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Chapter 2

WhatsApp Peer Coaching Lessons for eHealth

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ABSTRACT

WhatsApp was evaluated as a peer coach group support tool in a healthy lifestyle intervention with 15 young professionals. These individuals were time-constrained professionals, so two design challenges were to create enough attractiveness and quality in the peer group interactions. There were three main health domains: food, physical activity, and mental energy. As a result of the 12 week pilot, there were 127 WhatsApp peer coaching inputs. The variety of inputs was better than in a previous pilot; peer coaching quality improved; plus there was more continuity following the initial two weeks. Community building remained a challenge, especially in the longer run. Two design solutions seemed to work: pre-designed coach-inputs across health domains, plus the instructions for a health advocate from the group, per health domain. Based on the results, the authors hypothesize that user needs in the first five weeks were well supported but that user support needs seemed to change after the initial five weeks, which impacted the perceived added value from the WhatsApp group.

INTRODUCTION

Previously (Simons 2018, 2019, 2019b), we started researching the added value of social and affective group support in health interventions. In many models, like the HAPA (Health Action Process Approach) model (Schwarzer, 2008; Lippke, 2009; Wiedeman, 2011) and i-change model (De Vries, 1998), as well as in the design of eHealth solutions (Simons 2010), health behaviour improvements appear to revolve

around setting goals and achieving them. But patient groups (Simons 2016, 2017, 2019b) and professionals (Simons 2012, 2013, 2017b) appeared to have other support motivators as well, which are less functional in nature. One can think of social motivators (like connecting with each other, sharing experiences or showing your best) and affective motivators (like pride, having fun, encouragement or compliments), as also seen in various social media contexts (Khan, 2017; Bitter, 2014; McQuail, 2010; Park, 2009)

As a practical challenge, the diversity across healthy lifestyle groups being coached is large. From patient groups that tend to be relatively ICT-illiterate or even have an ICT-aversion, to highly educated but time-constrained groups of young professionals in a work setting. Thus, a WhatsApp group was chosen as support tool, being an omnipresent technology, which is low-tech, low-threshold and has social media benefits for affective and social support (Schulz, 2014). This study focusses on results from a healthy lifestyle group of young professionals.

In a previous pilot with this target group, several challenges came up (Simons 2018, 2019). First of all, their inputs rapidly declined: 63% of their inputs in the first two weeks and only 14% during the next three weeks (totalling 77% of inputs in the first five weeks). Hence, the eHealth Law of Attrition (Eysenbach, 2005) applied, which states that the majority (80-90%) of initial eHealth tool usage is likely to be lost after several moments of usage, often within a period of several weeks. Second, although we knew that the majority of them had priorities on the topic of mental energy and performance, there were virtually no inputs/responses given on this topic. So this topic was largely neglected in their WhatsApp group interactions. Third, there were two enthusiastic participants who initially became advocates for the topics of food and exercise respectively, but they felt unsupported by responses from the rest of the group. Hence their inputs and motivation to contribute declined over time. The degree of participation is an important challenge; in other social media settings over 90% of users only consume, but do not participate in the sense of providing responses or inputs (Nonnecke, 1999).

Still, peer support and peer coaching have a lot of promise. In section 3 we discuss how we adopted several suggestions from the previous study into the WhatsApp group pilot, in order to improve the quality of the peer coach WhatsApp group. The aim of this pilot is to answer the following research question.

Research Question:

- Can we raise the quality of peer coaching for health with a WhatsApp group?

Sub-question 1.: Can we stimulate WhatsApp attractiveness as indicated by *inputs & user involvement*, using affective and social motivators (like in social media uses)?

Sub-question 2.: Can we stimulate peer coaching *quality* for the users?

THEORY

In this section we use social media research and we discuss peer coaching literature to develop our framework for evaluating the design goal achievement in our pilot. Hence, our theory framework addresses two topics. On the one hand, social and affective support that the WhatsApp group may add to the other health support that exists in the eSupported health program. On the other hand, it is important to review what determines the quality of peer coaching. Overall, this paper has a design focus, following a persuasive technology approach (Fogg, 2002, 2009; Ghorai, 2014; Hamari, 2014) in order to stimulate healthy behaviours.

Interesting article overviews in the field of *social media* are provided by Kamel Boulos (2016) on WhatsApp use studies for health, by Regmi (2017) on mobile app and WhatsApp uses focusing on smoking cessation, and by Kulyk (2014) focusing on apps using social, functional and affective cues for healthy lifestyle coaching and serious games. One of the more promising studies (Cheung, 2015) showed that WhatsApp group support was more effective than Facebook or a control condition for stimulating smoking cessation. However, another study (Muntaner-Mas, 2017) showed that WhatsApp support was less effective than face to face coaching. This latter finding is rather relevant for our study, since face to face coaching (plus various eSupport tools) are the base line condition in our current study, where we seek to find additional support value for participants by adding a WhatsApp group to the overall support portfolio. A second limitation from existing studies for our research question is that generally the relative contributions of the functional versus the affective/social support value remain implicit and unclear (Lehto, 2013, Ricciardi, 2014). A third limitation from existing studies is that they largely focus on health support from professional moderators or coaches. In this study we have an additional goal, inspired by resilience literature (see below): to foster peer coaching.

1. Develop Health Habits	2. Peer Coaching on:	3. Social Support Motives
A. Showing my best and celebrating progress. B. Learning how health behaviours can work for me.	A. Healthy foods. B. Physical activity. C. Mental energy.	A. Asking/giving practical support. B. Asking/giving affective support. C. Fun and humour.

Table 1: Service design goals for WhatsApp group user inputs and involvement

Previously, we explained our three design goals, see Table 1, for stimulating WhatsApp group user activity and we discussed the foundations from social media literature like the Uses and Gratification Theory of social media and others (Simons, 2018, 2019, McQuail, 2010, Khan, 2017). Our first design goal with this user group is to stimulate development of long term health habits, via motivators like for example 'showing my best'. The second goal addresses the health domains (healthy foods, physical activity and mental energy) for which advocacy and peer inputs are invited. The third design goal concerns the motivators for social support and social interaction.

The second strand of research for this paper is concerned with *quality of peer coaching via social media*. We start from general literature on coaching and then move to issues that are more specific for peer coaching and for social media enabled coaching (instead of face to face expert coaching).

1. Coachee readiness & motivation
Intrinsically motivated coachee (Zwart, 2009) with commitment (Jowett, 2017) to self-initiate goals and tasks (Gessnitzer, 2015) and experiment (Zwart, 2009) toward achieving successes (Parker, 2015), insights (Beckers, 2016) and internalized skills (Parker, 2015). Self-efficacy (de Haan, 2013) is also important in coachee readiness (Vandaveer, 2016).
2. Relationship quality
Important are mutual commitment (Sonesh, 2015) and closeness (Jowett, 2017), as well as complementarity in mutual leadership (Laios, 2003) and cooperation (Jowett, 2017). In peer coaching it is beneficial to have mutual learning (Parker, 2015), sharing experiences (Darwin 2009), supporting each other in choosing and attaining goals (Parker, 2015) and mild 'pressure' to experiment (Zwart, 2009). Finally, a safe environment is important (Zwart, 2009) to discuss and deepen insights (Sonesh, 2015) and learnings (Grant, 2017).
3. Coach inputs quality
The quality of the coach and her inputs are important (Vandaveer, 2016), including the range of techniques (de Haan, 2013), leadership (Laios, 2003) expertise (Swarbrick, 2016), scoping/selecting of main goals (Grant, 2017), deepening of insights/skills (Zwart, 2009, Sonesh, 2015) and supporting goal-attainment (Swarbrick, 2016).

Table 2: Coaching quality framework

Table 2 shows a general themes from coaching literature (Beckers, 2016, de Haan 2013, Sonesh, 2015, Vandaveer, 2016, Zwart, 2009): that the entire 'coaching chain' should be in good working order. This goes from 1.) Coachee readiness and motivation, via 2.) Relationship quality, to 3.) Coach inputs quality. This framework is also the overall coaching quality frameworks we will use for evaluating our study outcomes on the second research question: regarding quality of peer coaching. Each of these three main elements has several sub-elements. We have used Table 2 to include different sub-elements as found in literature.

	Expert Coaching, Face to Face	**Peer Coaching, WhatsApp group**
Opportunities	+ Richer communication; more cues (Simons 2010b). + Spend time on coachee needs, motivation (Zwart, 2009) and commitment (Jowett, 2017). + Quality of coach inputs (Vandaveer, 2016). + Relationship quality: management of roles, goals and expectations (de Haan, 2013). + Digging deeper, reframing situations and insights (Sonesh, 2015)	+ Presence/Always on. Low thresholds to ask. Frequent contact (Simons 2018). + Many inspiration & trigger moments (Fogg, 2009). + Similarity of peers: empathy and understanding of situation and goals (Swarbrick, 2016). + Sharing experiences with likeminded peers (Darwin, 2009). + Mutual learning (Parker, 2015). + Motivate to experiment: 'If she can, I can' (Zwart. 2009).
Risks	- Expensive. Thresholds; also to ask questions (Simons, 2010). - In-frequent contact. Missing the daily practical issues and needs (Gessnitzer, 2015). - Takes time and effort to bridge gaps coach & coachee (Grant 2017).	- Less explicit goals and commitment (coachee and coach; Beckers, 2016). - Less time, attention, leadership; loss of priority over time (Laios, 2003). - Some inputs incorrect or low quality (Vandaveer, 2016). - Only 'easy' inputs. No 'deeper' conversations (Sonesh, 2015). - Relationship & trust building limited (Zwart, 2009).

Table 3: Comparison between expert coaching and peer coaching

In Table 3 we highlight some of the differences between expert coaching, provided via one-on-one face to face meetings, and peer coaching via a WhatsApp group. The opportunities and risks for each of the coaching options are explicitly connected to coaching success factors from literature. In this study, the participants will experience both. One the one hand they have individual meetings with a professional health coach, addressing their individual goals, plans, actions and progress. On the other hand they are in the WhatsApp peer coach group. Thus, the interesting question is if we can use the WhatsApp peer coach opportunities to create added value and to mitigate some of the risks via our study design and intervention design. These are discussed in the next section.

METHODS, STUDY DESIGN, INTERVENTION

In this section we first discuss our design research approach and explorative pilot study. Next, we discuss how the WhatsApp group peer coach intervention fits in the overall health intervention that is offered. Regarding our design research approach, we follow the design cycle of Vaishnavi & Kuechler (2004): from problem awareness and solution suggestion to development, evaluation and conclusion, see Figure 1.
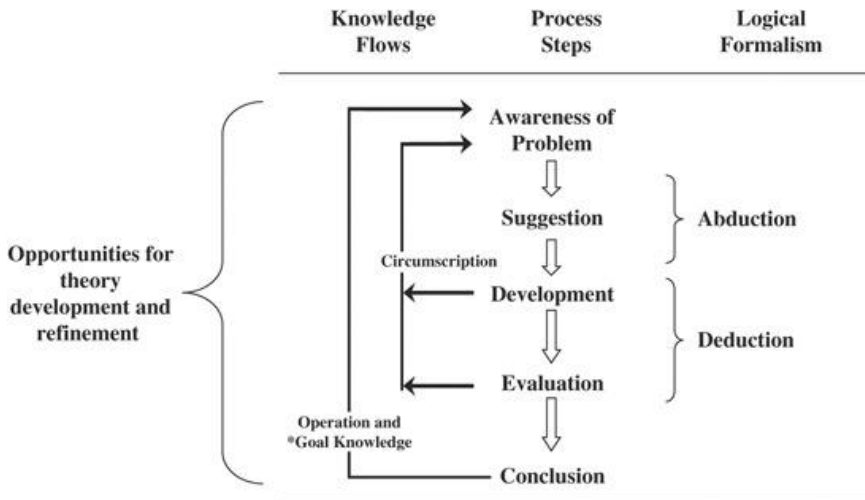
Figure 1: Design Cycle Knowledge via Design Iterations and Evaluations (Vaishnavi, 2004)

Our research method follows three steps: a) As 'awareness' and 'suggestion' steps from the 'abduction phase': Formulate possible social and affective WhatsApp user contribution motives, plus peer coach motives, that suit the design goals of the WhatsApp pilot. b) As 'development' and 'evaluation' steps: Adding the WhatsApp group support pilot to existing eSupported health program, plus fostering peer coaching by including predesigned coach inputs and instructing three peer coaches for their explicit health advocate roles. Next, as evaluation: quantitatively based on numbers of user inputs per design goal, plus qualitatively, based on user feedback (deduction step of Vaishnavi and Kuechler: section 4). c) As 'conclusion' step several design lessons are drawn, for practice and theory, see section 5.

In November 2018, a group of 18 employees from academia started with an eSupported healthy lifestyle program. On their start day, 15 of them volunteered to participate in the WhatsApp group support pilot, after reading the pilot study information and signing consent forms. They were a highly international group of scientists (from China, Netherlands, Hungary, Greece, Iran, USA, Jemen) from different disciplines at the Delft University of Technology: Postdocs, tenure trackers, assistant professors and the majority were PhD candidates. A first important characteristic of this group is that they are very time-constrained. They experience a high work load (as confirmed with intake surveys) and only want to spend time on (health- or other) activities if they are deemed useful for their performance as professionals. Secondly, the majority of them are young professionals, in their first or second job, and relatively unexperienced in managing work-life balance or ensuring healthy choices. It is not uncommon in this group to observe unhealthy belief/behaviour patterns like: 'I am not productive enough -> I will skip my breaks -> I lack energy -> I need more sugar.' Or sacrificing sleep, or exercise, or socializing, for the sake of working longer hours. Or other unhealthy 'corporate athlete' (Loehr, 2001) patterns. Thirdly, 80% of participants had a Mental Health score (RAND-SF8, Ware, 1998) below the overall Dutch average (for all age groups combined), even though their average age was below 35 years old. Thus a 20% Mental Health score below average would have been more appropriate instead of 80%.
During the pilot of twelve weeks, all WhatsApp user inputs are anonymized, counted and clustered based on their contributions to the design goals. Two of the authors conducted the clustering independently and then discussed results in order to reach unanimous scores. Besides the user inputs analysis, subjective user evaluations are collected. We asked them to evaluate WhatsApp group contributions to the design goals (5-point Likert scale, plus explanations, extracted during telephone interviews).

The WhatsApp group support pilot is added to an existing eSupported health program, which combines coach sessions with electronic dashboarding and self-management (Simons 2010b), plus electronic health tips and a digital health quiz game. Key functionalities are (Simons 2010, 2014, 2015):

- A personal online health dashboard with graphs of progress towards adherence targets on the various health behaviours;
- Automated feedback on lifestyle aspects where positive scores have been achieved (nutrition, physical activity, stress management or an overall score);
- (Tele)coaching by a health coach, generating online coach reports on progress towards adherence targets in the personal dashboard;
- Options to ask questions to the coach: via messaging within the dashboard or via email;
- Online schedule indicating upcoming events: group sessions, individual coach sessions (when and where), physical measurements, surveys;
- A micro-learning Health Quiz accessible via smartphone, mail and/or web;
- Reading materials in the mail;
- Weekly tips via email on health, motivation and self-management;
- Besides individual coaching, group sessions are also used in order to stimulate group support, mutual inspiration and encouragement, plus peer education.

The WhatsApp group peer coach setup included two new elements, compared to the previous pilot (Simons 2018, 2019). First, in order to increase quality, extend the breadth of inputs to include the topic of mental energy and to trigger learning plus user participation, we added weekly, predesigned coach inputs (which can be automated in the future). They covered all health domain and including links to online information sources that provided additional depth and insights. Second, we explicitly invited three participants for a role as advocate (for each of the three health domains) and instructed them on their role and tasks for providing their own inputs, responding to reactions from others, plus contributing to domains which were not 'their own'.

RESULTS

In this section we discuss the results of the twelve weeks pilot from November 2018 to January 2019. Besides the WhatsApp group activity, participant activities in the rest of the eSupported health program were: a full day workshop at the start, intake interview and questionnaire, using the Health Quiz and other eTools, follow up workshop at one month (2 hours) plus three individual health coach sessions in the first two months after the start workshop. These participant activities were conducted alongside their busy jobs.
With this group of n=15 participants, 127 inputs in total were collected in the 12 weeks, of which 31 coach inputs (who were part of the WhatsApp group to help the group along) and 96 participant inputs. Some inputs qualified for more than one goal, hence the sum of scores are higher, see Figure 2 and 3.
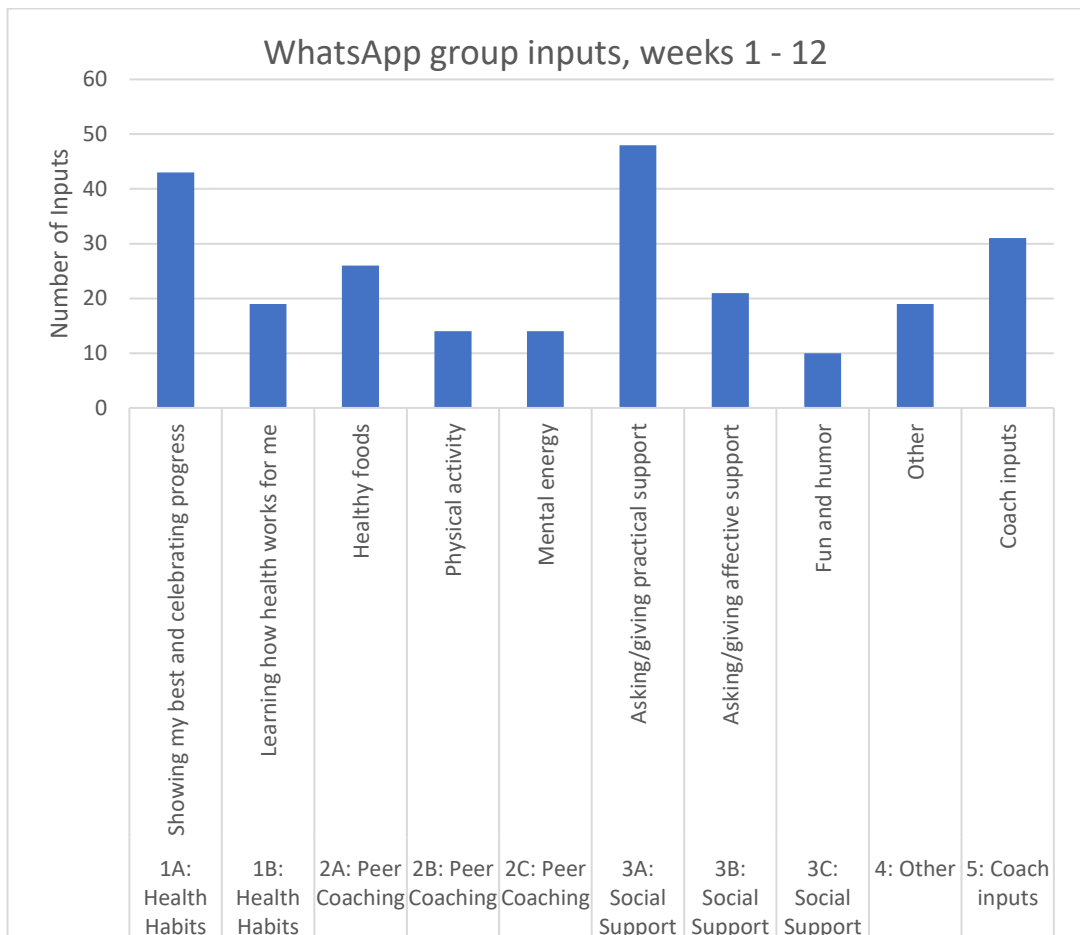
Figure 2: WhatsApp user & coach inputs in 12 weeks, on the service design goals.

The first cluster, 'Showing my best and celebrating', of the first design goal (fostering health identity and literacy) received relatively many inputs (n=41). 'Learning how health works for me' received n=19 inputs. Regarding the second design goal (peer coaching and advocacy), the three clusters ('Healthy foods', 'Physical activity' and 'Mental Energy') received n=26, n=14 and n=14 inputs respectively. Hence the 'Mental energy' domain inputs are better represented than in the previous pilot (Simons 2018, 2019). The third design goal of social support received respectively: n=48 practical support inputs, n=21 affective support inputs, plus n=10 fun inputs. This suggests a tentative 'yes' on our three social and affective design goals for the WhatsApp group inputs. The '4. Other' category (n=19) contains n=9 remarks on eTools and materials, plus it contains n=5 remarks from the start week, most notably thanks for the start workshop on health and vitality.
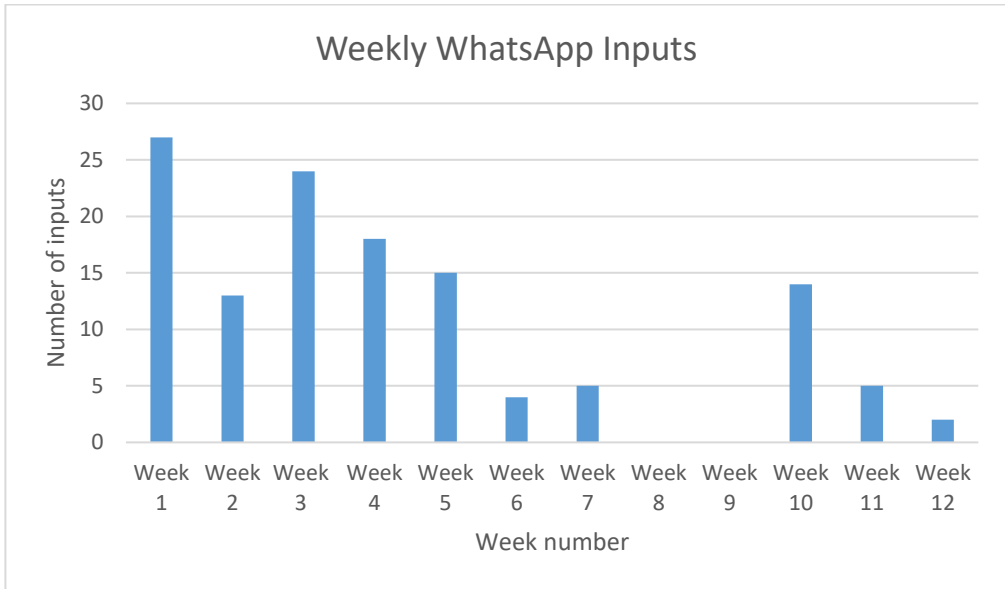
Figure 3: WhatsApp inputs per week (Christmas holidays in week 8 and 9).

Figure 3 shows the inputs per week. Across the first five weeks, the inputs were relatively well distributed: n= 27, 13, 24, 18 and 15 inputs respectively. (Which is quite different from the previous pilot group (Simons, 2018, 2019), which started more enthusiastically with n=52 inputs in the first week, but dropping rapidly after that: week 2 until 5 had n= 29, 4, 11 and 3 inputs respectively.) Still, from week 6 on the inputs per week are much lower. This was partly due to the Christmas holiday of two weeks (week 8 and 9), but see the discussion in section 5 for an additional hypothesis on changing support needs over time.

Figure 4: WhatsApp input distribution across participants.

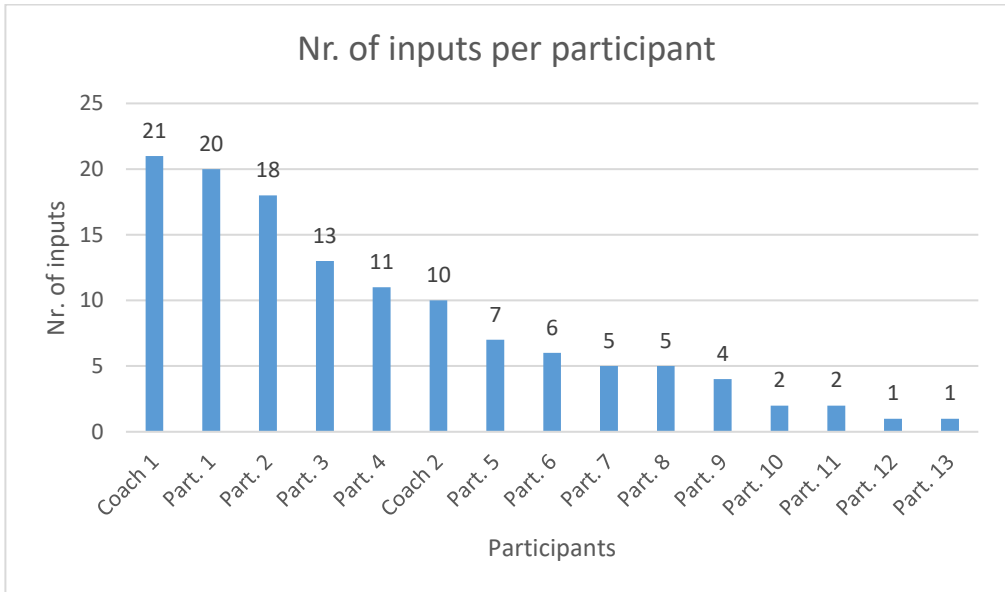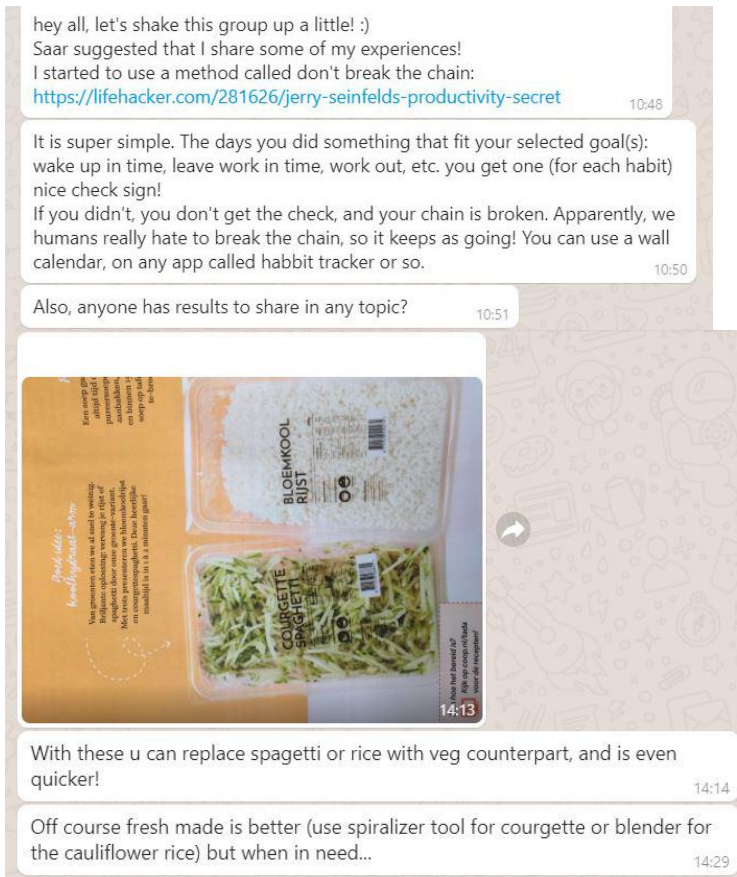Figure 4 displays the distribution of inputs across participants. As often with social media inputs, the distribution is skewed (Nonnecke, 1999), but it is less skewed than our previous study (Simons 2018, 2019). Two participants provided only one input and two did not provide any inputs at all (not displayed in Figure). Participants 1, 2 and 6 were the peer advocates for mental energy, foods and physical activity, respectively. Together with coach 1 and 2 (the professional coaches for the group) they provided many of the inputs. Still, it is nice to see that participants 3, 4 and 5 were also relatively active, and even more so than one of the explicit 'advocate role' participants. Participants 7, 8 and 9 also had input levels (n=5 or n=4 inputs) similar to participant 6, the advocate for physical activity.

hey all, let's shake this group up a little! :)
Saar suggested that I share some of my experiences!
I started to use a method called don't break the chain:
https://lifehacker.com/281626/jerry-seinfelds-productivity-secret   10:48

It is super simple. The days you did something that fit your selected goal(s): wake up in time, leave work in time, work out, etc. you get one (for each habit) nice check sign!
If you didn't, you don't get the check, and your chain is broken. Apparently, we humans really hate to break the chain, so it keeps as going! You can use a wall calendar, on any app called habbit tracker or so.   10:50

Also, anyone has results to share in any topic?   10:51

With these u can replace spagetti or rice with veg counterpart, and is even quicker!   14:14

Off course fresh made is better (use spiralizer tool for courgette or blender for the cauliflower rice) but when in need...   14:29
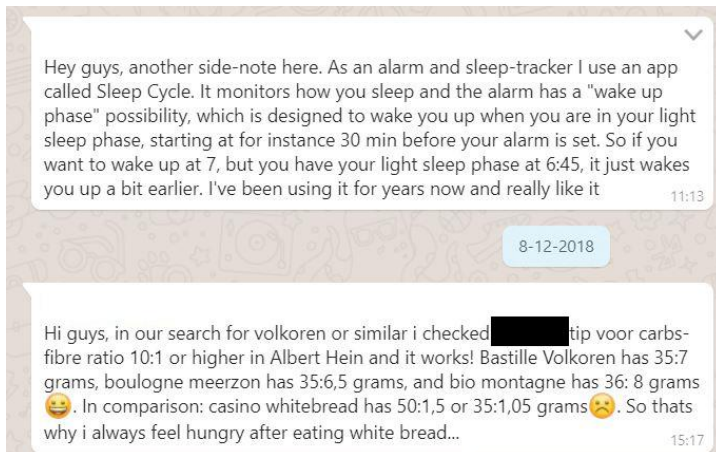
Figure 5: WhatsApp input examples (anonymized).

To illustrate the types of inputs provided, see Figure 5. The first example addresses the topic of 'How do I repetitively build a chain of positive health behaviours?' and shows an interaction with one of the coaches who suggests sharing a certain positive example with the group. The second example is an easy option from the supermarket for healthy eating, brought by one of the peer advocates. The third example shows advice from two different users (on different dates): one on better sleeping and one on shopping for bread with good fiber content in one of the prominent Dutch supermarket chains.

User evaluation questions (n=6)	**Average** (3 = neutral)
1. 'Helped me develop my *health habits*?' - Three disagree: didn't follow the group much & 'I'm more of a loner.' - One agrees, because of the info and the coach articles shared.	2.3
2. 'I am glad with the *peer support*?' - Three disagree, not much peer support needed, nor felt. - Two agree: nice group effects before Xmas; rapid answers to questions.	2.7
3. 'Helped me with *group advice plus encouragements*?' - One disagrees: 'I didn't follow the group much.' - Four agree: nice articles, inspiration and food suggestions, answers.	**3.7**
4. 'Helped me by *sharing* our examples?' - Two disagree: 'the others were not close to me' and sometimes no group activity. - Two agree: inspiration, hearing others are doing similar things. Handy reference.	2.7
5. 'I found the *coach* inputs useful?' - Four agree (no disagrees), due to the quality of the suggested tips and info-links (& easy for future reference).	**4.2**
6. 'I found the three *peer coach advocates* useful?' - Two disagree: not so relevant for me and not always a lot of activity. - Three agree: content sharing was useful, but participation fluctuated.	3.0
7. 'I feel WhatsApp helped *community* forming in our group?' - Two disagree: we didn't know each other at start and did not become close. - Three agree: especially in the beginning it was a place to help each other.	3.0
8. 'The WhatsApp group adds *value*?' - One disagrees: 'Not for me'. - Two agree. The rest are ambivalent: 'More (extended) activity would have been nice.' The	**3.3**

information, photos and examples were initially much appreciated: more 'present' and 'engaging' triggers than (Internet) Apps or meetings.	

Table 4: User evaluations (5-pnt Likert: strongly disagree (1) - strongly agree (5). *>3 = **Bold***)

The final set of study results stem from the user evaluations, see Table 4. Two participants in the user evaluation explicitly didn't like social media very much. They also indicated to have given limited time and attention to the WhatsApp group. A first overall finding is that our users vary widely in their preferences and opinions, which is similar to users' responses to other health eTools as well (Simons 2019b). Not everybody likes the same support tools, hence it is wise to offer a portfolio of tools, in order to help users with other preferences via other tools. A second finding is that two features stick out on the positive side: a) the coach inputs were widely liked for their relevance, usefulness and the quality of the information provided, b) all the encouragements and advice, especially initially, were liked by all but one participants. Third, the lowest score (2.3) is given for question 1, 'helped me develop my health habits', even though the quantitative analysis from Figure 2 shows many inputs there. We assume that these 'showing my best' inputs are perceived more as encouragements and social interaction than as aiding in developing health habits. Fourth, all other questions (on peer support, sharing examples, advocates, community forming and value added) get ambivalent scores, with about equal positive and negative responses. In general, options are more positive about the first weeks than about the final weeks of the pilot.

DISCUSSION

This section discusses limitations and implications for practice and theory. Limitations of this study are the small scale (n=15), plus the short term nature of the results (twelve weeks). Usage and contribution patterns declined after the initial five weeks, but we had no user evaluation moment in the first month. So even though we hypothesize on the basis of quantitative inputs plus user evaluations after the end of the pilot that user needs in the first weeks may differ from those in the last weeks, this is hard to conclude in hindsight. At our moment of user evaluation, several participants were abroad or otherwise unavailable, so the user evaluation is only based on n=6 respondents. Given the small scale of the pilot, we are also not able to correct for cultural differences in the group. Also, theory testing is out of the scope of this explorative study. Finally, the added value that participants perceive, is an added value relative to the existing eSupported health coaching, which makes users' added value perceptions harder to objectify.

As a first implication for practice, it is nice to conclude that this WhatsApp group pilot generated higher degrees of participation than many other social media settings (often more large-scale and 'feeling' more anonymous like on Youtube) with their 90% passive viewers (Nonnecke, 1999, Sun, 2014, Khan, 2017). This is likely due to the relatively high 'presence' and 'engagement' attributes of WhatsApp, as reported back by our participants.

As a second implication for practice, we see some important differences when comparing this pilot group with the previous one (Simons, 2018, 2019). There are always differences between groups and this pilot group was initially a bit more reserved and more functional in their WhatsApp group behaviours. Hence, only n=27 inputs were provided in the first week (versus n=52 in the previous pilot). Also, 50% of participant inputs across all weeks were practical support inputs (n=48 from n=96 participant inputs, see also Figure 2). Although more research is needed to confirm this tentative finding, our predesigned coach inputs plus 'peer-advocate-instructions' do seem to help to trigger participant inputs, at least for the first five weeks. As a third implication for practice, it seems to help when peer advocates are instructed on their roles: not just for their inputs, but also for managing their expectations regarding the limited reciprocity that is to be expected in terms of the inputs that others will send in return.

Quality of WhatsApp group peer coaching:	Evaluation:
1. Coachee readiness & motivation	*+ / -*
Large variation: Some participants are quite motivated (Zwart, 2009) to use WhatsApp for peer support and coaching, others are not.	
See text for our hypothesis regarding the motivation change after 5 weeks: from 'inspiration and know-how (Beckers, 2016) on foods, exercise and mental energy' to 'personal life implementation details' (Parker, 2015).	
2. Relationship quality	*- (some +)*
Downside: Limited commitment and closeness (Jowett, 2017) in the peer to peer relations, compared to real coach relationships. Although some are more committed to using WhatsApp for mutual learning (Parker, 2015, Zwart, 2009) and building social bonds (Vandaveer, 2016).	
Positive: Similar co-orientation (Jowett, 2017), mutual learning & discovering similar things (Parker, 2015), plus complementarity in know-how. Also: social and affective sharing of experiences (Darwin, 2009) even though this is not so deep: limited (re)interpretation of situations or life lessons via the WhatsApp group (Sonesh, 2015).	
3. Coach inputs quality	*+*
The quality of the predesigned expert coach inputs was valued by all users (Swarbrick, 2016). Also using 'instructed peer advocates' for each health domain increased quality and persistence of useful inputs: from the peer coaches and the other participants: no online 'lurking' (Nonnecke, 1999).	
Inputs on broader range of topics, including mental energy (better than previous pilot (Simons 2018, 2019, de Haan, 2013).	
Improved participation before 'attrition' (Eysenbach, 2005) started: five weeks instead of two weeks of steady inputs and mutual learning (Parker, 2015) and sharing (Darwin, 2009).	

Table 5: Evaluation of WhatsApp peer coaching success factors (author opinions)

In Table 5 we evaluated the quality of peer coaching, based on the user evaluation, their WhatsApp inputs, plus the interpretations from the expert coaches that were coaching the participants in parallel to their WhatsApp group activities. Overall, regarding the first coaching success factor, we observed a large of variation in the group, regarding their motivation for WhatsApp use, as well as their degree of commitment, inputs and relationship forming with the other coaches. As observed more often, user preference seem to vary a lot for almost every eTool used (Simons, 2015, 2017). Coachee readiness also varied a lot across participants in this group. The second success factor, relationship quality, showed some positive forms of mutual learning and complementarity (Parker, 2015, Jowett, 2017), but over time the relationship did not deepen enough to give users a feeling of community: the fact that the users were not otherwise in contact with each other was mentioned as a limitation. The third success factor of coach inputs quality was valued positively by most users, plus the period of active participation and appreciation from the users was extended to five weeks (compared to the two weeks of active involvement which illustrated the 'eHealth law of attrition' (Eysenbach, 2005) in the previous pilot (Simons 2018, 2019)).

Finally, we would like to *hypothesize*, based on our qualitative observations, that the self-learning and *coach needs of these type of groups change after about a month*. Their initial needs in the first month appear to focus on inspiration, experimentation and know-how. But during the next two months, the challenges (and coaching needs) reside in questions of how to structurally implement health behaviours in one's personal life and schedules. Then the deepening discussions and reflections (as can be done with the expert coaches) may appear more valuable to many of the participants (Sonesh, 2015).

CONCLUSION

The main conclusions from this pilot study are fourfold. First, social and affective motivators from social media literature were relevant for this user group and generated interactions beyond the functional level of finding practical health behaviour answers. Second, both our measures to improve peer group coaching quality (using pre-designed coach inputs across health domains, plus 'peer-advocate-instructions') did appear to help raise peer coaching quality. Third, key coaching quality factors (like quality of relationships, coach inputs and coachee readiness) were confirmed in this social media peer coaching setting. Fourth, the combined quantitative and qualitative data have lead us to hypothesize that the self-learning and self-management needs of this group change after about a month (entering a new learning phase). This requires a) more frequent user evaluation moments in the next pilot study for research these possible differences and b) exploring other design solutions for longer term support.

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