will students go over what they've learned?)
A = Assessment (formative and/or summative)
P = Posttest (same as pretest for comparison purposes)
S = Standards (Wyoming, NGSS, etc...) showcasing crosscutting concepts[2]

Pretest Questions	- How much of what we "hear" or read via social media should we believe? Should any of what we hear in media and social media be trusted? - How might we be reasonably certain what we've heard (via hearsay) is accurate (or, "Can we?" and if not, "Why not?")? - What factors impact how quickly misinformation spreads and results in erroneous misbeliefs that are resistant to correction? - Why and how are some people more believable than others, and what impact does that have upon popular opinions? What is the relative influence of news media on public opinion in comparison to social influence? - How might the spread of erroneous information result in poor public policy or public health decisions?
Objectives	- Students will understand the miscommunication and misunderstanding endemic in human communication in any setting and its implications to student selected careers and organizations. - Students will understand the consequences of misinformation in creating policy consequences that are resistant if not immune to correction with objective facts. - Students will understand how bad information translates to bad policy that impacts public health. - Students will understand how computer models can help policymakers and the public understand the cognitive bias that underlies infection by bad information that takes on a life of its own.
Catch	Telephone game rumor: "Students who correctly repeat this rumor automatically earn an "A" in the course. Students who incorrectly repeat this rumor will be required to spend their lunches with Mr. Thompson for the rest of the school year. Actually, of course, Mr T is only joking."
Activity	I'll show the short video clip from the CNN article "Measles outbreak in Arizona is biggest of season so far," at: http://www.cnn.com/2016/07/11/health/measles-arizona-outbreak/

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[1] Please add/attach any handouts for this activity to the end of this template
[2] http://ngss.nsta.org/CrosscuttingConceptsFull.aspx

Then, as a whole class, using Oral Cloze, we'll read the short article in order to build relevance for understanding the social change theory behind changes in human beliefs and behavior that are harmful to society and result in harmful public health policies.

After reading the article as a whole class, students will think-write-pair-share answers to the following questions:
1. What are the causes of the measles outbreak in Arizona according the article?
2. What beliefs might inform the decisions of parents and policymakers that have led to this outbreak?
3. What might be some of the risks and benefits of the decision to vaccinate one's children? To not vaccinate (pros and cons)?
4. Why might 10% fewer Americans in 2014 compared to 2001 (Gallup) believe that vaccination is "extremely important?"

Lesson objectives will be projected on the smart board from the start of class and then verbally stated with the What-Why-How (Payne) mental model/frame for under-resourced learners:

WHAT	WHY	HOW
How and why people become "infected" with bad information and why it matters	In the Information Age, due to social media and the self published internet, more opinions than ever are informed by bad information reinforced by social networks and social comparison theory. Decisionmaking informed by bad information (health, public policy, etc.) can be tremendously costly and even fatal.	- Telephone game - Model demonstration and orientation - Student activity: Making hypotheses and predictions using the NetLogo model - Paired reflection/review and whole class discussion **Assessment** (see below)
Assessment:	1. Visual representation of how social networks work (concept or mind map) using Google Slides, Apple Keynote, Microsoft PowerPoint, or poster/pens/papers. 2. Individual written short answer assessment answering guiding lesson questions (see pre/post test questions).	

Using NetLogo's "The Spread of a Meme Across a Social Network," Josh Thompson's (NCSD's Pathways Innovation Center Psychology and

Sociology Tutor) and Mike Borowzcak's (erebuslabs.com) modification for "The Spread of an Anti-Vaxxination Meme across a Social Network," I will demonstrate the model and orient students to the model.   NOTE: The model is still under development and is incomplete.

Students will then answer the following questions in writing and through paired discussion (then shared out using numbered sticks). Please read each of the following questions and assign a percentage (out of 100% total; your answers to questions 1-4 below must add up to equal 100%) or educated guess for the effect or influence size of each of the following:

1. What is the relative effect size (in percent) of the *popularity* of opinion leaders in social networks (the more links to individuals in their network, the more popular the individual)?	
2. What is the relative effect size (in percent) of the *willingness of individuals to adopt alternative, nontraditional, or unconventional viewpoints and information*?	
3. What is the relative effect size (in percent) of exposure to bad information *via traditional OR social media*?	
4. What is the relative effect size (in percent) of exposure to information from individuals with whom they are socially connected?	
5. What is the relative effect size (in percent) of the number of times an individual is exposed to bad information before they adopt bad information?	
Do lines 1-5 add up to 100? If not, please correct	100%

Students will set various population sizes to model their class, their cohort class (i.e., freshmen, sophomores, juniors, seniors), or their school size and then create their networks.

Students will then enter the relative "effect sizes" above for each factor and populate their networks, and then have 20-30 minutes (up to 45 minutes) to play with the model and various settings attributing different effect sizes. They'll have a graphic organizer in order to record observations based upon varying effect sizes. For example, they'll likely note without media influence turned on the success of the spread of the meme depends upon (a)

	how popular the individual is, and (b) their willingness to accept alternate viewpoints. Students will then seed the trend and spread the trend, keeping track of what percentage of individuals in the model become infected based upon the various factors of influence effect sizes they determined on the graphic organizer for wrap up discussion and conclusions about the actual effects of different factors. They'll repeat the model simulation using different effect sizes they might attribute to different factors that influence the diffusion of this bad health information through social networks and record their observations.
Review	First, in pairs, and then in small groups (table groups), all students will answer the following reflection questions in writing, and then "numbered heads" will be used (a dice is rolled corresponding to student numbers in groups 1-6; if a 6 is rolled, the student numbered six shares out). 1. In this model, was traditional news media or social media more effective in spreading the anti-vaxxination meme, or some combination of both? If both, which had a greater effect? Why? 2. Did everyone become infected by the meme upon a single exposure? If not, what factor(s) explain why or why not? Which factor(s) seemed to have a greater effect? 3. To what extent did media exposure, social or traditional media exposure, or popularity of the individual influene the spread of this bad information? How do you know?
Assessments	1. Create a visual representation of the factors identified in the review step that influence the rate at which a meme or rumor spreads. Students may use Google Slides, Microsoft PowerPoint, or Apple Keynote (or posterboard and markers) in order to create a visual representation that by icon size and text features visually illustrates the different factors that influenced the spread of health misinformation. The visual representation must contain a legend. 2. Answer the pre/post questions in writing. A rubric to be written in the future will emphasize support for claim with evidence on a single criterion.
Posttest Questions (same as pretest questions)	● How much of what we "hear" or read via social media should we believe? Should any of what we hear in media and social media be trusted? ● How might we be reasonably certain what we've heard (via hearsay) is accurate (or, "Can we?" and if not, "Why not?)? ● What factors impact how quickly misinformation spreads and results in erroneous misbeliefs that are resistant to correction? ● Why and how are some people more believable than others, and what impact does that have upon popular opinions? What is the relative

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<td>influence of news media on public opinion in comparison to social influence?
How might the spread of erroneous information result in poor public policy or public health decisions?

Extension/enrichment:

Given recent research by Brendan Nyhan about the "backfire effect," what implications does his research have for democracy, interpersonal relationships within organizations, and interpersonal communication? Write a 5-7 sentence bullet point summary and be prepared to share with class.

Green Party progressive presidential candidate Jill Stein (2016) has recently faced a great deal of criticism through a reddit AMA for her support for parental prerogative over vaccinations (exemptions from mandatory vaccinations) and homeopathy stating that homeopathy is untested. What is the basis of criticisms for these positions? What criticisms did redditors charge Stein with? Write a 5-7 sentence bullet point summary and be prepared to share with class.</td>
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Standards	American Psychological Association's National Standards for high school psychology curriculum: Sociocultural Context: Social Interaction: Social Influence Content Standard 2. American Sociological Association's National Standards for high school sociology curriculum Content Standard 3: Social Relationships: Self, Groups, and Socialization 3.1-3.3. Wyoming State Social Studies Standards: Content Standard 1 - Citizenship, Government, and Democracy: students will evaluate the effects of misinformation upon public policy and its consequences Content Standard 3 - Production, Distribution, and Consumption: students will predict the economic costs and tradeoffs associated with policies Content Standard 4 - Time, Continuity, and Change: students will examine the mechanisms and factors influencing social, political, and economic change Content Standard 6 - Technology, Literacy, and Global Connections: students will examine the extent to which the self published internet may be responsible for
Crosscutting Concepts from NGSS	Patterns; Cause/effect; Scale/proportion/quantity; Systems/systems models; Stability/change