Reviewer's report

Title: Social Interactions of Eating Behavior among High School Students: A Cellular Automata Approach

Version: 3 Date: 8 April 2012

Reviewer: ANDAC HAMAMCI

Reviewer's report:

In "Social Interactions of Eating Behavior among High School Students: A Cellular Automata Approach" paper, authors propose a CA model to simulate the social interactions of eating behavior among high school students. The Introduction section is written in a clear language and gives a nice background and motivation on the problem. Since a new model is proposed in the article, the model and the parameters should be explained and discussed in more detail. Before, using the model to obtain results, a validation which gives the model's behavior under known conditions should be given.

Some major points to consider are given below:

1) It is not clear how the parameters alphas, betas, ... are chosen. In case, there does not exist real data (as indicated in Discussion section) to choose these parameters, the parameters used to obtain the presented results should be provided, for repeatability. It would also be useful to include constraints on choosing the parameters (if any) and the sensitivity to the parameters can be discussed.

2) In introducing "Purchasing Power" why did you set the BPs parameter to the value: 1? Since the BPs defined in eq.1 is incremental, is it limited to any interval (such as a maximum of 1)?

3) Please give the mathematical formula for Negative and positive social influence parameters (P an N).

4) How did you assign the time scale? (for example months in table 2)

5) In defining Moore Neighborhood, the neighborhood is referred as "boundary". Is it a mistake? The boundary is usually referred as the edges of the whole cellular map. Could you also provide the boundary conditions used? (periodic, fixed etc.)

6) Same initial condition chosen randomly is used in experiments. How much are the results sensitive to initial condition?

7) How are the results sensitive to the transition rules? i.e. choosing other mathematical forms considering same reasonings.
Some minor issues:
- In Figure 1: There are two "Purchases Healthy" balloon but no "Purchases Unhealthy". Is there a mistake?
- In Table 2: Please include a legend that indicates the labels for the colors (or type in the description text above the table).

Some minor grammatical corrections, including but possibly not limited to:
- In the 1st sentence of the Introduction and Abstract-Background section: use "...is a...problem" or "...are...problems"
- In the 3rd sentence of the Abstract-Background: "...related to and energy..." >> "...related to an energy..."
- In the 4th sentence of the Introduction: "young adults face a more difficult time maintaining healthy weights" is not clear.
- In the 1st sentence of the 3rd paragraph of the Introduction: Should you drop "of" at "...easy access to of unhealthy..."
- In the 4th sentence of the 5th paragraph of the Introduction: Should it be "...of schools has a vending machine..."

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.