
Supporting Family Engagement in Weight Management

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Abstract

As obesity is increasing in many countries, helping people manage their weight has become an important issue. Medical research has shown that the family context may be important to promote lifestyle changes. Our work aims at designing a collaborative environment to engage a family in support of an individual needing to manage his or her weight. This paper presents the first step in our iterative design process which aimed at collecting information about the needs of overweight and obese people, and about the type of environment they would find useful for them and their family.

Keywords

Family Engagement; Weight Management Website

ACM Classification Keywords

H.5.3. Group and Organization Interfaces: Web-based interaction, Computer-supported cooperative work.

Introduction

Many weight management (WM) programmes, e.g., Weight Watchers (www.weightwatchers.com) or Jenny Craig (www.jennycraig.com), provide a variety of online tools to access and record information as well as visualise progress. These so-called *eTools* enable programme members to design their recipes, plan and record their daily/weekly dietary and physical activities, and monitor their progress. Like other health-related

sites (e.g., patientslikeme.com, blueboard.anu.edu.au), they also typically offer peer-support to the individual through bulletin boards and chat rooms/lists. This support, however, is outside the family context, as the programmes usually target individuals, neglecting the role of families in the WM process. Yet, medical research suggests that family engagement plays an important role in weight management, helping to achieve long-term goals (e.g., [2]). A recent study also showed an increased probability of an individual becoming obese if other family members were obese [1]. Thus, it is important to tackle the obesity problem as a collaborative activity within the family context. This is what our work proposes to do.

In this paper, we first present related work. We then present a study we conducted to obtain user preferences on the delivery of WM information, and, in particular, on information and services perceived as being useful to families. The study was designed to enable us to establish requirements for an initial prototype. Finally, we briefly describe our future work.

Related work

It can be difficult for people to control their weight when they are the only one to do so (e.g., lack of motivation, low self-efficacy). Family support might be helpful (see [5] for a review on family involvement in WM). However, finding cost-effective ways to engage the whole family is still an issue. Recruiting people and maintaining their participation throughout the programmes are two widely recognised problems [3]. There has been recently a growing interest in developing internet-based WM interventions both for their potential and appealing convenience and flexibility in reaching people (i.e., increasing the scope and

impact of health promotion programmes), and for the facility they provide in automatically collecting data (e.g., [6]). Despite encouraging reports of the efficacy of such programmes and the perceived usefulness of the material provided, website engagement is still limited [3]. Technology innovation, on its own, is not sufficient to motivate people in taking advantage of what it has to offer and in actively engaging them.

Interestingly enough, the difficulty in motivating and engaging people is not unique to health programmes. Research in social networks have reported similar issues and investigated ways to motivate member contributions to online communities (e.g., [4]). Solutions have been proposed, such as event notification, facilitation of discussion groups, and visualisation of participation levels. Many studies of online collaboration have been done in the context of online communities and/or educational settings. None have been done within the family context. This is expected to bring new challenges, as engagement within a family is likely to be different than amongst peers, and communication via an online environment is only an aspect of the every day communication in a family. Building on related research in health and on the body of work done in the CSCW community, we are exploring processes of engagement with families that would be most effective in providing support to the individuals needing to manage their weight and in promoting sustainable family healthy living.

A preliminary study

The first step in our iterative design process was to gather information about the perceived needs of overweight people, and what they thought they would find useful for them and their family. This was done to

obtain an initial set of requirements for a first prototype which we could then use as a probe.

Method

Participants were recruited from Tasmania through a marketing research company. To be eligible, participants had to be adults, categorised as overweight or obese (Body Mass Index ≥ 25), with a family including primary school aged children. Note that family is to be understood as a nuclear family living in the same household (i.e., the parents and children). Amongst the 122 participants initially recruited, only 35 participants completed the online questionnaire¹. The results presented here are based on their answers.

The questionnaire asked about the family profile (including questions to elicit the state of readiness to lose weight) and included questions eliciting attitudes and opinions about a family WM website. Open-ended questions were also used to gather new suggestions and ideas. The questions were designed around five particular research issues: 1) What is the perceived usefulness of a personalised WM website for individual and families? 2) How would both individual and families prefer to engage with such an environment? 3) Who would they consider including in this space (e.g., relatives, friends, doctor)? 4) What personal information would they be willing to provide? and 5) What information and services would they like to receive? The questions were grounded on our literature survey of research in health and online engagement, and ideas generated while constructing personas and scenarios earlier on in the project.

¹ For the rest of the participants: 34 officially withdrew; 11 could not be recontacted; 42 did not complete the survey.

Results and analysis

We now present the results, organised around our five research questions. Given the space constraints, we cannot describe responses to all the questions.

USEFULNESS OF FAMILY WEIGHT MANAGEMENT SITE

We wanted to find out whether individuals thought they would use a personalised website designed to encourage all family members to take part in a healthy living programme and support each other. We thus asked questions related to the usefulness of a family site. Amongst the responses, 40% said they would use it as individuals only, 51.5% said that both themselves and their family would use it, and only 8.5% said their family only would use it. This result supports our goal of developing a family-oriented health site. The participants were also asked how they would like this space organised with respect to private/shared spaces. 51.5% said they would like both a private and a family space; 11.5% preferred a private space only; 3% chose the family space only, and 34% had no preferences.

PROCESSES OF ENGAGEMENT

Understanding how people prefer to interact with technology is essential for the success of a system. We decided to ask how regularly people thought they would visit a family WM site, and how they would like it to be supplemented. 43% of the participants said they would be happy with just the site. The remaining 57% chose additional communication and interaction modes: e-mail was, amongst the choices provided, the primary additional form of interaction (90%). Interestingly, only a few (10%) chose to supplement the site with SMS. Also included amongst the choices was a visit to a health care professional (e.g., doctor, nutritionist). We did not get a strong response on this either (35% only).

It appeared that the main concern was not so much the inclusion of a health professional in the loop, but the visit itself with its required appointment. As for the site usage, 54% of participants indicated that they would visit such a site on a weekly basis, while 28.5% said they would visit it daily or as often as possible.

SOCIAL SUPPORT

The importance of providing support is widely recognised, and WM programmes are all running online forums to enable members to share their journey and connect with others. Although we envisage our site to be family-centred (encouraging also offline interactions), we would like it to be a place for information posting, gathering and provision, as well as togetherness. Thus, it appears natural to offer people the opportunity to not only include their family in this space, but also to give them the opportunity to expand it to the circle of their friends, relatives (e.g., parents, sister), and general practitioner (GP) for professional advice and support. Participants seem favourable to include their GP (60%), massively against including friends (83%), and not really enthusiastic about including relatives (28.5%). It came as a bit of a surprise, in particular for friends. However, this tends to support the belief that overweight people may feel uncomfortable about telling their relatives, friends or colleagues about their weight problem.

PRIVACY AND CONFIDENTIALITY

The provision of appropriate personalised content to support individuals managing their weight, and, more generally, families adopting a healthier lifestyle involves issues of tailoring. To be able to assess and answer people's needs, a system has to acquire personal information, such as diet and emotional state. The

more information people are willing to provide, the better tailored content they will get. But would people be willing to provide such information? If yes, what would they be willing to disclose?

With much surprise, we welcomed the following result: 94% of participants indicated that they would be willing to provide their personal information for future tailoring of the provided content and 85.5% for tracking their progress. Amongst the information that they would be happy to provide, we found physical activity (83%) and diet (80%) information to be preferred, followed by medical (65.5%) and social information (62.5%). The last item was at first surprising considering that social information is probably the most *public* part of people's personal information. However, it is also the part of people's life where they tend to lapse in their diet (e.g., where they drink or eat what they should not). People do not necessarily want to report these lapses, nor feel guilty about them. It is worth noting that amongst the participants willing to provide personal information, 20% of them do not wish to include anybody in their space and 34% would consider including their GP only, indicating that they are mostly willing to disclose their personal information in the scope of their family space. The rest of the participants were split depending on what they wanted to disclose and to whom. This is in support for the provision of tailoring tools that can address individual needs and preferences.

INFORMATION AND SERVICES

The family website will deliver online tailored services, such as providing feedback or encouragement, reminding, recommending, informing, and advising. figure 1 shows the list of information items provided to the participants and what they ranked as important.

They could choose as many items as they wanted. The source of information (bottom of figure 1) was, interestingly, chosen almost unanimously. As people are making important decisions based on information, the evidence of authenticity and reliability of the information source is crucial. Recipes came second. Although they are readily accessible from numerous places, having to decide what to eat and in which proportion is still the number one issue for people trying to manage their weight. Finally, ways to engage with the family performed reasonably well, reinforcing the need to involve the whole family in the process.

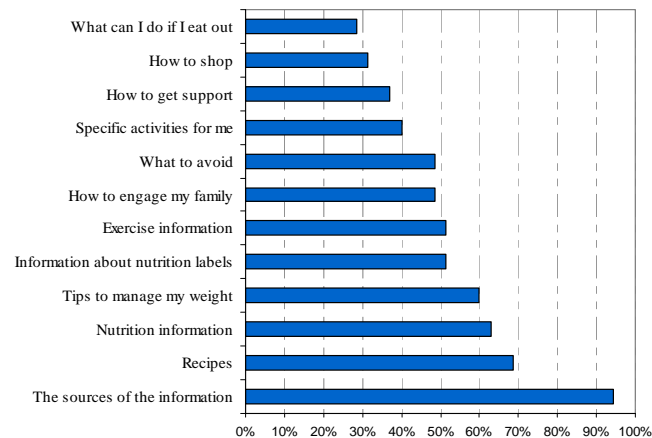


figure 1. Content participants would like on the family portal

Participants also had the opportunity to mention other items outside the list. They added: specific information for children and people with disabilities, and an area to record regular reminders for immunisations, pap smears, mammograms and other health checks. This latter request was of interest to us, as it showed that the site was seen by the participants as not only a

place for the family to get healthy living advice, but also as a place to organise the family health information more generally. Google Health (www.google.com/health) represents a concept close to this idea, offering people the facility to organise their health information in one place (e.g., medical records from doctors, hospitals).

As for the type of services, we focused on 4 types: 1) the provision of a target, milestones and progress chart for individuals and families, 2) the provision of reminders, 3) of encouragements, and 4) the possibility for the family to record and share activity/moments. 45.5% of participants said they would like a target and regular milestones for both themselves and their family; 37% preferred the target for the family only, and 17% chose to have a target for themselves only. 48.5% preferred the progress chart for both individuals and the family, 28.5% preferred the chart to report individual progress, and only 23% wanted the progress chart for the family. Participants also mentioned being interested in getting encouragements (88.5%) and reminders (80%). Some programmes are already offering their members online journals to keep record of daily successes and emotional well-being. We wanted to assess people's attitude towards the possibility for them and their family to record and share their experience. The participants responded positively, with 88.5% saying they would like to record and share what worked (e.g., activities they enjoyed), 68.5% what did not work, 54% what problems / conflicts occurred and 34% happy moments.

Future work

The family-oriented WM website differs from other typical collaboration settings where all individuals have

the same goal. Here, people contribute in their own ways, working collaboratively towards a family goal. Thus, it was important to assess people's attitude and beliefs towards the engagement of other family members. This study provided us with a first set of requirements to drive the development of our family WM site. From our questionnaire, we learned that individuals think that they and their families would be happy to use such a site on a weekly basis. They would like this site to be a place for the family to share (i.e., the family space), while also providing privacy to individuals (i.e., private space). They would prefer this space to be restricted to their family (no friends or relatives allowed). Nutrition information, how to read nutrition labels and recipes are amongst what is of interest to them, followed by ways of engaging their family and exercise activities. We also learnt that they would prefer most of the services to be delivered for themselves *and* their family. Finally, we found that people would be willing to disclose personal information to get content tailored to them. While some results are clearly supported by a large majority of participants, others show diverse opinions and attitudes advocating the need for tailoring tools that can address the needs and preferences of individuals and families.

We have developed an initial version of the family site. It will soon be used as a probe to determine people's real behaviour as opposed to their stated perceived preferences, and to evaluate the best way of successfully involving the family in a healthy living programme.

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