

Name: _____

Date: _____

Who a Mask Protects Simulation

Answer the following questions as you explore this simulation, linked below: Who Does a Mask Protect? <https://aatishb.com/maskedu/>

BEFORE SIMULATION: Before going through each of the simulations, answer the following questions about the following images.

Question 1



What information is represented in the images of the simulation?

Question 2

What does “contagious person” mean?



Question 3



What does “susceptible person” mean?

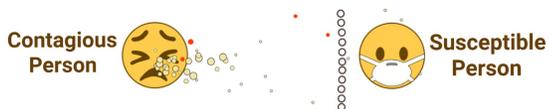
PART 1: Answer the following questions while going through Part 1 of the simulation.

Question 4

What does it mean for a mask to be 50% effective?



Question 5



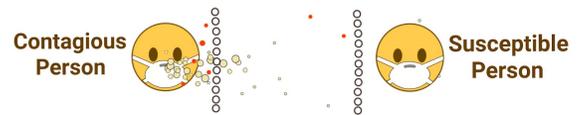
Does the effectiveness of a mask change based on which person is wearing the mask? Explain your answer.

OR



Question 6

If a mask's effectiveness is 50% and both the contagious person and the susceptible person wear a mask, then why does the transmission not drop by 100%?



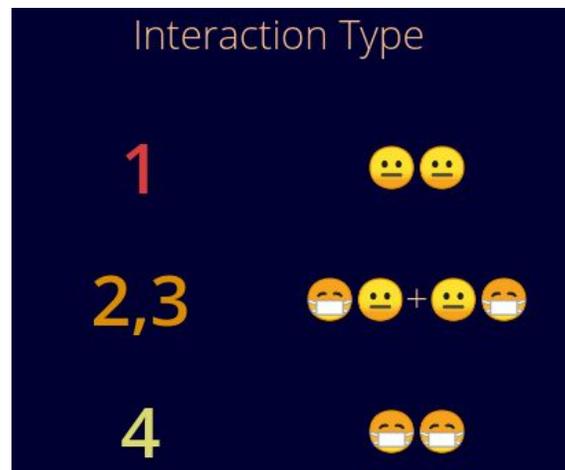
PART 2: Answer the following questions while doing Part 2 of the simulation.

Question 7

If no one wears a mask in the community, the drop in transmission is 0%, just like we saw when we observed the one-on-one interactions. If everyone wears a mask in a community, the drop in transmission is 75%, again, the same as what we saw in the one-on-one interactions. Why would the drop in transmission not be 50% when 50% of the people wear masks, since the transmission rate is 50% when either person in a one-on-one interaction wears a mask?

Question 8

In simulation 2.4, why are interactions 2 and 3 combined?



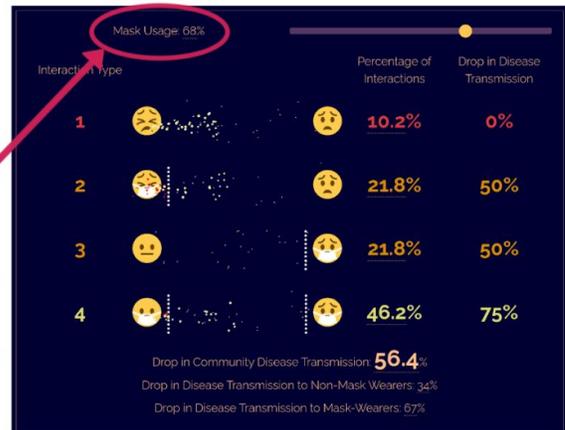
PART 3: Follow the steps below using simulation 2.4 at the end of the "From People to the Community" section along with simulation 2.5, found in the "How Masks Protect Communities" section.

Step 1: Choose a percentage of mask usage between 1% and 99% that you would like to test and set the mask usage slider to that number for both simulations: _____%

Simulation 2.4



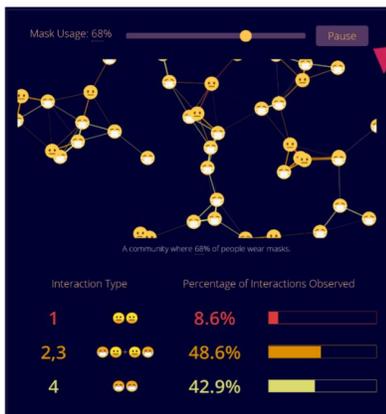
Simulation 2.5



Step 1:
Set the "Mask Usage" the same percent for both simulations.

Step 2: Pause simulation 2.4 by selecting the pause button

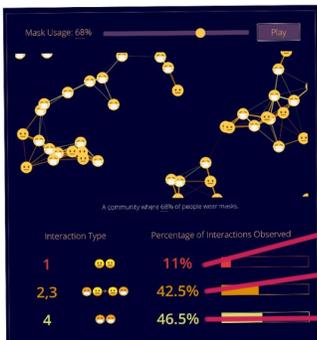
Simulation 2.4



Step 2:
Pause the simulation by selecting the pause button

Step 3: Record simulation 2.4 data in the chart below.

Simulation 2.4



Step 3:
Record the data in the chart

Chart from handout

Interaction type	Simulation 2.4 data % of Interactions			Simulation 2.5 data	
	Trial 1	Trial 2	Trial 3	% of Interactions	% drop in transmission
1					Total drop in transmission
2					
3					Drop in transmission to non-mask wearers
4					Drop in transmission to mask wearers

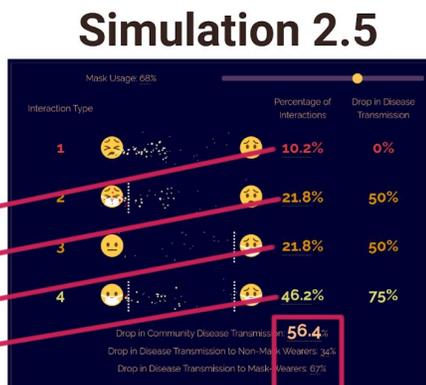
Step 4: Unpause simulation 2.4 and repeat steps 2-3 till you have data from three trials.

Step 5: Record the data for simulation 2.5 in the chart below.

Step 5: Record the data for the "How do masks protect the community" simulation

Chart from handout

Interaction type	Simulation 2.4 data % of interactions			Simulation 2.5 data	
	Trial 1	Trial 2	Trial 3	% of interactions	% drop in transmission
1					Total drop in transmission
2					
3					Drop in transmission to non-mask wearers
4					Drop in transmission to mask wearers



Interaction type	Simulation 2.4 data % of interactions			Simulation 2.5 data	
	Trial 1	Trial 2	Trial 3	% of interactions	% drop in transmission
1					Total drop in transmission
2					
3					Drop in transmission to non-mask wearers
4					Drop in transmission to mask wearers

Question 9

If all the trials and simulation results are not the same, does that mean that they are wrong? Explain your answer.