

First Idea Set - Vicente Traver ITACA – Universitat Politècnica de València – Spain

To avoid any bias, please note that answers have been provided to these questions without checking previous answers from other colleagues.

Extending behavior theory (please respond to one question in this category)

- What do you think are the 'necessary ingredients' to develop models of health-related behavior that can account for momentary, short-term and long-term behavior change?

My necessary ingredients would be:

- Easy multi-platform mechanisms of data feeding for the model
- The core knowledge available in literature or the one used in neuromarketing for private companies, which has not been up to now, systematized and translated to the health sector. It would be like the union of all the evidence around behavior theory, following an approach similar to the polymeal.¹
- A standardized set of variables, magnitudes and outputs that allows the production of significant evidence and the creation of an ecosystem of devices that interact with the user at any time

Measurement of behavior (please respond to one question in this category)

- Are some types or magnitudes of incentives (financial, game rewards, social feedback, etc.) far more effective than others in supporting engagement?

Yes, first of all, it is already well known that long-term incentives do not work at all to promote change behavior for the promotion of a healthy lifestyle. That's something to be kept in mind when an incentives plan is designed.

Additionally, quantitative magnitudes of incentives work much better than qualitative ones.

Examples of those incentives can be found on runkeeper.com, endomondo.com or healthrageous.com, where from our humble experience and previous reading, we can state that:

- It is a key factor to define and write previously a clear goal (following SMART recommendations²) to be achieved
- To achieve this goal, other secondary goals can be defined (to lose weight, to run 4 km per day,...). It is crucial that any moment, assessment about the level of achievement for each goal could be provided.
- To promote engagement and healthy habits, our environment is a viral key factor (as example, Frammingham study³ as concerns heart diseases or the Christakis paper⁴

¹ <http://en.wikipedia.org/wiki/Polymeal>

² http://en.wikipedia.org/wiki/SMART_criteria

³ <http://www.framinghamheartstudy.org/>

related to obesity). Therefore, **social feedback provided on-line and on-time** could be the more effective incentive.

- Around social feedback, rankings are quite effective, especially when people in the ranking have the same profile (I do not want to be compared in the same ranking as Federer or Usain Bolt), like a percentile for people similar to me. A point to be discussed is which kind of variables should be included in such profile.
- I do not consider that money rewards are highly effective for this change behavior. However, discounts and gifts for a healthier life are also a real good option. Examples of that are discounts in
 - o the gym
 - o healthy products at the supermarket
 - o healthy labeled restaurants

Evaluation (please respond to one question in this category)

· How should behavioral, social, and computer scientists and engineers structure their scientific inquiries to support development of sound theories that use technology but without too much dependence on any particular implementation of the technology?

Easy and difficult question at the same time. The correct answer would be ... making such inquiries technologically independent. That is easy to say but hard to implement and it deserves some reflections about it:

- Cloud data and Internet makes data transparent to any technology... so cloud data is not an option, it should be a must although issues like privacy and ethical issues need to be addressed (anyhow, they need to be clarified).
- Even though the possible fact of technological transparency, it is true that technology can revolutionize data introduction, measurement or feedback provision making this task easier (i.e. the iPad success), so technology can bias the scientific enquiries as it can be a barrier or a driver (creating a new factor/variable to be introduced in the theories, according to usability). Therefore, the goal should be to create a real ecosystem, where different platforms (and even different apps) can enrich and interact with the system.
- Data introduction process can be independent from technology or even introduced by hand. Thus, it raises the need of well-defined ontologies and data structure that allows the management of heterogeneous (from different dimensions: time, personal profile, way of data introduction,...) data
- In any case, we should keep in mind that behavioral drivers would be the same as this is something coming/inherited from our society (our Occidental behavioral drivers have almost not changed for last centuries) and technologically independent

General question (please respond to this question)

What could participants in the meeting collectively do before, during, and after the meeting to significantly impact the field of health behavior change and maintenance? Be as concrete as you can, and think boldly.

⁴ The Spread of Obesity in a Large Social Network over 32 Years, New England Journal of Medicine
<http://www.nejm.org/doi/pdf/10.1056/NEJMsa066082>

Before

Fulfillment of this questionnaire and feedback among all attendants is the first and positive action. A good point is to share the questionnaires but it would be nice to have something that allow us to check the different answers to the same questionnaires provided by the experts and a thread to comment and discuss each one of the questions.

During

A good management of the workshop will be needed in order to extract conclusions and further actions. That should imply a systematic methodology to collect inputs from all participants, take decisions, prioritize actions... Working in smaller groups should also be helpful.

After

After the workshop and based on the further possible conclusions, some actions to boost the goals around health behaviour modeling could be:

- The creation of a working place (or the use of an existing one like epractices.eu) where evidence, state of the art and best practices should be available and compiled. It should be the place to show to the health key decision makers at international, national and regional levels to convince them about the cost/effectiveness of interventions in this field
- A clear action plan with responsables, deadlines and one person in charge to remember the commitments
- Create a Working Task force with different subgroups
- Promote cooperation and alliances to provide added value concerning this topic for the Horizon 2020
- Propose/identify EU-US small projects to get significant evidence in a fast way. Through this evidence, the previously theoretically identified key topics should be prioritized from a practical perspective.