Dutch children and parents’ views on active and non-active video gaming

EMELY DE VET1,2*, MONIQUE SIMONS1,3 and MAARTEN WESSELMAN1,4

1Faculty of Earth and Life Sciences, Department of Health Sciences and the EMGO Institute for Health and Care Research, VU University Amsterdam, De Boelelaan 1085, 1081 HV Amsterdam, The Netherlands, 2Department of Clinical and Health Psychology, Utrecht University, Utrecht, The Netherlands, 3Body@Work, Research Center Physical Activity, Work and Health, TNO- VU/VUmc, VU University Medical Center, Amsterdam, The Netherlands and 4NISB, Dutch Institute for Sports and Movement, Ede, The Netherlands

*Corresponding author. E-mail: e.w.m.l.de.vet@vu.nl

SUMMARY

Active video games that require whole body movement to play the game may be an innovative health promotion tool to substitute sedentary pastime with more active time and may therefore contribute to children’s health. To inform strategies aimed at reducing sedentary behavior by replacing non-active by active gaming, opinions about active and non-active video games are explored among 8- to 12-year-old children and their parents.

Six qualitative, semi-structured focus groups were held with 8- to 12-year-old children (n = 46) and four with their parents (n = 19) at three different primary schools in The Netherlands. The focus groups with children discussed game preferences, gaming context and perceived game-related parenting. The focus groups with parents addressed considerations in purchasing video games, perceived positive and negative consequences of gaming, and game-related parenting.

Both children and their parents were very positive about active video games and preferred active games over non-active games. Active video games were considered more social than non-active video games, and active games were played more often together with friends and family than non-active video games. Parenting practices did not differ for active and non-active video games, although some parents were less strict regarding active games. Two conditions for practical implementation were met: children enjoyed active video games, and parents were willing to buy active video games.

Active video games were preferred to non-active video games, illustrating that using active video games is a promising health promotion tool to reduce sedentary pastime in youth.

Key words: video games; physical activity; children; parents

INTRODUCTION

In the Netherlands as in many other countries, excess body weight is increasingly prevalent, also in children (Schokker et al., 2006; Van den Hurk et al., 2007).

Since (childhood) obesity is detrimental to physical as well as mental health, helping people to avoid becoming overweight and obese has become a pressing public health priority (Visscher and Seidell, 2001). Because sedentary behaviors have been associated with overweight and obesity (Hills et al., 2007; Te Velde et al., 2007; Rey-Lopez et al., 2008), reducing sedentary behavior has been identified as an important target for the prevention of overweight and obesity (DeMattia et al., 2007). A major source of sedentary pastime is playing video games.
Dutch 8–12-year-olds spend about 90 min per day playing video games (Nikken, 2003), and the time spent in playing video games is increasing even further (Rideout et al., 2010). Gender, age and level of parental education were significantly associated with playing video games (Nikken, 2003). More specifically, boys spent more time than girls playing video games. Further, adolescents aged 12–15 spent more time playing games than other age. Compared with children from parents who completed academic education, children from parents with a low and medium level of education spent double the time playing video games (Nikken, 2003). A majority of children of low-educated parents (65%) played games using a console compared with 26% of children of academically educated parents. Children from low socio-economic status (SES) groups thus appear to form an important target group. Computer games are not only used for entertainment purposes. If computer games are used for purposes other than mere entertainment (e.g. education, training, therapy), they are called ‘serious games’. Serious games (i.e. games used for different purposes than entertainment only) constitute an innovative form of entertainment education, a technique believed to be primarily useful in difficult-to-reach target groups, such as low SES families (Singhal, 2004).

Novel serious games that require physical activity and whole body movements to successfully play the game (e.g. dancing, running) may be a promising method for substituting sedentary pastime with physical activity. Well-known examples of such active video games are XboxKinect, Nintendo Wii Sports, Dance Dance Revolution and PlayStation Move. Active video games have been shown to substantially increase energy expenditure (Daley, 2009; Biddiss and Irwin, 2010), and thus hold the potential to be effective in reducing sedentary behavior. Before active video games can be successfully used in public health, it is important to gain insight into the opinions on active video games.

Only a few studies explored perceptions of active video games as well as the factors influencing prolonged active video game use (Epstein et al., 2007; Dixon et al., 2010; Simons et al., 2012), but with mixed results Epstein and colleagues (Epstein et al., 2007) examined differences in preference of sedentary game time and active game time for a dancing game and bicycling game in non-overweight children aged between 8 and 12 years. The results showed that children preferred an interactive dance game (Dance Dance Revolution) above the sedentary alternative (playing the game with a controller) and that the interactive dance game was more reinforcing than dancing alone or dancing while watching a video. Children did not prefer the interactive bicycling game above the alternatives (Epstein et al., 2007). Dixon and colleagues (Dixon et al., 2010) conducted focus groups with 10–14-year-olds and their parents and concluded that active video games have potential to reduce inactivity in children. However, views about active video games were not compared with views about non-active games. Reducing inactivity by substituting non-active gaming by active gaming will only be feasible and effective if children hold similar positive opinions of playing active video games as they do hold of non-active games. Therefore, it is important to explore and compare both opinions about active and non-active games at the same time. Simons et al. (Simons et al., 2012) did compare opinions of both types of games in 12- to 16-year Dutch adolescents. Although these adolescents held positive attitudes towards active games, a substantial proportion of the participants favored non-active games because of better game controls and larger diversity in available games. As a consequence, it has been suggested that younger children like active video games better than teenagers (Dixon et al., 2010; Simons et al., 2012). Hereto, in the present study, focus groups are conducted with 8- to 12-year-old children and their parents. Parents were included, because they are generally responsible for purchasing new consoles and video games and as such exert an important influence on the type of games children play (Nikken, 2003). Parents may additionally influence their children’s gaming behavior by applying specific parenting practices, such as limiting the amount of time children are allowed to play. In summary, this manuscript presents the results of focus groups exploring children’s and parent’s opinions about active and non-active video games.

METHODS

Participants

Focus groups were held with children (six) and their parents (four focus groups), respectively. Participants were recruited in eight classes from four primary schools in the Netherlands. Chil-
chil-
dren were first explained in detail what active
and non-active video games referred to. Non-active video games were defined as games
that can be played while seated, where only hand
and wrist movements are required to play the
game. Active video games were defined as
games that are generally played while standing,
which require bodily movements, more than just
hand and wrists. Eligible children (1) were
between 8 and 12 years old, (2) played video
games at least once a week, (3) had played active
video games before, and (4) were familiar with
the Dutch language. The researcher determined
eligibility plenary in class by asking the children
to raise their hands if they fulfilled the criteria.
Eligible children received a letter for the parents
which included an informed consent form and a
registration form for the parents. A national
review board approved the study.

Fifty-four children were willing to participate
in the focus groups and were permitted to par-
ticipate. Because the recommended number of
participants in a single focus group varies from
6 to 10 people (Krueger and Casey, 2000), a
random selection was made if the number of
children willing to participate (per class)
exceeded the number of required participants.
In total, 46 children participated in one of the
six focus groups held (group size varied from 5
to 11). Only parents of the 46 participating chil-
dren were invited for the focus groups with
parents. Nineteen parents took part in one of
four focus groups (group size varied from 3 to 7).

Of the children, 52.5% (n = 24) were boys,
63.0% (n = 29) were of Dutch origin and mean
age was 10.3 (SD = 1.3) years. Of the parents,
94.7% (n = 18) were female, 94.7% (n = 18)
were of Dutch origin and mean age was 42.3
(SD = 4.1) years.

Design and procedure
Data were collected with qualitative, semi-
structured focus groups. This type of interview
is most suitable for investigating new and under-
exploded topics (Krueger and Casey, 2000).
Focus groups were conducted by two research-
ers, one leading the discussion and the other
one making field notes. Field notes made it pos-
sible to check for contradictory citations within
a single participant. All focus groups were audio-recorded. Focus groups with children and
their parents took place in staff rooms at the
selected primary schools and lasted between 40
and 75 min. Children received a small incentive
(a pencil with a light bulb), whereas parents
received a gift voucher of €20, for their partici-
ipation in the focus groups.

Measures
First, demographic information (gender, age
and ethnicity) were obtained by handing out a
short questionnaire to the participants. It was
explained that active video games are games
that require whole body movement to play the
game. Next, in the focus groups with children,
three main themes were discussed, these were
(1) game preferences (what do children like and
dislike about active and non-active video
games), (2) the gaming context (when, where
and with whom do children play active and
non-active video games), and (3) game-specific
parenting practices (children’s perceptions of rules
and regulations on playing active and non-active
video games in the household).

In the focus groups with parents, the follow-
ing three main themes were discussed: (1) con-
siderations in purchasing video games (reasons
why parents chose to purchase particular active
and non-active video games), (2) attitude to-
wards video games (expected positive and nega-
tive consequences of playing active and
non-active video games), and (3) game-specific
parenting practices (parents’ reports of rules
and regulations on active and non-active gaming
in the household).

Data analysis
The audio-recorded focus groups were tran-
scribed verbatim. A content analysis was per-
formed. The first phase was getting familiar
with the data, followed by highlighting quota-
tions in the transcripts and assigning codes to
the quotation. Next, the codes were reassigned
to larger families and the families were rear-
ranged into the main themes of the focus group.
The themes were examined across groups and
for all groups combined allowing identification
of issues common to all participants as well as
those specific to particular groups.

The analyses were performed with the
Atlas.ti 5.2 computer software. Using special-
ized software allows for a more structured ana-
lysis of the data and is advocated to enhance
the trustworthiness of the data (Sinkovics et al.,
2008). Other measures to enhance
trustworthiness of the data included the use of a study protocol to ensure repeatability of the studies, as well as double coding of the results. Coding was performed by two researchers, independently. Both were trained in doing qualitative research. Coding of both researchers was compared, discussed and, if necessary, adapted.

In both groups, data saturation was calculated (Saturation = ([number of new unique labels in final focus group]/[total number of unique labels in all focus groups]) × 100%). If no new labels were assigned in the last focus group, full data saturation was reached. This indicates that additional focus groups would not yield additional information. Saturation was 100 and 97% in the focus groups with children and with parents, respectively. The results presented are analytical interpretations of themes and categories illustrated by representative quotations.

RESULTS

The results are discussed for children and parents, separately. Table 1 provides a summary of the resulting main and subthemes.

Table 1: Themes and subthemes in focus groups

<table>
<thead>
<tr>
<th>Participants</th>
<th>Main themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>Game preferences</td>
<td>Health, Absorption, Design, Competition, Genre, Game controls</td>
</tr>
<tr>
<td></td>
<td>Gaming context</td>
<td>Social activity, Weather</td>
</tr>
<tr>
<td></td>
<td>Game-specific parenting practices</td>
<td>Game time</td>
</tr>
<tr>
<td>Parents</td>
<td>Purchasing games</td>
<td>Age ratings, Violence, Costs, Durability</td>
</tr>
<tr>
<td></td>
<td>Attitudes to gaming</td>
<td>Health, Skill, development, Addiction, Social, functioning</td>
</tr>
<tr>
<td></td>
<td>Game-specific parenting practices</td>
<td>Discuss content, Monitor behavior, Setting rules</td>
</tr>
</tbody>
</table>

Focus groups with children

Game preferences

Most children preferred active video games over non-active video games (Table 2; q1–q3). The physical activity and health aspect itself were reported as an advantage of active video games [q4, q5], although some children sometimes found active gaming to be too exhausting [q6]. Another positive aspect of active video games was that many children felt to be ‘inside the game’ with active games more than they did with non-active games [q7].

Other game aspects that were of influence on game preference were the design of the game, competition, genre and game controls, although these aspects were not specific to either active or non-active video games. With respect to game design, it is appreciated when a game cannot be finished, when there is constant innovation and change in a game and when the challenge in the game steadily increases [q8]. Repeating large sections of a level when children had lost in the game (so-called game over) was an important negative factor [q9]. Winning is also important to most of the children [q10]. The genre of the game was important as well. For instance, girls in general preferred to play games with animals, whereas boys generally were more into games with violence [q11]. Racing games were played by both boys and girls and this was therefore the genre most frequently mentioned in all focus groups [q12]. Another important aspect was the games’ controls. On the Nintendo Wii, children had difficulties with keeping the infrared signal of the remote within its receiver’s range, which complicated navigating the game [q13]. Limited controls like simply pushing some buttons on a keyboard were considered boring by many children [q14].

Gaming context

Active video games could be considered social games, as they are frequently played with others whereas non-active video games were played most often alone [q15, q16]. A majority of children enjoyed playing with others more than playing alone [q17], but only when the players had similar gaming competences [q18]. Because of this, playing with parents and younger brothers and sisters could be less fun.

Except for when traveling (when active games simply cannot be played), no clear
differences were reported in the situations in which active and non-active video games were played. However, some children did mention playing active video games as replacement for being active outside when the weather was bad [q19]. Generally, many children reported playing more video games when the weather was too bad to play outside [q20].

**Game-specific parenting practices**

The majority of the participating children perceived no differences in parenting between active and regular gaming. Only few said they were allowed to play active games longer than non-active video games [q21, q22]. Many children reported that their parents have rules and restrictions for playing video games at home. Most of them spoke of a maximum game time, varying from 15 min to 2 h a day [q23]. Some children did not report a maximum game time, but their parents told them to stop when they thought it was enough for that day [q24].

**Focus groups with parents**

**Considerations in purchasing video games**

Parents mentioned age ratings, violence in the game, costs and durability of the game as factors that influence their decision to purchase a particular game. These factors did not seem to differ between active and non-active video games, although most parents thought that active games, in general, do contain less violence and are more suitable for young children (Table 3, q1).

**Table 2: Quotes from focus groups with children**

<table>
<thead>
<tr>
<th>Quote</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 I like active games more, because at the computer, you only have your mouse and keyboard and with active games you move a lot</td>
<td>8-year-old boy</td>
</tr>
<tr>
<td>Q2 With active games I can abreact and express my energy a lot more than with a normal game</td>
<td>11-year-old girl</td>
</tr>
<tr>
<td>Q3 When I sit like this [with the controller], I feel a bit useless [. . .], active video games I like those better.</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q4 If I had to choose, I would choose for active games, because then you’ll get in shape</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q5 Active games . . . yes, then you can move and I am bit of an active girl . . . haha I really have to move</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q6 (. . .) after I have done four sports, I don’t feel like exercising anymore</td>
<td>9-year-old girl</td>
</tr>
<tr>
<td>Q7 Well I think in active games, you look like a real person. It really seems like you are in the game yourself</td>
<td>11-year-old boy</td>
</tr>
<tr>
<td>Q8 My favorite game would be a game you can’t finish and changes all the time</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q9 I know a game which is very funny, but every time when you’re game over you’ll have to start all over again. That’s annoying!</td>
<td>11-year-old girl</td>
</tr>
<tr>
<td>Q10 Sometimes you play against each other . . . and then it is fun to win the game</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q11 Well, most boys don’t really like to nurse a horse. They like violence instead</td>
<td>9-year-old boy</td>
</tr>
<tr>
<td>Q12 My ideal game? A racing game</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q13 With the Wii, you have a sensor which is looking what you’re doing. But sometimes it does nothing at all when you move, even though the batteries are completely full</td>
<td>11-year-old girl</td>
</tr>
<tr>
<td>Q14 We went inside to play soccer on the Wii, but it wasn’t that fun because you only had to push some buttons</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q15 With two of my brothers I play more often. We play active games, because their more fun to play together</td>
<td>9-year-old girl</td>
</tr>
<tr>
<td>Q16 I play together mostly, because I have two brothers. We play active games more often</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q17 I prefer to play together. My sister has a DS too. And often she asks,’ shall we play together</td>
<td>10-year-old girl</td>
</tr>
<tr>
<td>Q18 Well, my brother isn’t that good in the racing game we have (. . .). He bumps into almost everything so I have to wait for a long time. It annoys me</td>
<td>9-year-old boy</td>
</tr>
<tr>
<td>Q19 Well, with active games . . . if it’s bad weather outside, you can play a game while you can still be active</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q20 Well, when it’s ugly weather, I prefer to stay inside, rather than to be outside. Then I watch TV or play games, or whatever</td>
<td>12-year-old girl</td>
</tr>
<tr>
<td>Q21 Well, if we play Wii Sports, I can play a little longer</td>
<td>11-year-old girl</td>
</tr>
<tr>
<td>Q22 My mother thinks active games are much healthier, because else you are like the fattest of the class and that’s not very nice</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q23 I can’t play games for more than one and a half hours a day</td>
<td>10-year-old boy</td>
</tr>
<tr>
<td>Q24 We don’t really have rules. My mom just decides ‘now it’s long enough’ and then she calls us. And then we really have to quit playing</td>
<td>11-year-old girl</td>
</tr>
<tr>
<td>Quote</td>
<td>Participant</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Q1 Active games are a bit more lightly</td>
<td>42-year-old mother</td>
</tr>
<tr>
<td>Q2 My daughter always wants a little over what’s suitable. Obviously, they will be playing 16+ games after a while, so I try to prevent this. She should wait with that for a little while</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q3 My last purchase would be James Bond, for his birthday. It involves shooting and has a 16+ rating. Normally I wouldn’t buy such a game for him, but I thought this particular game was appropriate</td>
<td>40-year-old mother</td>
</tr>
<tr>
<td>Q4 I look at the age ratings, but sometimes the game is more childish than the age rating suggests</td>
<td>36-year-old mother</td>
</tr>
<tr>
<td>Q5 That they both can play the game, because I also have a younger son. So I look at the age rating, that they both can play the game together and not individually for the eldest</td>
<td>35-year-old mother</td>
</tr>
<tr>
<td>Q6 I was visiting someone some while ago, and those images shocked me! It wasn’t like some figurine was stabbed and it drops, it looked like it was filmed</td>
<td>41-year-old mother</td>
</tr>
<tr>
<td>Q7 Well I pay attention to that . . . the more realistic the game is, the more they will associate it with reality</td>
<td>40-year-old mother</td>
</tr>
<tr>
<td>Q8 No. No, not really. Because, like everybody is saying, you can keep an eye on it. I do think it could harm some children, if you don’t watch them. { . . . } But as long as you keep an eye on it, I don’t think it matters</td>
<td>42-year-old mother</td>
</tr>
<tr>
<td>Q9 Yes the price. I don’t want to pay fifty or sixty euro for a game. So I look for games that are on offer. Yes I think those games are really very expensive</td>
<td>42-year-old mother</td>
</tr>
<tr>
<td>Q10 { . . . } something which is very expensive and finished in two weeks and then let it be. That’s a waste</td>
<td>40-year-old mother</td>
</tr>
<tr>
<td>Q11 I like the Wii better, for myself and the kids, as for instance a Nintendo DS. With that you only sit with that thing. { . . . } You keep on playing the Wii</td>
<td>44-year-old mother</td>
</tr>
<tr>
<td>Q12 The advantage of the Wii is that it’s much more active. { . . . } They don’t sit, but are really busy. I like that</td>
<td>40-year-old mother</td>
</tr>
<tr>
<td>Q13 We do have a Wii, we purchased it. Why? Because we thought at least you can be active with it</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q14 { . . . } and my daughter loves to play golf [Wii Sports]. And guess what? She gets stimulated to ask for baseball and golf sets. She asks for all kinds of sports gear</td>
<td>48-year-old mother</td>
</tr>
<tr>
<td>Q15 I don’t think active games could replace playing outside and his usual physical activity. { . . . } Sometimes I see him playing baseball at the Wii while we do have this beautiful bat. That’s just hilarious.</td>
<td>51-year-old mother</td>
</tr>
<tr>
<td>Q16 Let me tell you how we are playing tennis. My son and I are through the entire living room. She just moves her wrist. And guess who’s winning . . .</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q17 And when they really need to think logically about how they can make something work. I like that in a game</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q18 There are particular games, in which they get totally lost . . . that it becomes the only thing. { . . . } they say ‘I just want to play a bit more’ and they get totally absorbed</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q19 I’m not happy with James Bond. Because sometimes, he can’t get passed a level and he gets angry</td>
<td>36-year-old mother</td>
</tr>
<tr>
<td>Q20 Like you [other parent] said, I think that children who only sit behind a computer . . . I think they’ll get a bit isolated</td>
<td>42-year-old mother</td>
</tr>
<tr>
<td>Q21 { . . . } You can see, when they are playing with two, three, four people. It’s just fun. Just like with a board game. They’re communicating, everything is pushed aside. Yeah, it really looks enjoyable</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q22 The only thing we all like are the active games on the Wii. And we really do play these games together for fun</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q23 It’s not just the kids who are playing. Mom and dad can play along! And they really like it when you do. I like it</td>
<td>44-year-old mother</td>
</tr>
<tr>
<td>Q24 When they are eleven, twelve years old, that’s the boundary. I can let my 14-year-old son make his own decisions in scheduling his time. He just needs less guidance</td>
<td>43-year-old mother</td>
</tr>
<tr>
<td>Q25 Well I prefer them to play active games rather than watching some movie, yawning. { . . . } So yes, I don’t mind them playing on the Wii for a little longer</td>
<td>47-year-old father</td>
</tr>
</tbody>
</table>

Continued
Many parents take their child’s age into account when deciding on a new game \[q2\]. In doing so, they said to rely more on their own impressions of a game than on the video game ratings depicted on the game \[q3\]. Therefore, parents do not strongly object buying their 8- to 12-year-old child a game with a 12+ or even higher age rating \[q4\]. Some parents considered the age of their other children as well, since, according to them, video games needed to be suitable for the entire family \[q5\].

Next to age, the presence of violence was an important factor in purchasing games. Many parents were less likely to approve games that picture realistic violence compared with games which do not picture violence or picture it in an animated way \[q6\]. Next to that, the more a child was associating a game with reality, the less likely parents were to allow him or her to play the game \[q7\]. Even though parents took the presence of violence in a video game into account when purchasing a game, many parents were not worried about potential negative impact of violence in a game \[q8\].

Additionally, practical considerations, such as cost and durability of a game, influenced the purchase. Many parents found both games and consoles to be expensive \[q9\]. Downloading from the Internet and letting the child itself (partly) cover the expenses seemed to be most common solutions to this problem. When purchasing a game, some parents considered the durability as well. Games that are expected to get boring too quickly were less frequently bought \[q10\].

Positive and negative aspects of playing video games

Most parents were more positive about active video games than about non-active video games; even if they did not own an active game console themselves \[q11\]. Similar to their children, parents preferred active video games because these stimulate physical activity \[q12, q13\]. The effect on physical activity was not only direct (by playing the game itself), but might also be indirect. According to some parents, children were motivated to play particular sports outdoors, once they were introduced to it by means of an active video game \[q14\]. Despite a positive attitude towards active video games, many parents think active video games cannot replace playing outside or playing real sports \[q15\], because they considered the activity level of some of the active video games too low \[q16\].

Nevertheless, many parents also mentioned positive consequences of non-active video games. Some parents thought non-active games could be instructive and may help to develop cognitive skills. For example, in puzzle or simulation games, children need to solve problems and come up with a strategy \[q17\].

Irrespective of the type of game, game addiction was considered a potential negative aspect of video games. Some parents explicitly referred to addiction, others mentioned their child ‘getting lost in a game’ \[q18\]. A second concern of parents was children getting angry and frustrated with a video game, which occurs when the game is too difficult for the child \[q19\].

Debate exists among parents whether playing video games influences a child’s social functioning either positively or negatively. Some parents thought playing video games reduces communication with peers and some even referred to this as ‘social isolation’ \[q20\]. On the contrary, other parents viewed gaming as a social activity, because children play video games together \[q21\]. Overall, parents shared

<table>
<thead>
<tr>
<th>Quote</th>
<th>Participant</th>
</tr>
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<tbody>
<tr>
<td>Q26 It’s all about discussing games. I once denied my son this violent game. All of a sudden, I couldn’t find him anymore. He was playing the exact same game with his friends. So I told him to show it to me. (…) Now at least I can make some nuances</td>
<td>41-year-old mother</td>
</tr>
<tr>
<td>Q27 Well, it [PC] is in the living room, so I keep control. I can see what they play, I can see what they click at</td>
<td>44-year-old mother</td>
</tr>
<tr>
<td>Q28 One hour as well. You play the DS or the Wii, or play half an hour with both. But no longer</td>
<td>47-year-old father</td>
</tr>
<tr>
<td>Q29 When I notice that […] gets annoyed, then we say ‘okay let’s quit the game’</td>
<td>48-year-old mother</td>
</tr>
</tbody>
</table>

Table 3: Continued
the opinion that active games were more suitable for playing together, and were therefore considered more social than non-active games [q22, q23].

Game-specific parenting practices
Many parents said that their game-specific parenting depended upon the age, gender and character of the child, rather than upon the type of game played [q24]. However, some parents reported to be less strict when their child was playing an active video game compared with playing a non-active game [q25].

Parents mentioned three specific practices they applied to video gaming regulation: (1) discussing game content, (2) observe gaming behavior, and (3) setting rules. Discussing a game’s content and placing it in the proper context were mentioned most frequently. This could be to explain the nature of violence or to discuss precarious topics, like swearing and sexuality. Some parents brought up that they thought discussing a game was better than to simply ban it [q26].

Some parents mention observing their child’s gaming behavior as a parenting strategy. For example, they watched the child play, played along or monitored the gaming behavior [q27].

A third way of regulating a child’s gaming behavior was by setting rules. Maximum game time was mentioned most frequently, for example children were allowed to play video games one hour daily [q28]. However, this rule was not always applied strictly. Some parents were making use of situational (ad hoc) rules as well. For instance, parents do not accept it when a child gets frustrated by playing video games, and the child is urged to stop playing [q29].

DISCUSSION
The aim of the present study was to explore and compare opinions about active and non-active video games among 8- to 12-year-old children and their parents. This is relevant because active video games can only be successfully used as a tool to reduce inactivity, if children and parents are positively disposed towards playing active video games. The main finding of the focus groups is that both children and their parents are very positive about active games, and prefer active video games to non-active games because of the physical activity involved in playing active games. Additionally, active games were considered more social than non-active video games by both children and their parents. Parents also thought that active video games contain less violence and are therefore more suitable for younger children compared with non-active video games. These findings indicate that active games are a very positively perceived type of game in this particular group of children: aged 8–12.

The finding that active games are positively evaluated opens up the opportunity for using these active games as public health strategy in preventing overweight in youth. At a first glance, two major demands to make this happen are met: (1) children like to play active games and (2) parents are willing to buy their child active games and let them play with those. The present study also shows that many additional factors may influence the choice for active games in children. For example, differences in genre preferences between boys and girls were observed. So, when using active games as an intervention strategy, it might be necessary to use different games for boys and for girls. Next to that, children easily get bored playing the same game over and over again. Moreover, video games which are not innovative or challenging might be neglected. These are important aspects to consider, because if active games are to be used in prevention strategies addressing sedentary behavior and overweight in children, sustained engagement is very important. Enjoyment is known to be crucial for sustained participation in an activity, because it activates intrinsic motivation (Ryan et al., 2006). Other factors that contribute to game engagement are absorption, immersion and flow, which represent different indicators of game involvement (Brockmeyer et al., 2009).

However, it should also be noted that several other issues should be taken into account before promoting active video game use can be implemented as a public health strategy. For example, it remains unknown what activities will be substituted with active video game play. If children play active video games instead of playing outdoors or other physical activities, then promoting active video game use may actually produce unwanted effects. So it is important that active video games are played instead of rather than next to non-active video games.
The study is subject to limitations. The main limitation was the small sample of only 19 parents. These 19 parents possibly were selective. Being specially interested in video games could explain why these parents chose to participate. However, data saturation of 97% was achieved. This indicates that extra focus groups were not likely to lead to new information, which suggests that the small number of participants is not too problematic. Furthermore, small sample sizes are inherent to qualitative research in general.

In summary, the present study is one of the first studies that provide insight into children’s and parents’ views on active video games. Most importantly, active video games are preferred to non-active video games, which illustrates that using active video games is a promising strategy to reduce sedentary time spent in non-active video games.

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**REFERENCES**


