Modeling Human Health Behavior with a New Index That Measures Connectivity

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Are you the corresponding author? ☐ **X**Yes ☐ No

Herewith I confirm that the information provided is accurate.

Author signature _Steven L. Bernstein, MD___Date___17 September 2019___

Figures

Figure 1

Fig. 2. Fragment of Framingham social network. From Christakis.¹⁹

Figure 2

1)

$$\gamma = ((8^2 - 2^2)/10^2 = (64 - 4)/100 = 60/100 = 0.6] + 1)/2 = \mathbf{0.8}$$

2)

$$\gamma = ((4^2 - 1^2 + 4^2 - 1^2)/10^2 = (16 - 1 + 16 - 1)/100 = 30/100 = 0.3] + 1)/2 = \mathbf{0.65}$$

3)

$$\gamma = ((3^2 - 1^2 + 2^2 - 1^2 + 3^2)/10^2 = (9 - 1 + 4 - 1 + 9)/100 = 20/100 = 0.2] + 1)/2 = \mathbf{0.6}$$

Figure 3

Figure 4

Figure 5

Figure 6. 10-dose course, 80% adherence, all permutations. █=dose taken; █=dose missed.

Index	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
0.81	0	1	1	1	1	1	1	1	1	0
0.8	1	1	1	1	1	1	1	1	0	0
0.8	0	0	1	1	1	1	1	1	1	1
0.74	1	1	1	1	1	1	1	0	1	0
0.74	1	0	1	1	1	1	1	1	1	0
0.74	0	1	1	1	1	1	1	1	0	1
0.74	0	1	0	1	1	1	1	1	1	1
0.73	1	1	1	1	1	1	1	0	0	1
0.73	1	0	0	1	1	1	1	1	1	1
0.69	1	1	1	1	1	1	0	1	1	0
0.69	1	1	0	1	1	1	1	1	1	0
0.69	0	1	1	1	1	1	1	0	1	1
0.69	0	1	1	0	1	1	1	1	1	1
0.68	1	1	1	1	1	1	0	1	0	1
0.68	1	1	1	1	1	1	0	0	1	1
0.68	1	1	0	0	1	1	1	1	1	1
0.68	1	0	1	1	1	1	1	1	0	1
0.68	1	0	1	0	1	1	1	1	1	1
0.66	1	1	1	1	1	0	1	1	1	0
0.66	1	1	1	0	1	1	1	1	1	0
0.66	0	1	1	1	1	1	0	1	1	1
0.66	0	1	1	1	0	1	1	1	1	1
0.65	1	1	1	1	1	0	0	1	1	1
0.65	1	1	1	1	0	1	1	1	1	0
0.65	1	1	1	0	0	1	1	1	1	1
0.65	0	1	1	1	1	0	1	1	1	1
0.64	1	1	1	1	1	0	1	1	0	1
0.64	1	1	1	1	1	0	1	0	1	1
0.64	1	1	1	1	0	0	1	1	1	1
0.64	1	1	0	1	1	1	1	1	0	1
0.64	1	1	0	1	0	1	1	1	1	1
0.64	1	0	1	1	1	1	1	0	1	1
0.64	1	0	1	1	0	1	1	1	1	1
0.62	1	1	1	1	0	1	1	1	0	1
0.62	1	1	1	1	0	1	0	1	1	1
0.62	1	1	1	0	1	1	1	1	0	1
0.62	1	1	1	0	1	0	1	1	1	1
0.62	1	0	1	1	1	1	0	1	1	1
0.62	1	0	1	1	1	0	1	1	1	1
0.61	1	1	1	1	0	1	1	0	1	1
0.61	1	1	0	1	1	1	1	0	1	1
0.61	1	1	0	1	1	0	1	1	1	1
0.6	1	1	1	0	1	1	1	0	1	1
0.6	1	1	1	0	1	1	0	1	1	1
0.6	1	1	0	1	1	1	0	1	1	1

Figure 6

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