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Appendix no. 1: Speel je Fit in pictures (visual content)



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Retrieved from: <https://www.soccerex.com/media/6494/speel-je-fit.jpg?anchor=center&mode=crop&width=720&height=405&rnd=13148899261000000>

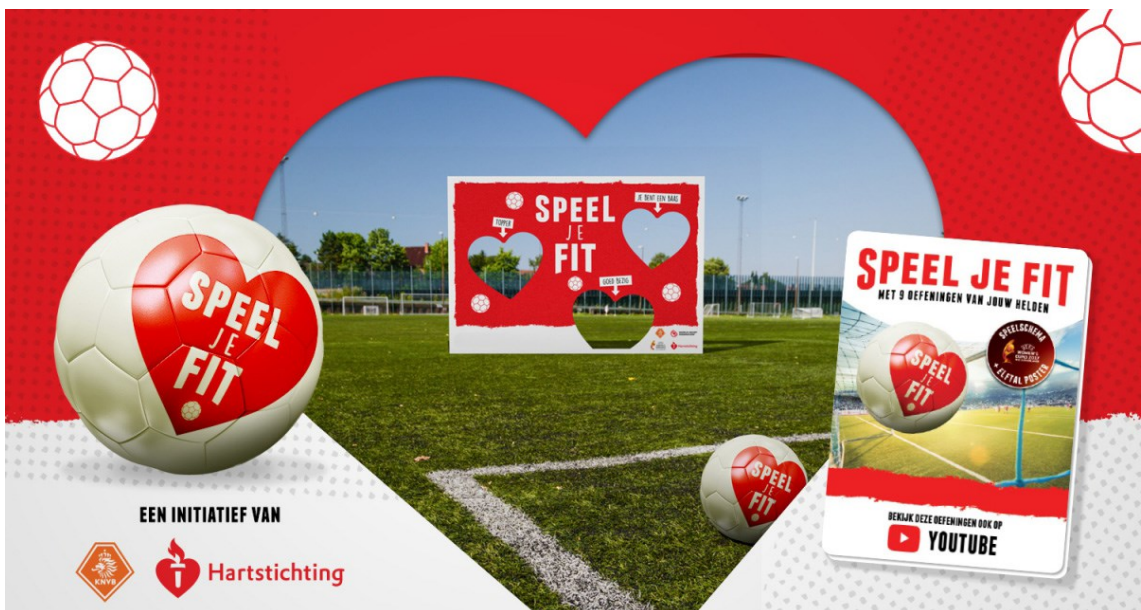


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Retrieved from: <https://www.youtube.com/watch?v=Knq1M8gkX6o>



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Retrieved from: <https://www.boostgroup.eu/assets/Uploads/Cases/Images/IMG-6050.jpg>



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Retrieved from: <https://www.boostgroup.eu/assets/Uploads/Cases/Images/artboard-1.jpg>

Appendix no. 2: #7dagenwater in pictures (visual content)



Picture DW1: #7dagenwater activation in schools

Retrieved from: <https://pbs.twimg.com/media/DXrRne3WkAApwy9.jpg>



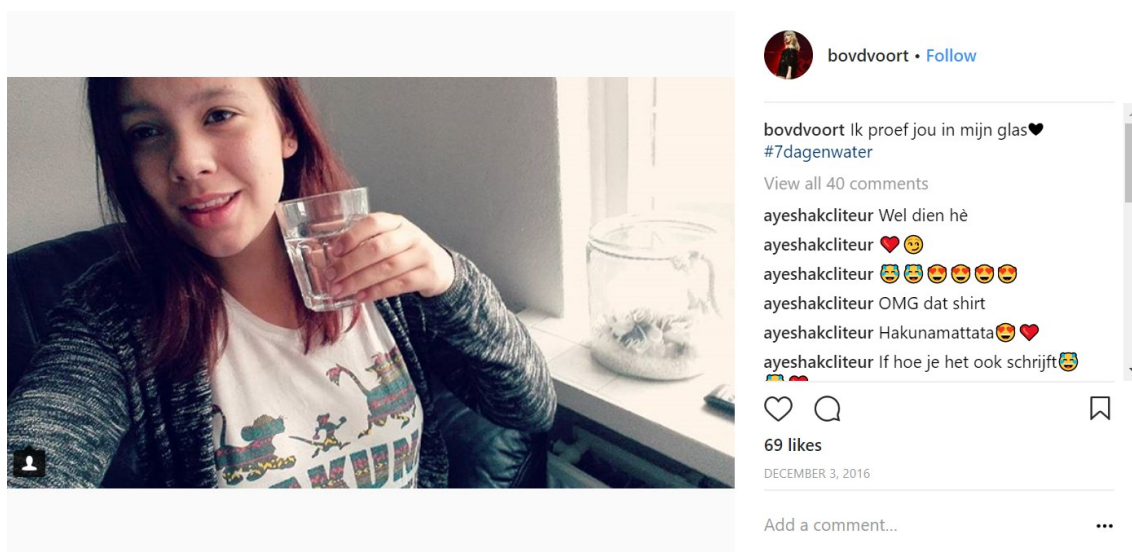
Picture DW2: Screenshot from Teske's *In Mijn Glas* music video

Retrieved from: <https://www.youtube.com/watch?v=R33o-V74-pY>



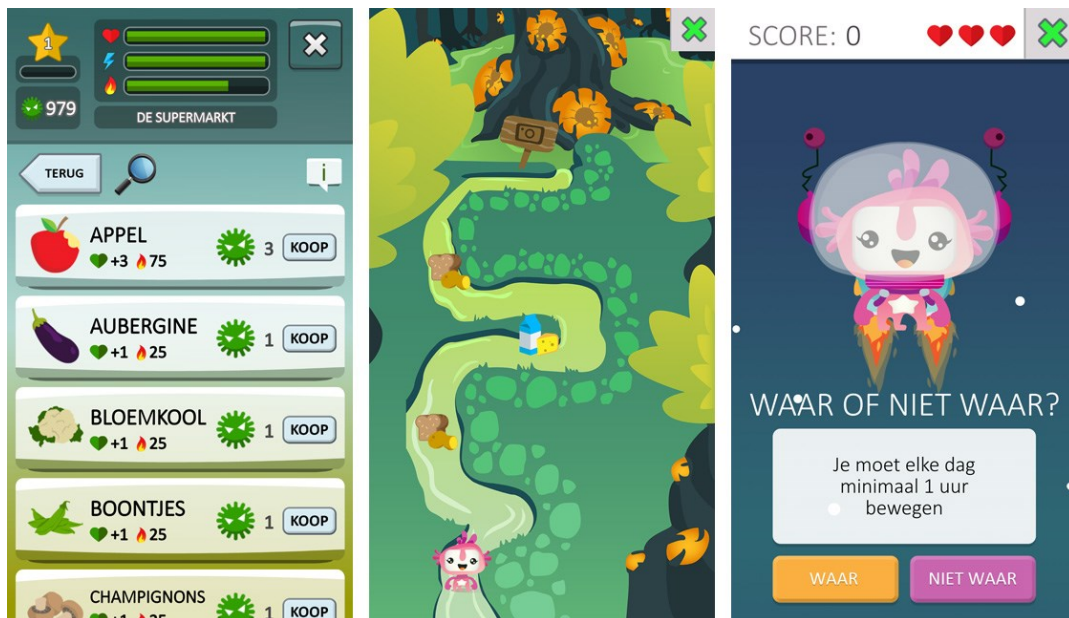
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Retrieved from: <https://www.instagram.com/p/BTBM-pKIEWt/>



Picture DW4: An Instagram post shared by one of the girls participating in the challenge – “I taste you in my glass”

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Picture HY3: Examples of the Hello Yoop game mechanics

Retrieved from: <https://www.weberinteractive.nl/wp-content/uploads/2017/07/project-yoop3.jpg>

Appendix no. 4: Charge your brainzZz in pictures (visual content)



Picture CB1: Home screen of the Charge Your BrainzZz game

Retrieved from: http://www.grendel-games.com/wp-content/uploads/2017/07/CYB_splash.png



Picture CB2: Example of the Charge Your BrainzZz game mechanics

Retrieved from:

<https://play.google.com/store/apps/details?id=com.grendelgames.chargeyourbrainzzz>



Picture CB3: Screenshot of one of the introductory animated videos about healthy sleep

Retrieved from: <https://chargeyourbrainzzz.nl/>

Appendix no. 5: Interview with Peter Legters from KNVB

Below presented is the transcript of the interview with Peter Legters (PL), CSR Project Leader at the Dutch Football Association (KNVB). The researcher (R) interviewed Mr. Legters in a café in Utrecht Central Station on January 11, 2018.

The Speel je Fit campaign

R: What was your role within Speel je Fit?

PL: As the CSR project leader of Dutch Football Association, I was in charge of our part of the campaign.

R: The campaign was a part of a bigger initiative called A healthy heart your goal, is that right?

PL: Yes, the World Heart Federation partnered with UEFA to create this initiative, which was manifested in the Netherlands during the UEFA Women's EURO Championship 2017. And Speel je Fit was also partially connected to this tournament.

R: What were the reasons for targeting children from 8 to 12?

PL: There were many reasons for that. First, we wanted to target a small audience, just a small segment of youth, because youth is a very diverse group of people. This age group wasn't really meeting the national movement and exercise norms. Also, children in the Netherlands usually start with football at the age of around 7 or 8, so it made sense for us in this respect as well.

R: Did you choose the target audience before thinking about the theme, tactics and media channels of the campaign?

PL: Yes, we chose the age group and wanted to do something good for them. We already did some campaigns about healthy nutrition for this audience, that's why we decided to promote movement.

R: Did you use any research when designing the campaign?

PL: With the help of our partnering agency, we looked especially into the behaviour of our target audience. We found out that they were spending a lot of time on YouTube, while their older peers were more into Facebook and Instagram. So that's why we chose YouTube as our main channel. But our geographical segmentation was based on the Women's EURO tournament – we were advertising to children living in or around the seven host cities because children from these areas were most affected by the tournament.

R: Did you carry out any research on the children's habits and behaviour?

PL: One of the research insights that we used was that role-models are very important for this age group. However, the tone of voice and the type of videos we used were usually based on our experience and intuition.

R: Was there any secondary audience? The parents or teachers, for instance?

PL: No, not really. With the limited budget we had, we knew that we had to really focus on a specific age group. A sub-campaign targeting parents sounds nice, but that would only take part of our budget and energy.

R: What was the desired behaviour your campaign was promoting?

PL: We wanted to inspire children to increase the time they spent on exercising and playing outside, especially playing football, of course. I already mention the Dutch national exercise norm – we aimed to push children closer to meeting this norm.

R: And what were the communication goals?

PL: Since it was a CSR project of Dutch Football Association, the obvious goal was to contribute to the good brand image of the association. But first and foremost, we wanted to contribute to the tournament's goals – creating a positive atmosphere in the fan zones and spreading the spirit of football and healthy movement.

R: Was the campaign a short or long-term intervention? Was it a part of a bigger project?

PL: This specific campaign was just a short-term thing. However, the idea of getting children to be more active is still in our CSR policy, of course. We are now looking for other football-related solutions which could inspire children to exercise more after school, such as street football training sessions hosted by professional trainers, for example. But we don't plan to implement Speel je Fit again. Although we used some of the Speel je Fit elements such as the symbol of the ball and some of the football games in TV programme Totally Fit Kidz, which is co-sponsored by KNVB and the Dutch Heart Foundation.

R: What was your behaviour positioning strategy?

PL: We have this philosophy called "Like a Pro", so "Eat Like a Pro", "Exercise Like a Pro" and so on. That's why we showcased some popular Dutch football players as the role-models, teaching children quite difficult football exercises which they used to do when they were young. We wanted to challenge the children and inspire them to try and improve. Fun was also an important element, but the key here was individual effort and progress.

R: Did you use any particular social marketing scheme when designing the campaign?

PL: The initial idea was to create nine short videos about the nine exercises of our nine football ambassadors. The exercises were the central theme and could be regarded as the product of the campaign. Our partnering communication agency developed the rest of the campaign. We weren't really following any specific marketing methodology. In terms of communication, we were relying on the knowledge of the agency.

R: What led you to the decision to use YouTube as your primary communication channel?

PL: It was the advice of the agency. They researched the media habits of the target audience and found out that they spend one hour on YouTube every day, so we knew we had to be present on YouTube.

R: Apart from YouTube, what were the other communication channels?

PL: We had two approaches – online and offline. The core of the online part was YouTube, where we were posting our content and advertising as well. We also used the Totally fit kidz TV programme and were promoting the campaign on a variety of websites connected to the topic.

R: Did you use any calls-to-action in the campaign?

PL: We didn't ask the children to do anything online, such as sharing the videos, because it is not even legally allowed to ask children under 16 to do specific online tasks without their parents' supervision. Instead, we were encouraging them to go out and play football on the street with their friends or even by themselves.

R: So, didn't try to make use of the mobilising potential of social media?

PL: In our previous social media efforts, the engagement rates were pretty low. We didn't want to try creating something really cool and viral. Instead, we wanted to motivate them to start immediately with being more active.

R: What was the motivational mechanism of your campaign?

PL: It was the cognitive dissonance effect – we were making them try different football exercises, and they would realise that movement is actually more fun than other unhealthy behaviours. When creating behaviour change, you have to focus on activation. People usually already know what's good for them and what's not. The key is to make them really try the healthy activities. Our strategy was to get the children outside, to make them realise on their own that movement is fun. Then they would change their attitude naturally.

R: Did you have any specific evaluation plan? Were you happy with the results?

PL: The primary goal of the campaign was to make children more active, which is very difficult to measure, so we didn't include that in the evaluation plan. We were looking at the social media numbers, of course. We also did some exit interviews with children leaving the fan zones of the tournament, asking them if they liked it and why or why not etc. The evaluation was definitely a weak point of the campaign, and we are well aware of it. However, overall, we are happy with how the campaign turned out. Judging the success of the campaign by the number of video views was a paradox because we didn't really want to make children spend more time on YouTube, of course. We interacted directly with a couple of thousands of children when touring around schools with the exercises and distributed 1250 balls and around 120000 booklets with pictures of the national team and instructions for the exercises. I saw many children doing the exercises in person, and they really liked it. I think that's the most important thing – we saw that a few thousand children were enjoying playing football thanks to our campaign.

New technologies in healthy lifestyle interventions

R: Did you (or the communication agency) choose YouTube as the main communication channel because of its popularity among the target audience, or was the cost-effectiveness the main reason?

PL: It was definitely not about the budget. We asked the agency to find out what is the best way to address this target audience in order to make them more active. One of the offline options could be going to primary schools and promoting football in the classes, but that is again very difficult because of the law. Social media seemed like a place where they spend large amounts of time and we can reach them in there quite easily. Also, the popularity of the footballers featured in the campaign helped us reach an even wider audience without spending more funds on advertising.

R: If the target audience was a bit older, would you then make use of the interactivity opportunities social media create?

PL: I like the idea of the children shooting their own videos of themselves doing the exercises, but I don't think it would have much of an effect. It could be just a small feature of the campaign.

R: Looking back, would you do anything differently regarding the use of new media?

PL: Well, we're very happy with the work of the nine ambassadors, who participated for free, which is not really common among such famous people. But I think that we should have asked them more specifically to share some posts about the exercises on their social media profiles when the campaign started. We didn't really do that, and I think it could further increase the reach of the campaign.

R: Generally speaking, do you think that the social features of social media have potential for social marketing campaigns?

PL: Yes, absolutely. We're working now on a new pilot project, which is about exercising after school. And we really want to use a mobile app as part of this project. The children could compare their exercise results with their friends, children from other schools and professional athletes too. We're really interested in this competitive element now. I think it's important to offer the children something more than just the traditional football exercises and activities.

R: Do you think that the elements of gamification are effective even for a long-term intervention?

PL: We were thinking of an app which would allow you to collect points for healthy habits in your daily routine, but there's rather big competition on the fit apps market. I think we'd have to come up with something unique, perhaps using the comparison with famous Dutch footballers again – "run a sprint as fast as Arjen Robben!" Budget-wise, it would be difficult for us to develop such an app. We would have to work with external partners who could develop the technological part.

R: Would you say that this competitiveness is a specifically Dutch thing? In some countries, comparing your speed or stamina with professional athletes might be very discouraging for many people.

PL: Well, I think that you have to use the comparing function in a smart way. Give people the chance to compare themselves with their friends, but also with their own results from last week, for example. For every child, different motivational appeals work. Someone might start with comparing their results with last week, then move to comparing themselves with their peers, and finally to comparing themselves even with Arjen Robben. It's a process. I think further research is needed to understand which behavioural mechanisms work well, perhaps even for long-term interventions.

R: Would you say there is a difference in the potential of mobile apps for campaigns targeted at children and campaigns targeted at adults?

PL: It's very challenging to get people really active with an app. There's a big difference between downloading an app and active usage. When designing the Speel je Fit campaign, we asked the agency if we should use an app, and they told us definitely not. It would be too expensive for such a short intervention. I think that apps do have some potential for healthy lifestyle programmes, but you need to invest a lot of money in it and create something outstanding. You should either do it really, really well, or you shouldn't do it at all.

R: Do you recall any mobile apps or other examples of using new technology in healthy lifestyle promotion, either in the Netherlands or even abroad?

PL: Well, I do use some fitness apps myself, and I track my movement with a Fitbit bracelet. But I'm not really comparing myself with others. And I don't remember any good examples of mobile apps stimulating healthy lifestyle now.

R: Do you regard using social media in such a campaign as a good strategy budget-wise? Would you say that the use of YouTube in Speel je Fit was also cost-effective?

PL: Yes, definitely. But as I said before, that wasn't the primary reason for choosing YouTube.

R: Was the fact that all your Speel je Fit online content is now easily accessible to the public a big advantage?

PL: Of course, our secondary target was to show people what we are doing for the children. We could always tell our stakeholders to go see the YouTube channel, yes, that's a big benefit, of course. YouTube has a broad audience and allows you to share the content of your campaign organically, which is also what happened with our videos. Some people might have been just going through some other football or exercising videos and the platform took them to our content. That's a big advantage.

R: In general, is your organisation open to the use of new technologies in its interventions?

PL: Yes, we are looking at the possibilities, but we are also well aware of the downsides and we know that creating mobile apps, for instance, is very costly and challenging.

R: What is your opinion on using new technologies to provide people with an innovative learning experience as part of health interventions?

PL: In our experience, both children and adults already know what's healthy and what's not. Our goal is usually to trigger the target action, to motivate people to try the desired behaviour. Then they can change their attitude and long-term behaviour naturally.

R: What do you think about the paradox of providing children with more digital content when you actually want to make them go out and play?

PL: Well, that's why we wanted to approach the children offline as well. We were in contact with the children also in the fan zones of the tournament and in the schools that we went to with Speel je Fit. So, for us, the online content was just one of the parts of the campaign. The children should see the videos online, see the campaign in a fan zone, receive a leaflet about it in their school, and then they would hopefully try the exercises at home as well.

R: What do you think about using exergames as part of the campaign activation in fan zones?

PL: It would be a really nice, fun feature, which could work very well. But it can't be used for a big audience, that's the disadvantage.

Appendix no. 6: Interview with Ellis Koster from JOGG

Below presented is the transcript of the interview with Ellis Koster (EK), Marketing Advisor at Jongeren Op Gezond Gewicht. The researcher interviewed Ms. Koster in JOGG's central office in The Hague on January 16, 2018.

The #7dagenwater campaign

R: What was your role within #7dagenwater?

EK: I was in charge of the campaign team.

R: When exactly was this campaign implemented?

EK: The campaign was running for one week, starting on the 13th of November 2016.

R: Did you cooperate with any major commercial partners in this campaign?

EK: The most important private partner was Spa, a brand of bottled water. Their goal was to promote drinking water with the 12+ target group in general. Spa approached us with a partnership offer and then we were looking for an opportunity to use their funds in a campaign connected to drinking water.

R: Why did you decide to partner with Spa? Was campaign funding the main reason?

EK: The money was only one of the issues, but we mainly wanted to work with a private company because we believe that such partnerships are crucial for successful environment changes. If you want to succeed in behaviour change efforts, you need to cooperate with the government, municipalities, schools, producers and so on.

R: Why is the Spa brand not mentioned in the campaign? Is that your policy for private partnerships? Did you think it would be counterproductive?

EK: We didn't think it could hurt the campaign, but that is just our policy – there cannot be any brand exposure in our campaigns targeted at children and youth. We want to promote drinking water, not drinking Spa. Spa was of the opinion that as they are the market leader, they would ultimately benefit from young girls drinking more water as well. However, the sales were not Spa's primary motivation.

R: Was the #7dagenwater week-long campaign a part of a bigger, long-term initiative?

EK: Yes, it was, exactly. We created our Drink Water concept back in 2012.

R: What is Drink Water's target audience? Is it the same as the target audience of #7dagenwater?

EK: With Drink Water, the general campaign promoting drinking more water, we want to influence children and teenagers from 0 to 19. However, in practice, we saw that we mainly reached the target group from 0 to 12, especially through children daycare and primary schools. Our Drink Water efforts weren't very interesting for youth, for adolescents from 12 to 19. Therefore, we had to find another proposition for that segment.

R: Who came up with the idea of targeting girls from 12 to 15? Was it JOGG, or Spa?

EK: Our initial goal was to reach both boys and girls from 12 to 19. But then we realised that the differences between girls of 12 and boys of 19 are too significant for one campaign. Therefore, we wanted to choose a smaller segment to begin with, and we found out that girls from 12 to 15 were rather interested in drinking water and how it benefits their health and beauty. It seemed like a rather easy group to begin with.

R: Did you carry out any research to help you with segmentation and targeting?

EK: Yes, we used insights from another partner's research. Unfortunately, I cannot share the data with you, they didn't even want to share it with Spa. I can only tell you that the partner used focus groups of youth from 12 to 18 and the goal was to find out who could we reach best with such campaign.

R: What about geographical segmentation?

EK: JOGG's campaigns are usually decentralised and localised for different municipalities, but with #7dagenwater, we targeted the Netherlands as a whole.

R: Were there any other targeting specifics, for instance in terms of media habits of the girls?

EK: Not really. However, since we partnered with Dutch vlogger Teske, you could say that we focused especially on her fans and followers, and on girls who use YouTube in general.

R: Why did you decide to use social media as the primary channel in the campaign? Was that decision also research-based?

EK: Yes, our research found out that social media is the best way to reach this target audience, because we cannot really reach them through their parents and school anymore. They listen to important vloggers or models instead.

R: Did you also use research to look into the barriers to the desired behaviour? What makes girls drink soft drinks instead of water, for example?

EK: Yes, we also did research into girls' drinking habits, but I cannot share the data with anyone.

R: In an online interview, Spa's director said that the goal of the campaign was to tell young people in an appealing way that drinking water is tasty, healthy and fun. Would you agree that this was your communication goal?

EK: Yes, especially "fun" was one of the most important aspects. We found out that teenagers often consider drinking water as something boring, and we decided to change this. And, for example, Spa emphasises variety – they offer many different variations of different taste.

R: Was there a secondary target audience? Did you want to reach boys as well? Or the girls' parents?

EK: No, not really. We are looking forward to creating a campaign for boys as well, but that one will have to be completely different. Especially the music video was very girly.

R: The campaign lasted only seven days. Were there any follow-up communication efforts after this one week?

EK: Yes, we worked with the theme of “seven days drinking water” for another two weeks with two catering companies, which were promoted drinking water at high schools. Additionally, we offered the concept to the JOGG municipalities to adopt it and implement it with regional vloggers and influencers again.

R: What was the main positioning idea? How were you trying to present drinking water when compared to other, competitive behaviours?

EK: As I said before, presenting drinking water as “fun” was definitely an important aspect. However, I would say that the main positioning idea was that drinking water is a normal choice, something that you usually drink.

R: Were you also trying to promote the healthiness of water?

EK: No, not really. Although for girls, beauty is a very good insight. They care about their appearance, of course. That’s why we were also communicating that drinking water is very good for your skin. Nevertheless, health was not the primary issue here. Our research suggested that girls don’t want to be told that water is healthy, they already know that and are tired of hearing that over and over again.

R: On Instagram, you were sharing some “water tips” as part of the campaign. What were there about? Did you try to communicate any factual information, rational arguments about the benefits of drinking water?

EK: Those were just general tips such as “Do you also drink water after sports?” or “Do you put fruits in your water?”, we didn’t use any factual information about the benefits of water.

R: Do you use the same behaviour positioning strategy when promoting other behaviours, such as exercising more often or eating healthier foods?

EK: Well, we always use images of happy children, that is true. However, for example with eating vegetables, we focus more on the “normality” again – “everybody does it, it’s the logical thing to do” – even though in reality only 1% of Dutch children and youth consume the recommended amount of vegetables.

R: Let’s talk about the campaign creation process now. Did you design the campaign according to social marketing methodology, or was it more of an intuitive process?

EK: We came up with the idea and then our communication agency created the campaign. Through this agency, we also had the opportunity to partner with some vloggers. From all the vloggers who were interested in our project, Teske was the best fit for us. Later on, she came up with the idea of writing a song about drinking water, and that is how we created the main media product of the campaign – her music video.

R: Why was Teske such a good fit for your campaign?

EK: She was very popular with the target audience and she was also very interested in healthy lifestyle and had a history of vlogs on it. It was a perfect match. Some of the other vloggers were working with candy brands as well; the message wouldn’t be very authentic or believable if conveyed by them.

R: Did you use any other channels apart from social media?

EK: No, we didn't, this campaign was purely social media-based. The research suggested that for our target audience, social media would be most effective.

R: Were there any interactive elements in the campaign?

EK: We asked the girls to post pictures of themselves with water on Instagram. Authors of the most interesting pictures won a meeting with Teske, the vlogger.

R: How did you create content for the campaign's Snapchat profile?

EK: Teske wanted to do that by herself, so that was completely her responsibility. Our communication agency created some content for the #7dagenwater Instagram profile, but Teske was sharing her own content as well on YouTube and Instagram, with her own messages.

R: Did you think about the mobilisation potential of social media when choosing the channels for your campaign?

EK: That was just a secondary benefit suitable for our "challenge" theme. The main reason why we chose social media was simple – that's the place where young girls spend time, that's what they do.

R: Did you use a call-to-action in your social media communication?

EK: The only call-to-action was encouraging girls to participate in the challenge, drink only water for one week and share some nice pictures with us on Instagram. We didn't use any links to our website, nothing like that.

R: Were you satisfied with the results of the campaign and with the use of social media as the only communication channel?

EK: Yes, definitely, the same goes for Spa. Our evaluation plan consisted mainly of engagement numbers on social media, and those were all exceeded. Initially, we were also planning on finding out how the attitudes and behaviour of the girls we had reached changed, but our partners advised us to focus solely on social media measures.

R: Would you say that the use of social media in your campaign was cost-effective? Was it the right choice budget-wise?

EK: Yes, we were quite happy with the cost-effectiveness. We had to pay Teske, the vlogger, of course, that was a big part of the budget. But we didn't spend much money on advertising and the girls we targeted were still reacting to our campaign.

R: Will there be any follow-up campaigns with the same theme in the near future?

EK: We're currently planning a similar campaign for the same age group featuring famous Dutch women, especially sportswomen. But that's quite difficult because they usually have sponsorship contracts with other brands and companies.

R: Any plans for reaching other target audiences?

EK: We're dreaming of creating a campaign for boys, but with our limited budget, we decided to focus on young girls for the time being. But in the long-term, we'll be definitely targeting

other segments as well. Also, we really enjoy cooperating with Spa, and we've recently renewed our contract for three more years.

New technologies in healthy lifestyle interventions

R: Do you consider YouTube just a convenient and cost-effective communication channel, or do you also see other benefits in it?

EK: The main advantage is that you can get quite close to the target audience in their own world, in their natural environment. But on the other hand, it is difficult to use social media in campaigns that are promoting going out, leaving mobiles and computers behind and exercising. For our exercising promotion, we created a map of the Netherlands where children can easily find a place nearby to exercise, but you can't do much more.

R: Do you think that new technologies bring new opportunities to the learning experience?

EK: Yes, I believe that new technologies can make the learning experience more attractive. But this attractivity can be just momentary – we can see that on the example of Pokémon Go, which was a huge hit, but only for a couple of weeks for most people. It's difficult to keep the attention of children and youth in the long-term.

R: Does gamification with all its aspects such as the social factor, competitiveness, or motivation through collecting points and achievements, have the potential to motivate children in the long run?

EK: I think we don't know yet. At the moment, I am not convinced that it works in the long run. I believe that more research is needed to see if there is a potential for successful long-term interventions as well.

R: What do you think about tracking devices and apps for children?

EK: I remember a big pilot project created by UNICEF which was using a step counter, and I believe that worked well. So, yes, I think that such technologies can work as a great motivational element. However, we have to keep in mind that we also want to reach children who might find movement and exercise difficult, and the competitive element might discourage them from participating. The use of new technologies should always be socially inclusive.

R: Would you say that there is a maximum amount of media content health interventions should use? After all, the ultimate goal is often to draw children's attention to something other than their smartphones and computers.

EK: There has to be a balance, of course. But the thing is that they are really willing to spend a lot of time on social media, for example. The role of parents is very important here, they should set up a clear set of rules for the use of new technologies with their children. We will be running a campaign about this soon.

R: What do you think about exergames and their potential for such interventions?

EK: I don't know enough about that, so I don't really have an opinion.

R: In the long-term perspective, do you plan on developing a mobile app as part of one of your interventions?

EK: Well, we won't do it ourselves because of the limited budget. But there are some pilot projects of mobile apps promoting health in children, and if they turn out to be working well, we can support their spread around the Netherlands through JOGG's municipalities.

R: Have you noticed a health campaign using new technologies recently?

EK: In the Netherlands, I am inspired by the Healthy Sisters. They are really into running and are inspiring other women to run and exercise as well with the use of Instagram, in a very appealing way! I believe that something similar could work well for children and youth too.

R: What are the main advantages and disadvantages of using new technologies in healthy lifestyle interventions?

EK: It's cost-effective and you can reach your audience 24 hours a day whenever you like. But there is also the difficult challenge of persuading them to leave their phones behind with content shared on their phones. There's a paradox in this, that's for sure.

R: In general, is your organization open to the use of new technologies in its interventions?

EK: Yes, definitely. But it has to happen in cooperation with partners and in a smart way.

Appendix no. 7: Interview with Stephan Aarts from Yellow Riders

Below presented is the transcript of the interview with Stephan Aarts (SA), Founder and Director of the Yellow Riders company. The researcher (R) interviewed Mr. Aarts in the Dutch Game Garden in Utrecht on January 24, 2018.

The Hello Yoop app

R: What was your role within the Hello Yoop project?

SA: I was in charge of the Hello Yoop team. Rijnstate Hospital in Aarnhem asked me to develop a game for their patients - kids with overweight and obesity, but also for children who live in the city of Aarnhem as a prevention tool.

R: What was the hospital's motivation to develop a digital solution to treating obesity?

SA: Initially, they created a six-months-long programme for which children can sign up or be signed up by their parents. However, during the pilot period, they found out that this programme would be very costly for them, because it consumes a lot of time of many different specialists. That's why they asked us to come up with a digital product which would help them to stay in touch with the kids all the time without being with them in person.

R: Can you briefly describe the development process?

SA: We invited ten Dutch game studios for a two days-long challenge. All of the studios made a pitch, and the draft that we liked the most was this Tamagotchi-like game. The winning studio was then responsible for programming the game in cooperation with us, Yellow Riders.

R: When exactly was the game released?

SA: Six months ago, in July 2017.

R: Why did you choose the age group from 12 to 16 as the target audience?

SA: We had a discussion about this with the hospital. Kids from 12 to 16 are still at primary or secondary school, and before they go to high school, we want them to adopt a healthier lifestyle.

R: Is Hello Yoop just a treatment tool, or is it also a prevention tool?

SA: When we were developing the game, it was supposed to be just a treatment tool. But now we removed the medical part, and the game is available to anyone. It's still a programme for six months, but everybody can use it now without being a patient of the hospital. The target audience of the prevention app is now 8+ in all of the Netherlands.

R: Was there any secondary audience? The parents, for instance?

SA: We found out that mothers of the children often use the app as well and they are happy that something else is now motivating their children to eat better and move more. Sometimes parents follow the instructions of the app along with the child and they can get in better shape too.

R: Did you do any research into the behaviour of the target group?

SA: Yes, we partnered with Roel Hermans, a behaviour scientist at Radboud University, whose specialisation is in health and food. We found out that the biggest problem is the environment. When comes to kids with overweight and obesity, their families are usually the main cause, because they themselves eat poorly and don't exercise at all.

R: What was the desired behaviour change?

SA: It's a combination of moving a lot (8 or 10 thousand steps per day), knowing what you eat, drinking a lot of water and resting well. Children have many distractions in their lives – computers, TVs, mobile phones – so we also focused on implementing instructions for resting well, meditation and so on.

R: Could you briefly explain how the app works?

SA: It's a very straightforward game. There's a Tamagotchi named Yoop, and you need to keep him happy. That can be done by tracking your steps and recording what you're eating. With meditation, for example, you are also asked to breathe deeply on the screen, and the app will tell you if you're doing it well. Initially, we were testing the three parts separately – moving, eating and resting. Later on, we bounded them together and integrated them in the Hello Yoop app.

R: What happens after the six months of the programme?

SA: You don't get the incentives and presents anymore, but you can use the monitoring features. According to our data, children still use the app to check whether they are doing well or not and to learn a bit more.

R: What was your behaviour positioning strategy?

SA: In the first version of the app, there were many mini-games implemented. However, we found out that those were in fact just distracting children from moving and eating well. So, we reduced that. The fun part is still important though – we will be testing more mini-games which shouldn't be very distracting. Children can adjust and personalise their Yoop. Also, after each day, the app tells you if you met the goals or not. You will be awarded with a special sticker after each successful day. And if you complete a full month, you'll get a wristband. The kids can thus compare themselves with their classmates and friends. The social element is also important. And the incentives – exchanging points for discounts for going to the ZOO with their family, for instance.

R: Watching movies or playing video-games can be fun too, so why should children use your app instead of doing these things?

SA: Well, they can still be watching movies or playing games. The goal of the app is to add something to the children's lives, not to take something away necessarily. The activities that we require them don't take much time actually.

R: Did you create the game with any particular social marketing or behaviour change theory in mind, or was it more based on your intuition and experience?

SA: Both, actually. There were doctors and scientists involved – obesity paediatrician Saskia Bouma from Vrije Universiteit Amsterdam and Slotervaart Ziekenhuis, lifestyle coach Marjolein Postma, and Roel Hermans, the behaviour scientist I already mentioned. We had a lot of tests and were discussing details with these experts, many of which then got removed or added. But we also used our own experience with developing games, of course.

R: How were you trying to promote the game?

SA: In the initial phase, the app was functioning only as a treatment tool for chosen patients. But when we redesigned the app to serve as a prevention tool for everyone, we worked with vloggers, who were promoting the game on their social media channels by actually playing it. In some cities, we were organising special promotional events. For example, in Aarnhem, there's a really nice large park in there, so we created a route and the children were running around the park and completing different tasks. In the next few months, we're planning on promoting the app much more around the whole Netherlands. We're also cooperating with some schools and hospitals to promote the app.

R: Why did you choose vloggers?

SA: We partnered with a PR agency asked them to come up with something tested and reliable. This also took a long time and at the end of their work, their advice was to use vloggers as the main online communication strategy.

R: Doesn't the game have just too many different features? Wouldn't it be more effective to focus just on one of the elements?

SA: Initially, we had a lot of mini-games in the app. We've removed a lot already. The number of different features shouldn't be a problem now.

R: Would you change anything about the game?

SA: Absolutely. It is an ongoing process, actually. For instance, we know want to allow children to enter their food records with voice to make this feature easier.

R: Are there any e-learning elements in the game, which provide children with some factual information about healthy lifestyle?

SA: In the first three weeks, you learn a lot – what’s good and what’s bad for your health. After that, you start using the app in your daily life. Eventually, they change their thinking from “I need to do this for Yoop” to “I need to do this for myself”.

R: On the website, you describe the app as an intervention which is constantly with the children. Is that the main motivational mechanism?

SA: The incentives, reaching new levels and earning presents are most important for keeping the children motivated for a long period. But the game itself was created mainly to be fun to play. There are also some reminding elements implemented, which should keep the children interested. But the main motivational mechanism is probably that we want to make the children feel healthy – that should help them motivate themselves to adopt healthy lifestyle.

R: Do you have any plans for the future with the app?

SA: We definitely want to expand to other Dutch cities as well, but our primary focus now in terms of development is personalisation. We want the app to reflect the preferences of the child. With data analysis and automatic personalisation, the app should be even more effective.

R: Social marketing interventions are sometimes criticized by the public for not bringing any quantifiable results. Did you use the data you collect with the app to communicate the whole project to the public?

SA: No, we use the data only for improving the app. And the children can see their own results, of course.

R: How did you finance the development of the app?

SA: The hospital in Aarnhem and the province of Gelderland provided the finances together, and my own company Yellow Riders invested in it as well. We are now looking for more partners who would help us expand the game to other cities in the Netherlands.

R: Would you say that the strategy of developing a mobile game for this purpose was feasible and cost-effective?

SA: Developing such an app is costly, it’s a long process. But I believe that this mobile game is the best tool for healthy lifestyle promotion at least among some children.

New technologies in healthy lifestyle interventions

R: This is a quote from Yellow Rider’s website about Hello Yoop: “The connection between gaming and obesity is often seen as relationship of cause and effect – games as one of the possible causes of obesity. This time, it is the other way around.” Would you say that gamification really carries a lot of potential for healthy lifestyle promotion in children and youth?

SA: Yes, not only in children but also in elderly people, who play a lot of games as well. We are trying to find a way to make therapy more fun. Games can really make a difference in that respect.

R: How do you make sure that children won't stop using your app in the long run?

SA: The most important thing is to have children involved in the constant development process. We're having children designing their own mini-games for the app, for example. Additionally, we're working with some high school children who are closer to the target group, and they help us continually update and improve the app.

R: How important are the incentives in such apps?

SA: For some children, they are very important. But I think that it's the combination of everything that makes it work well.

R: Where do you think is the right balance between media use and physical activity? What I mean is that your app requires the children to use their smartphones even though it promotes going out and exercising.

SA: Overweight and obesity are very complex problems. Sometimes it's in your genes, sometimes it's psychological, sometimes your family is the cause. You cannot really say: "The TV is the main cause." Nevertheless, to answer your question: The time children are asked to spend using the app is always limited to just a few minutes each day.

R: What do you think should be the role of adults in such interventions targeted at youth?

SA: With adults, the problem is that they often don't have any spare time for themselves. That's why we were trying to make them spend more time with the children through our app, thinking about healthy food or exercising together.

R: Is the tracking and reminding feature important?

SA: Right now, it is actually turned off in our app. The reminders were static, 8.00 for breakfast, 12.30 for lunch etc. We want to personalise the reminders for every child. That would be much more effective, I think. The app needs to be reacting to what happens in the day of the child.

R: Have you ever considered using social media as the central platform of one of your healthy lifestyle interventions?

SA: Well, with Hello Yoop, the target group is 8+, while Facebook is 13+. Instagram is a good thing to use, but not so popular with younger children at the moment. We wanted to create support groups for children on Facebook for example, but there was a problem with data security.

R: Can the social factor – comparing yourself with others, sharing your achievements - function as a motivational element?

SA: For most of the kids, yes. For some kids, no. We made this app for everyone. However, if we find out in our data that there is a kid who is probably obese, we can send them or their teacher or parents a message and treat them differently, with the help of a lifestyle coach or a doctor, for example. For obese children, the competitive element could be discouraging.

R: What do you think about exergames and their potential for healthy lifestyle promotion?

SA: It depends on what you're looking for. The problem with exergames is their availability. It's rather difficult to get to them; you'd have to buy them, you know. We're looking for something that is with you all the time – your mobile phone.

R: Have you gotten inspired by any other digital health intervention?

SA: For instance, we used the GPS-based routing technology, which was partially inspired by Pokémon Go and similar apps.

R: In your opinion, are new technologies the way to go when designing healthy lifestyle interventions these days?

SA: Previously, everything was solved with pills and visits to the doctor. Now, people are trying to avoid going to hospitals. There's a lot of evidence available from universities about the effectiveness of digital health interventions, but people don't really know about it yet. Our goal is to bring this experiential knowledge out in the streets in a very simple, fun way.

R: Are you currently working on some other health-related games?

SA: Yes, we have different game concepts we're working on. Right now, we are testing a game which should help treat patients with brain injury. Another game is trying to make heart-related exercising more fun. But there are many of them, really.

Appendix no. 8: Interview with Koko Beers from the Brain Foundation

Below presented is the transcript of the interview with Koko Beers (KB), Project Leader at The Brain Foundation (Hersenstichting). The researcher (R) interviewed Ms. Beers in the Brain Foundation office in The Hague on January 24, 2018.

The Charge Your BrainzZz learning package

R: What was your role within the Charge your brainzZz project?

KB: The Brain Foundation is a health fund – we raise money for research and projects with the goal to prevent and cure brain diseases. I focus mainly on the prevention part, which is partially oriented towards children and youth, who are still in physical development and experience many brain-related changes. As part of our educational prevention efforts, we funded the Charge your brainzZz project and I was the project leader. The contents of the learning package were created by Chrono@work, a company connected to the University of Groningen. The game app was developed by Grendel Games.

R: When exactly was the project launched? Do you already have some results?

KB: On September 27, 2017. Since then, the package has been downloaded more than 300 times. In March, we are going to start an evaluation study conducted by the Vrije Universiteit

Amsterdam together with the Public Health Service of Amsterdam. The researchers will test the quality of sleep and sleeping habits of children in schools before and after the intervention.

R: The game was a part of the learning package. Can you play the game even when your teacher does not apply the package in their classes?

KB: Yes, the game is accessible to the public as well, but only the first level. For the other levels with more features, you need a code, which is provided after downloading the whole package. But the game is usable even without the code.

R: Why did you choose the age group from 12 to 15 as the target audience?

KB: The youngest of this group have their second year of biology in school. We were targeting children who currently have their second or third year of biology classes. Chrono@work did a research with teachers, children and their parents, and found out that the best way to convey our message to children would be incorporating it in biology classes. And the curriculum of the second and third year of biology classes was best matching our intentions. Also, this age group has already entered puberty, but you can still reach them. Contrarily, their older schoolmates wouldn't listen to you.

R: Who did you target in terms of geographic segmentation?

KB: All schools in the Netherlands can use our learning package, so the intervention is nationwide. The project initiated in Groningen because of the contacts of Chrono@work in that city. But since then, many schools from different parts of the Netherlands have adopted it as well.

R: Was there any secondary audience? The parents, for instance?

KB: Yes, parents were included in the learning process. For instance, as part of the homework, children were supposed to discuss their sleeping habits with their parents, who were, of course, their role models and had an influence on the children. Also, we included a section for parents on the website so that they could find information about healthy sleep as well. It's always nice to influence more than just one audience segment with the intervention. And we hope that the teachers were influenced by the learning packages as well when using them in class.

R: Did you carry out any research into the behaviours of the target audience? Did you try to understand what are the main barriers to healthy sleep for this group?

KB: We didn't do our own research on this, but we extracted some insights from the literature. One of these insights was that children were indeed spending a great part of their evenings and even nights with their mobiles and computers, so we knew that was something which needed to be addressed in the learning package.

R: What was the desired behaviour change? And what were the communication goals?

KB: The ultimate goal was to motivate children to adopt healthy sleep habits. We wanted to make children realise the importance of quality sleep as well as both the short and long-term negative consequences of poor sleeping behaviour.

R: What was your promotion strategy? Did you try to promote the game also to the public?

KB: At this point, we're still focused solely on schools. We created a launch event and used social media advertisements, newsletters and some public relations tactics to target teachers. Also, we've been in contact with a biology professionals society and we're planning on visiting their conferences and promote the package there in person. After being lured to the website, the teachers should then download the whole package and incorporate it in their biology classes.

R: Is Charge your brainZz a short-term intervention?

KB: Well, the information we provide in this project is applicable throughout the whole lifetime. We hope that the project can establish a solid foundation for their future sleep as well. Some of the children will not change their behaviour now but can change it when they are a bit older. However, regarding the intervention's actual length, it consisted of three 45 minutes-long classes only.

R: What was your behaviour positioning strategy?

KB: No, we wanted to make the learning process fun, but the desired behaviour itself was not communicated as fun.

R: Did you try to associate fun with healthy sleep?

KB: We tried to present all the positives connected to quality sleep. We were communicating that if you sleep well, you feel better, have better results in school, and also look better. Then we wanted to show children that sleeping well is in fact quite easy – make sure you don't exercise or drink caffeine late and turn off your electronic devices early in the evening.

R: Did you create the intervention with any particular social marketing or behaviour change theory in mind, or was it more based on your intuition and experience?

KB: I think that the Chrono@work's part could be called social marketing, but I don't know if they designed the contents of the learning package according to a specific methodology. It was probably more based on our experience with similar campaigns and also on the initial research with children, teachers and parents.

R: You told me that the website as a promotional channel was targeting teachers who could potentially use the package in their classes. However, judging by the design, the primary target audience is children again. So, who was the website for?

KB: Well, yes, that was one of the struggles we had. The website was offering the package to teachers, but at the same time it provided a sleep encyclopedia for children and parents. The evaluation study I mentioned will reveal if using this one website for all the different objectives and audiences was a good strategy or not. In my opinion, it was a bit too much for one platform.

R: Why did you decide to create a learning package in the first place instead of some other intervention strategy?

KB: That's a good question. To be honest, I don't really know the answer because I wasn't here yet when the initial idea was created. One of our partnering agencies is conducting research for

us which should reveal the most effective ways of reaching children and youth with our campaigns, so I believe that such decisions will be more based on research evidence in the future.

R: What was the role of the online game within the learning package?

KB: The initial research indicated that both children and teachers would welcome some sort of game in the learning package. Therefore, we created this game as part of the homework. It's a serious game, of course, so it still presents some information and knowledge to the children. However, it's main purpose is to enhance children's engagement and interest in the intervention as a whole. The game is a nice element to have in the intervention, but it wouldn't create a change in behaviours on its own, it needs some context and information. Regarding the game's design, it offers only three levels which can be completed quite easily, but it can be used afterwards as well, there are no limitations. It can help some of the children to sustain the healthy sleep habits. Also, I would like to mention one of the game's feature – after 8pm, children can't obtain any points anymore, so they are not tempted to play the game during nights. That would of course have the opposite effect to what we wanted.

R: Could you briefly describe the game? Was the game's story important?

KB: It's a mobile game available for all Dutch users on App Store and Google Play. There is a wizard called Sandman who's been helping people sleep for a very long time but now he wants to retire. You, the player, are in the role of his student and successor and have to bring him objects associated with healthy sleep in the first level. The next to levels are more complicated; there are features such as blue light, which is good for the player during the day but causes them damage during the evening, or energy drinks, which can't be used too often if you don't want to collapse. I don't think the story was very important, children want to play the games, they don't care too much about the background story and all.

R: What was the main motivational mechanism of the intervention?

KB: We included a variety of teaching methods in the learning package, such as card games, discussion exercises and animated introductory videos. The videos were also asked for by teachers and students in the initial research. A lot of interactive elements were implemented. And the mobile game was added as a fun, engaging bonus for the homework.

R: Did you include any incentives connected with the game? Any comparison with their classmates, for instance?

KB: There is a leaderboard on the website where children can easily compare their results with their classmates and children from other schools as well. Also, as a motivation, we announced that the owner of the best score would win a trip to a museum with their class. I think we will be improving the incentives in the future; the system is not well thought-through at the moment.

R: Do you have plans of creating some follow-up activities to this intervention?

KB: We've just started creating our organization's plan for the next five years, so I don't have the answer to this question yet. We want to focus more on healthy sleep, but I don't think that we will be targeting small children as the primary target audience again.

R: Did you create a specific evaluation plan for this intervention?

KB: Initially, we wanted to set up some quantitative goals such as the number of schools involved after the first year. But now we are just happy with the qualitative results – the feedback from

schools has been positive, children, teachers and parents are all happy with the package, it really seems to be working well. And as I already said before, a complex evaluative research including sleeping diaries will soon be conducted by our partnering universities. I would say that we are still in the pilot phase of the intervention.

R: Would you say that the strategy of developing a mobile game was appropriate to the objectives and budget of your intervention?

KB: Well, it was costly, but it makes the whole package more interesting and attractive. But I really can't tell if the game was cost-effective and if the benefits outweigh the investment we made.

New technologies in healthy lifestyle interventions

R: What do you think about the potential of new technologies in healthy lifestyle campaigns?

KB: I can see the potential, but I can also understand the concerns of some people regarding children's use of new technologies. I think that new technologies such as mobile phones put a lot of pressure even on very young children and on people in general. In that sense, I believe that they contribute to mental health problems and perhaps some physical problems as well – the kids in my family often just play with their phones and don't play outside anymore. But the thing is that we already have these technologies and they will surely stay with us. So, I believe we should try to use them for good. However, I think that there are just too many health-related apps right now and there's a lack of attention to how they are financed, designed, implemented and evaluated. The objective of The Brain Foundation and other organizations as well should be to do research into this and reveal which new technologies can really benefit to health promotion.

R: Where is the right balance between new media use and the desired behaviour?

KB: I don't think there is enough supportive evidence to the negative effects of new technologies on mental well-being. We didn't try to prevent children from playing our game all afternoon, but we at least created the controlling element which turned off gaining points after 8pm. To be honest, we are still not sure if it really is a good idea to encourage children to spend more time on their phones playing a game as part of an intervention which promotes healthier sleep. But I think they would be playing games on their phones anyway if it wasn't for our game.

R: Do you see gamification as a strategy with large motivational potential among children? Could it be the decisive push towards the desired behaviour?

KB: Yes, I think it works very well not only with children, but with people in general. People always have the urge to win and to get some kind of reward for their activity. But I'm not sure if gamification can ensure a long-term behaviour change. We're very interested in these issues, but we don't have the answers unfortunately.

R: Generally speaking, do you think that the social features of social media have a potential for social marketing campaigns?

KB: We thought about using social media as well in this intervention. I would really love to use social media in our interventions, especially when targeting children and youth. But our organization doesn't have the capacity to keep up with the all the advancements in the field of social media. We're currently doing research on what children and youth are interested in and

which communication channels are most effective with them. I would be highly surprised if social media and vloggers, for example, weren't mentioned among the best strategies.

R: Have you gotten inspired by any other digital health intervention?

KB: There are many commercial health-related apps for tracking your physical activity and nutrition. What I find interesting is a Dutch project of a health-related app store which aims to guide users in the world of health apps, test them and recommend the good ones. But apparently, they have no idea of how to reach people because I haven't met anyone who would know about them yet.

R: What are the barriers that digital healthy lifestyle interventions must face?

KB: I think the major problem is the huge number of health-related apps and the speed at which the whole field moves forward. Because of this very fast advancement, the truly quality, fully research-based apps and other digital interventions never make it to the big public. This kind of intervention development takes a lot of time, and by the time it is done, the intervention doesn't fully fit the current technologies anymore. Also, designers of such research-based interventions often don't think through the financing, distribution and promotion – who will pay for the app, how it will be distributed to the users, how it will be promoted.

R: In your opinion, what is the best practice of using new technologies in healthy lifestyle interventions? What are the main benefits and limitations? What are the rules that need to be followed?

KB: The key is to incorporate your target audience into the development process. The intervention shouldn't be based on the assumptions of the creators, especially when designing an intervention for children. Also, the finance and distribution parts should be very well thought-through.

R: What do you think about the cost-effectiveness of using new technologies?

KB: We already talked about the expensiveness of such interventions. That's why more cooperation is needed in the field. As a health fund, we really need many good partners to be able to finance such a project and reach a wide audience with it. Also, I will repeat myself now, but it really is crucial to keep the end user in mind when developing the intervention, otherwise it can't be successful and effective at all.

R: Are you currently working on some other digital health interventions?

KB: When I joined this organization, there were plans of developing a digital healthy lifestyle tool for the 50+ years old audience. But there were no specific ideas for this project. I said that we had to cooperate with other partners as well and find fresh ideas for the intervention. That's why I will be organising a hackathon-like event where teams of students from health-related programmes will be encouraged to cooperate with our partnering researchers and insurance companies and come up with innovative concepts for our project. And we will also invite some members of the target audience to test the ideas with them. I believe that this approach could really bring us some new interesting ideas.