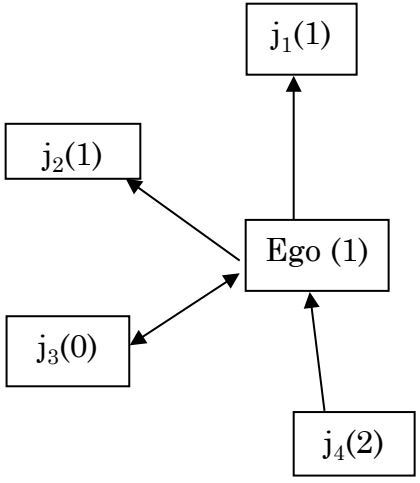
A Simple Example

$$f^{z}_{ego}(\beta, x, z) = -0.5 * v_{ego} + 1.1 * z_{age} v_{ego} + 1.0 * sim^{z}$$

	Linear	Age	sim^z	Sum
Stay at 1	-.5 * 1 = -.5	1.1 * 1 = 1.1	**1*0.95=0.95**	**1.45**
Decrease behavior to 0	-.5 * 0 = 0	1.1 * 0 = 0	**1*0.35=0.35**	**0.35**
Increase behavior to 2	**-.5 * 2 = -1**	**1.1 * 2 = 2.2**	**1*-0.55=-0.55**	**0.65**



$$\sum_j x_{ij}(sim^Z_{ij} - \overline{sim^Z})$$

$$sim^Z_{ij} = 1 - |z_i - z_j| / \Delta_Z$$

$$\Delta_Z = \max_{ij} |z_i - z_j| = 2$$

$\overline{sim^Z}$ = similarity expected by chance

(1) Dyad	(2) sim^Z_{ij}	(3) $x_{ij}(sim^Z_{ij} - \overline{sim^Z})$
Ego, j_1	1 - | 1 - 1 | / 2 = .5	1 (.5 - .05) = .45
Ego, j_2	1 - | 1 - 1 | / 2 = .5	1 (.5 - .05) = .45
Ego, j_3	1 - | 1 - 0 | / 2 = 0	1 (0 - .05) = .05
Ego, j_4	1 - | 1 - 2 | / 2 = 0	0 (0 - .05) = 0
		sum = .95

Do this for all possible dyads to compute $\overline{sim^Z}$ = .05

Given the current state of the network, ego is most likely to stay at level 1.

change to 0

(1) Dyad	(2) sim^Z_{ij}	(3) $x_{ij}(sim^Z_{ij} - \overline{sim^Z})$
Ego, j_1	1 - | 0 - 1 | / 2 = 0	1 (0 - .05) = -.05
Ego, j_2	1 - | 0 - 1 | / 2 = 0	1 (0 - .05) = -.05
Ego, j_3	1 - | 0 - 0 | / 2 = .5	1 (.5 - .05) = .45
Ego, j_4	1 - | 0 - 2 | / 2 = -.5	0 (-.5 - .05) = 0
		sum = .35

change to 2

(1) Dyad	(2) sim^Z_{ij}	(3) $x_{ij}(sim^Z_{ij} - \overline{sim^Z})$
Ego, j_1	1 - | 2 - 1 | / 2 = 0	1 (0 - .05) = -.05
Ego, j_2	1 - | 2 - 1 | / 2 = 0	1 (0 - .05) = -.05
Ego, j_3	1 - | 2 - 0 | / 2 = -.5	1 (-.5 - .05) = -.45
Ego, j_4	1 - | 2 - 2 | / 2 = .5	0 (.5 - .05) = 0
		sum = -.55