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

- <mark>Assume our goal is to develop behavior change models that support building an appropriate prevention/intervention framework. How can such models capture the temporal and dynamic nature of real-life behavior and the dynamic influence of relationships, information and environments? How could models that acknowledge complex temporal influences on behavior that span weeks, months, or even years be used to design systems that support change in the moment?</mark>

1. Once the core variables and factors have been defined in order to develop a model of health-related behavior (that is, the 'necessary ingredients'), the next step would be to design a series of research studies to test the different parts of the model. Such studies would pose research questions whose answers would provide data regarding the role of each factor and variable:

  - Which genes?
  - Which personality dimensions?
  - Which values and beliefs?
  - Which health habit/s?
  - Which specific behaviors?
  - Which cultural contexts?
  - Which legal contexts?
  - Which is the role of variables such as sex, age, educational level or socio-economical level?
  - Which stakeholders are involved in taking the decisions?
  - Which ICTs could be used?

It would be also necessary to define assessment procedures and instruments that are suitable for the defined factors and variables.

2. Besides, it would be important to analyze the interactions among the different variables in order to study the differential role of each variable in the specific health problem, taking into consideration

Time as an important factor. In this sense it would be important to conduct follow-up studies with repeated periodic assessment over specific variables taking into account the assessed contexts.

3. It would be also important to conduct transversal studies using traditional and innovative strategies to obtain relevant data over a specific problem (for example, Ecological Momentary Assessment).

4. Finally, it is also necessary to conduct laboratory studies to test specific hypothesis raised by the model.

5. All the former levels should be integrated in a work plan taking as a starting point a specific problem, for example how to address the obesity problem in children and adolescents?

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

• How might high-frequency human-computer interaction be used to support longitudinal engagement with a wellness system?

I can think of two strategies:

1. On the one hand, it is well known that citizens use the Internet to obtain information about health issues. Taking this into consideration, it would be possible to design a web site with rigorous and tested information (obtained from evidenced-based scientific results) where citizens could have available information about the risks and the clinical status of a person (themselves or a significant other) considering **specific characteristics**. This web site could provide relevant information and give suitable advice. This web site will have contrasted quality and would serve to disseminate relevant information accompanied by suitable advice. Besides, this web site could become more and more complex and include self-administered protocols of behavior change regarding health habits or other topics. The design of these protocols would include suitable psychological strategies to offer support to the users along the whole process of behaviour change and maintenance.

2. On the other hand, establishing strategies to enhance the concept of Citizens as a Co-Producer of Health. It could be possible to generate big data bases by asking for the collaboration of the people, following the strategy of crowd-researching in order to obtain data about a specific topic. This strategy would include showing the users that the gathering of those data could be beneficial for them (in a similar way than www.quantifiedself.com); and that offering data from their own experience could help other people and the progress of science.

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?
Technology is changing at such a fast pace that trying to be totally updated regarding technological advances and focusing aspects of the research in this objective when designing and testing intervention models and frameworks could be dangerous. This workshop (focusing in health) and the experts in health should not be interested in doing research about technological advances, but defining and establishing useful ways to benefit from out of the shell technological advances and to develop smart ways of applying them. A clear example would be working with mobile devices (for example cell phones). *The*

Smartphone Psychology Manifesto by Miller (2012; Perspectives on Psychological Science 7(3) 221–237) makes clear the best way of using already available technological resources. In the same way, we already know that the Internet is a useful option. Other applications like virtual reality, Ecological Momentary Assessment or Serious Games are demonstrating their utility in the field of health and behavior change.

Therefore, it would be necessary to define the problems to solve and analyze out of the shell technological advances in order to define the best way to use those advances to benefit the field of health.

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.

<u>Before:</u>
Answering these questions is already a good activity to prepare the workshop. Sharing our views and ideas about the field will help to define the main subjects to be addressed in the workshop.

Another issue that could be useful is to prepare the agenda for the workshop including the different views and core subjects raised by the participants.

<u>During:</u>

The workshop is an excellent opportunity to define a tentative model to be used in the next years when conducting research in the field. An important work to do is to define the main factors and variables to be included in the model.

Also, and related to the former, to define and reach agreements about evaluation procedures and protocols to be used in the field.

Finally, another issue that I find relevant is to think about what the needs regarding the use of technology in the field of health are, and to define the problems and other issues (which technology, procedures, etc.).

<u>After:</u>
The main task after the workshop from my point of view is to make an agreement about actions for the near future:
- I believe a relevant action would be to design work groups focusing in specific key aspects that could meet and invite experts. The aim of such work groups could be to define research lines and the way to proceed to obtain scientific and social results and benefits.
- Another action could be to define the collaborative strategy of the research groups working in the field (in the world and/or in Europe).
- A related, but more specific action is to organize a collaborative group in Europe in order to address the opportunities that Horizon 2020 offers.