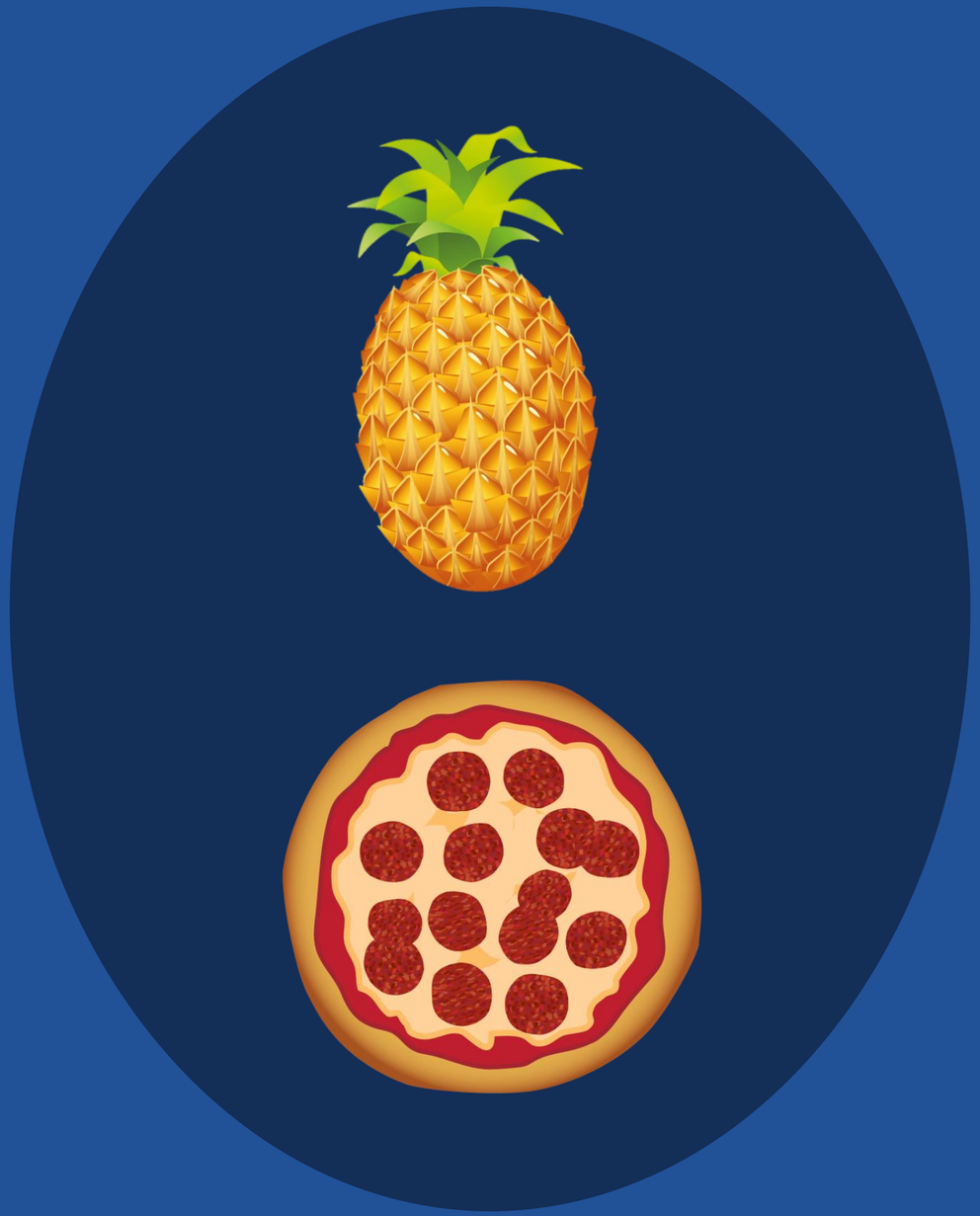
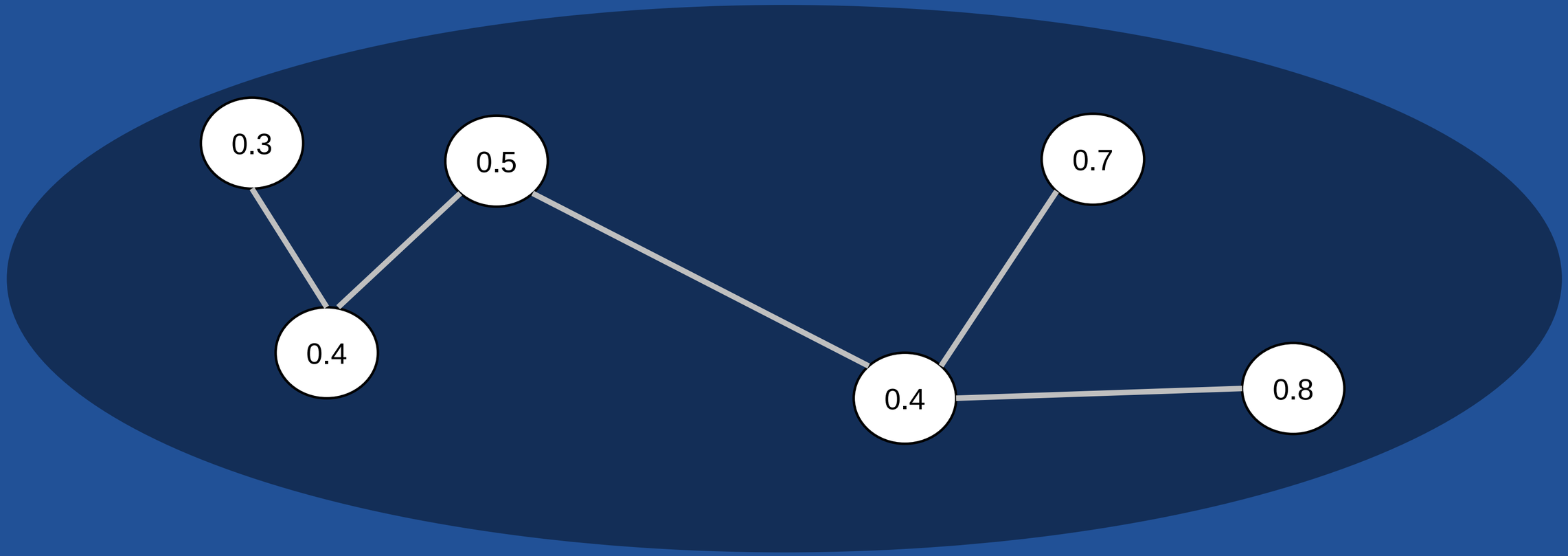
Pursuing Peace via De-Polarization

Marieth Coetzer



Network Science

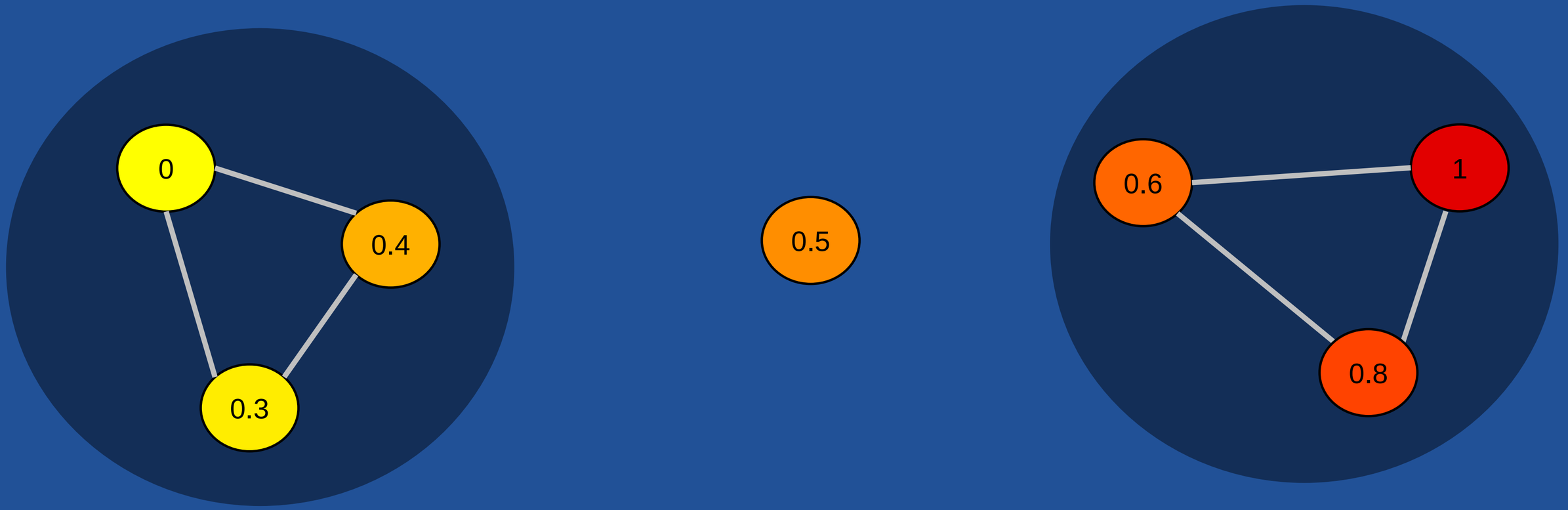


Nodes: Represent people

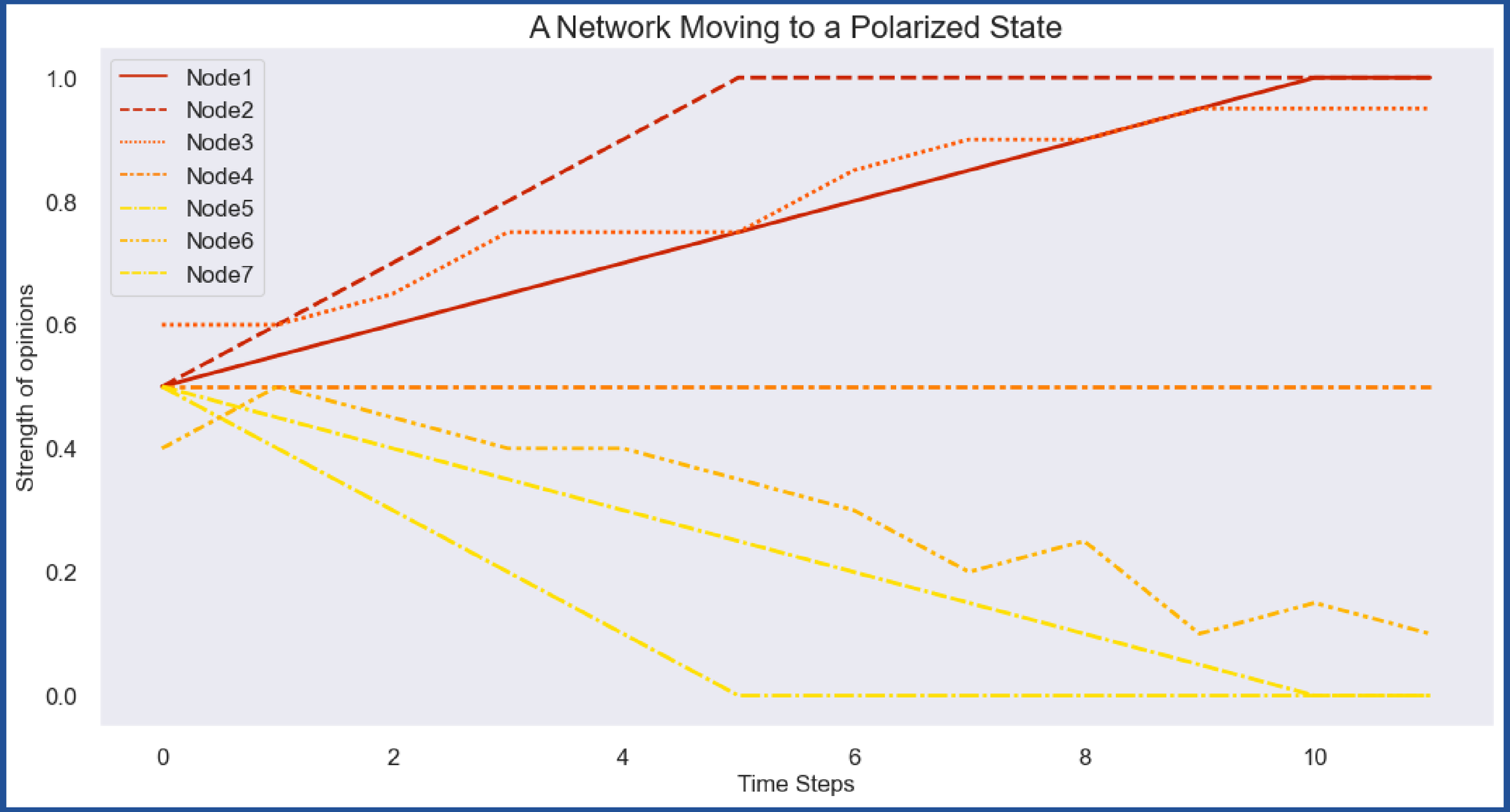
Edges: Represent connections or interactions

1 Weights: Represent the strength of an opinion

Polarized Network



Line Graph Representation



How Do We Fix This?

The Players

The Zealots	The Susceptible	The Peacemaker
0 1	(everyone else)	0.5

Bounded-Confidence Model

x: Opinion of node
Δt: Change in time
α: Likelihood of changing opinion

$$If\ (|x_i - x_j| < \varepsilon)$$

If the opinion of two nodes are close to each other…

Then

$$x_i(t + \Delta t) = x_i(t) + \alpha(x_j(t) - x_i(t))$$
$$x_j(t + \Delta t) = x_j(t) + \alpha(x_i(t) - x_j(t))$$

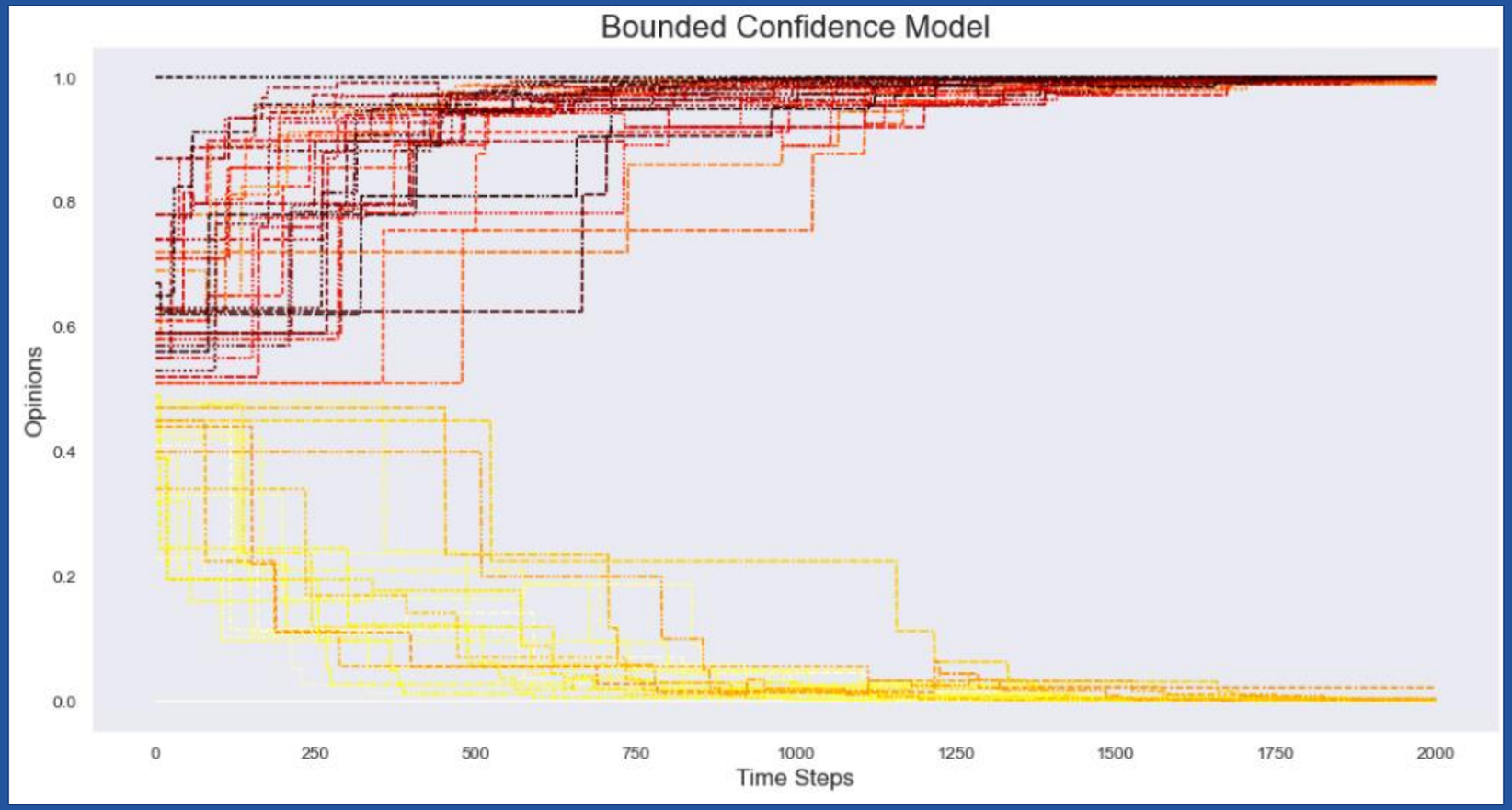
…they interact and affect each other's opinions

Model Setup

- Zealots and Peacemakers have fixed opinions
- At first, the population has a “Normal” distribution of opinions between 0 and 1
- Polarized means 95% of the population have extreme opinions defined as greater than 0.80 or smaller than 0.20

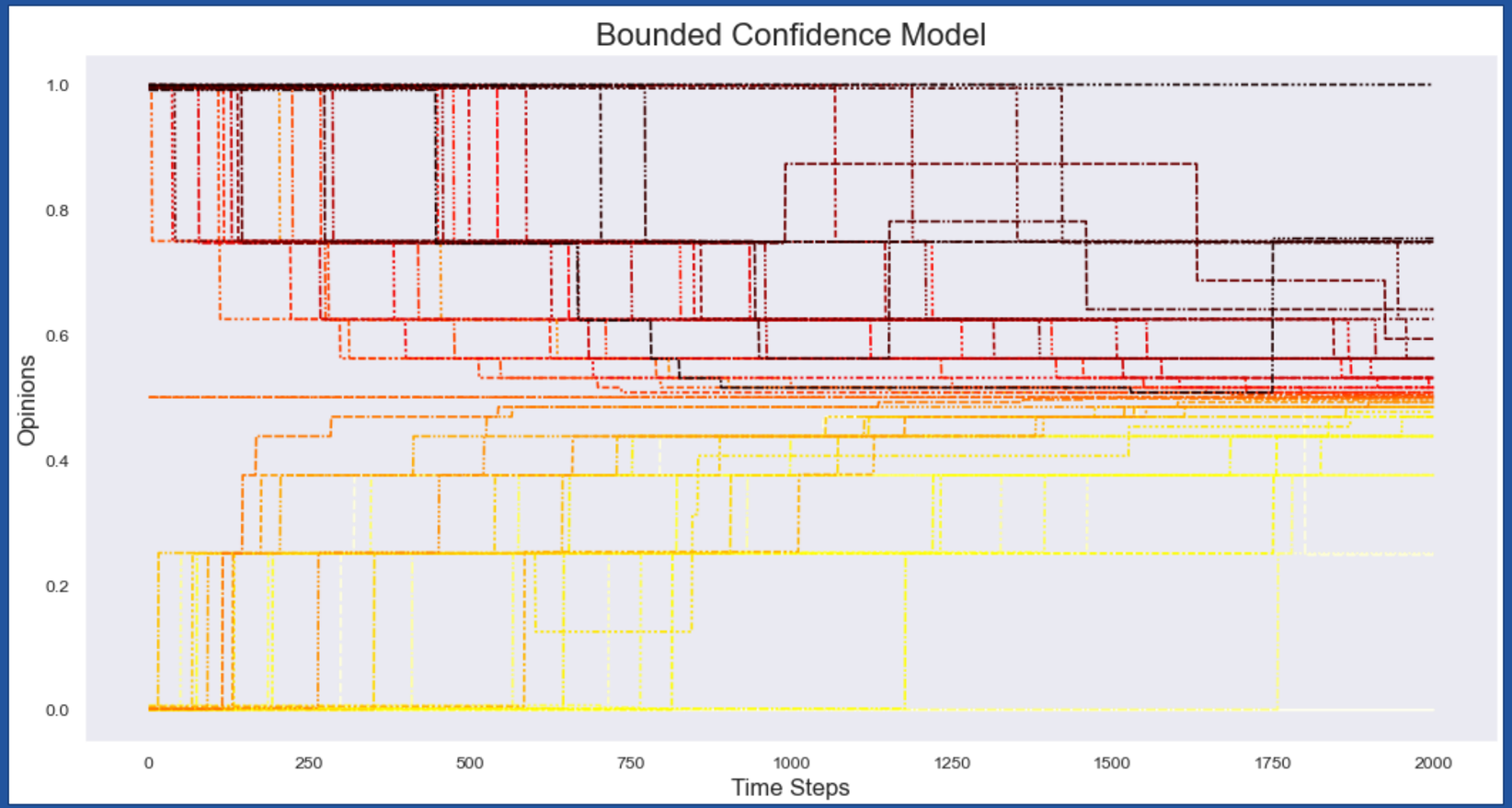
Conditions for Polarization

There are no Peacemakers. Zealots interact **40** more times than Susceptible nodes



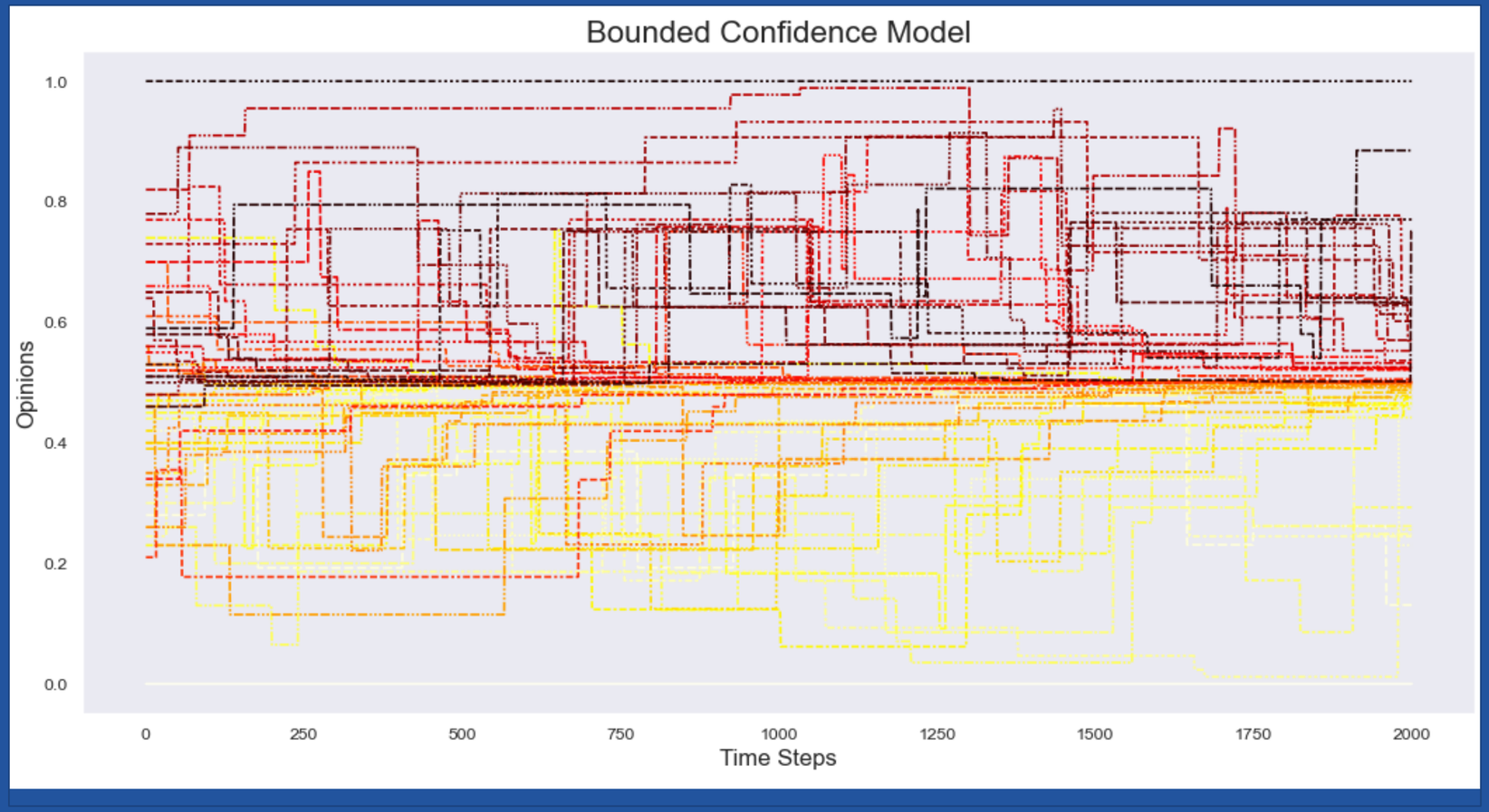
Conditions for Depolarization

Peacemakers have to interact **10** more times than Zealots and **400** more times than Susceptible nodes

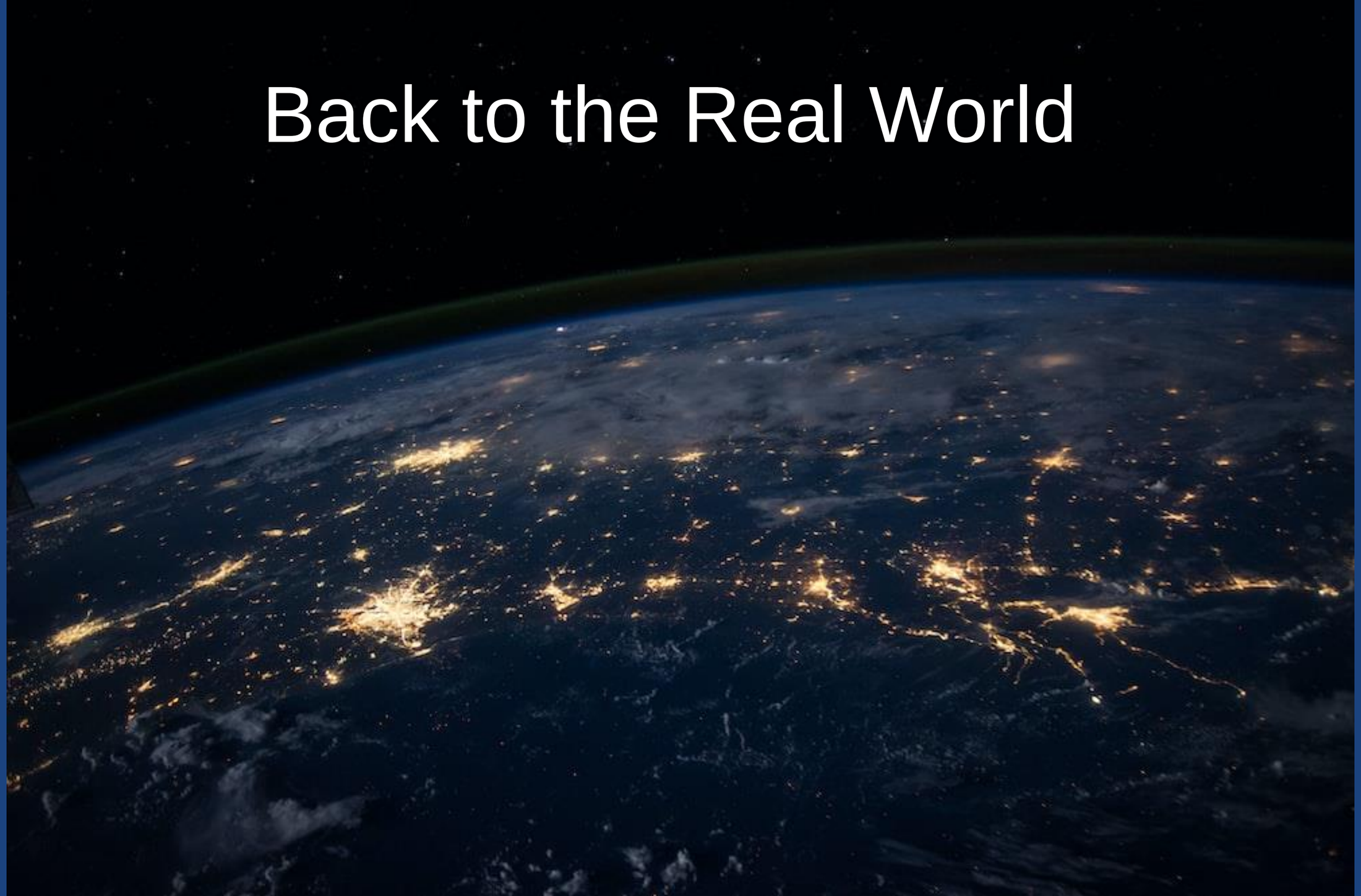


Preventing Depolarization

Peacemakers prevent depolarization by interacting only **1.5** more times than Zealots and **60** times more than Susceptible nodes



Back to the Real World



Feasibility

“If you spend five minutes with your worst enemy … you will find that you both have something in common. As you build upon those commonalities, you're forming a relationship and as you build about that relationship, you're forming a friendship.”

Why I, as a black man, attend KKK rallies. | Daryl Davis | TEDxNaperville

Closing Question

“What is a Peacemaker in real life?”

- Express confidence in their opinions
- Interact with those who are vastly different
- Reach out consistently and frequently