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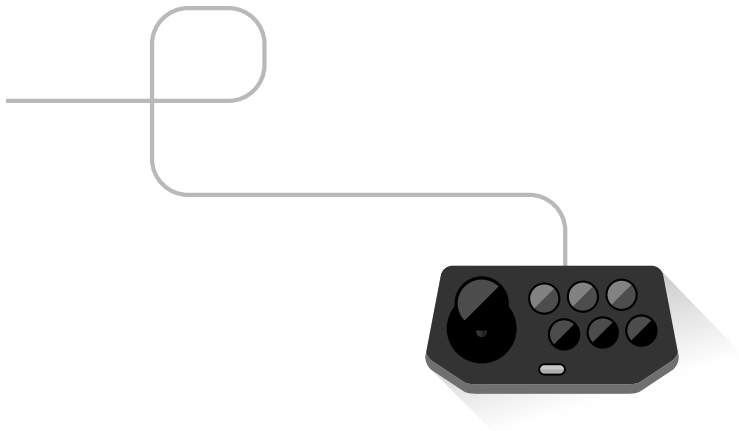
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## CHAPTER 4

# Adolescents' Views on Active and Non-Active Video games: A Focus Group Study



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## **Abstract**

### **Objective**

Active games require whole-body movement and may be an innovative tool to substitute sedentary pastime with more active time and may therefore contribute to adolescents' health. To inform strategies aimed at reducing sedentary behavior by replacing non-active with active gaming, perceptions and context of active and non-active gaming are explored.

### **Subjects and Methods**

Six focus groups were conducted with adolescents 12–16 years old representing a range of education levels. A semi structured question route was used containing questions about perceptions and the context of gaming.

### **Results**

The adolescents had positive attitudes toward active gaming, especially the social interactive aspect, which was greatly appreciated. A substantial number of adolescents enjoyed non-active games more than active ones, mainly because of better game controls and more diversity in non-active games. Active games were primarily played when there was a social gathering. Few game-related rules and restrictions at home were reported.

### **Conclusions**

Given the positive attitudes of adolescents and the limited restrictions for gaming at home, active video games may potentially be used in a home setting as a tool to reduce sedentary behavior. However, to make active games as appealing as non-active games, attention should be paid to the quality, diversity, and sustainability of active games, as these aspects are currently inferior to those of traditional non-active games.

## **Introduction**

Adolescence is characterized by a decrease in physical activity [1] while simultaneously many adolescents spend a considerable proportion of the day in sedentary activities [2]. Excessive time spent in sedentary behavior is associated with overweight [3–5], and reducing sedentary behavior is considered important for prevention of overweight [6;7].

Several studies have shown that gaming forms a significant portion of the sedentary pastimes of adolescents [2;8–10]. A new generation of video games, so-called active games, may transform this traditional sedentary behavior in a physically more active one. Active games require body movements beyond those required to operate traditional handheld controller video games (non-active games). Examples of active game applications or consoles are the Nintendo Wii™ (Nintendo, Kyoto, Japan), Xbox 360 Kinect™ (Microsoft, Redmond, WA), and PlayStation®Move (Sony, Tokyo, Japan). Energy expenditure while playing active video games is substantially higher than that during sedentary behavior and is comparable to light-to-moderate physical activity [11;12].

If traditional physically inactive video games (non-active games) could be replaced by active games, this could reduce sedentary pastime and increase physical activity. Enjoyment is known to be crucial for encouraging participation in an activity [13–15]. Therefore it is crucial that active games are considered at least equally appealing as non-active games. A qualitative study showed that 10–14-year-old children enjoyed playing active games [16]. However, studies also showed that children lost their interest in active games over time [17–19]. No research has been conducted to compare views on active games with views on non-active games, despite the fact that this is important information when aiming to replace non-active games with active games.

In order to inform strategies aimed at reducing sedentary behavior by replacing non-active with active gaming, the first step is to gain insights into the views on active and non-active gaming. Therefore, the current study explored the following: (1) Adolescents' reasons for playing active and non-active games (aspects liked/not liked, preference for active or non-active games, prerequisites for long-term engagement) and (2) the context of active and non-active gaming (when do you play, with whom, rules and restrictions at home).

## Methods

### Participants and design

Focus groups were conducted because of their effectiveness in gathering new insights into an unexplored field [20].

Spread over three secondary schools, three school classes from pre-vocational education (low-level educated), one school class from higher secondary education (high-level educated), and two classes from pre-university education (high-level educated) were invited to participate. In each class, a group of five to seven adolescents was selected for one focus group based on the following inclusion criteria: (1) 12–16 years old; (2) playing non-active games at least once a week; and (3) having played an active game at least once before. These criteria were chosen because we were most interested in opinions of non-active gamers, because eventually we are interested in promoting active game play among non-active gamers. Adolescents who intended to participate received a letter for their parents explaining the study and how, if applicable, they could object to their child's participation. None did so. In total, 37 adolescents (26 boys, 11 girls) participated in six focus groups. Table 1 shows the participants' characteristics.

**Table 1: Participants characteristics**

	<b>n</b>
<b>Number of participants</b>	37
<b>Mean age (SD)</b>	14.4 (1.2)
<b>Gender</b>	
• Male	26*
• Female	11
<b>Educational level</b>	
• Prevocational (lower educational level) (three focus groups)	18
• Higher secondary and pre-university (higher educational level) (three focus groups)	19
<b>Ethnicity</b>	
• Dutch origin	24
• Non-Dutch origin**	13
<b>Gaming behaviour, hours per week (SD)</b>	
• Non-active gaming	7.0 (6.3)
• Active gaming	0.7 (1.3)

\*The higher number of boys compared with girls is in line with the known prevalence of gaming.

\*\*Turkey, two; Morocco, one; Hong Kong, one; Iraq, two; Kurdistan, one; Belgium, one; Poland, one; Greece, one; Suriname, two; and France, one.

## Procedures

Focus groups were conducted in June 2009 and carried out following the procedures proposed by Morgan and Krueger [21]. All six focus groups were audio-recorded and facilitated by two researchers. One interviewer conducted the actual interviews, and one assistant took notes. Focus groups were held during teaching hours at school and lasted 38–64 minutes. Before the start of each focus group, participants completed questions about their age, gender, ethnicity, and gaming behavior for descriptive purposes. After this, the terms “active” and “non-active” video games were explained: “Non-active video games are games in which players only have to use their fingers or hands,” and “active video games are games that require movement of the body, more than only fingers and hands (e.g., Nintendo Wii).” Focus groups were conducted in a semi structured format; a schedule with two pre-identified themes and open-ended questions guided the discussions. The discussions started with the participants introducing themselves and naming their favorite video games, to make the adolescents feel more at ease. Afterward the adolescents received a game magazine as an incentive.

## Interview topics

The interview topics were inspired by self-determination theory [22] and social cognitive theory [23]. These theories have been applied to explain health behaviors and specific types of gaming behavior [15;24]. Self-determination theory suggests that behavior that is performed as a result of intrinsic motivation (i.e., motivation that is driven by individual interest and enjoyment) and is likely to be maintained over time.<sup>14</sup> Therefore questions relating to gaming motivation (e.g., enjoyment, fun, interest) were incorporated into the topic list. Social cognitive theory posits that people, environment, and behavior are constantly influencing each other [23]. In this light, the gaming context (the social context and the context in terms of game-related rules and restrictions from parents) was discussed. Table 2 presents the outline of the topic list.

**Table 2. Topic list focus groups**

Theme	Questions
1. Perceptions of active and non-active games	a. What is fun about playing non-active games? b. What do you think of active games? (aspects liked/not liked) c. Which kind do you like better: active or non-active games? d. What makes a video game attractive in the long term? e. Can you describe your ideal game?
2. Contexts of active and non-active gaming	a. When do you play video games? Is there a difference between active and non-active games? b. With whom do you play video games? Is there a difference between active and non-active games? c. Do your parents have any rules or restrictions for you regarding playing video games? Is there a difference between active and non-active games?

### **Data analysis**

The audio-recorded focus groups were transcribed verbatim. Transcripts were coded and analyzed with Atlas.ti™ version 5.2 computer software (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany) using the framework approach. The framework approach starts deductively from a preset theoretical background and objectives but also uses inductive analysis in order to reflect original discussions [25].

The first phase was getting familiar with the data, followed by assigning codes to the quotations (every quotation got a label, which describes its content; quotations with comparable content got the same label). Next, the codes were reassigned to larger families, and the families were rearranged into the two preset themes: Perceptions and context. Two researchers (M.S. and S.H.) conducted the coding and reassignment of the data independently. The differences in coding and interpretations were discussed and if necessary adapted until a consensus was reached. After coding analysis was performed, quotations were clustered, and the different views of the participants were compared. The results presented are analytical interpretations of themes and categories illustrated by representative quotations (see Table 3, Q1–Q42).

Focus groups were held until no significant new information was revealed. This point was defined by counting new codes per focus group transcript and calculating a percentage from the total number of codes that was generated from all interviews [26]. After the fifth focus group 95 percent of all codes were generated. During the sixth focus group no significant new information emerged so at that point we decided that there was no need for an additional focus group.

## **Results**

### **Perceptions of active and non-active games**

#### ***What is fun about playing non-active video games?***

Elements that make video games fun that were brought forward were as follows: Genre; interesting and realistic storyline (Q1, Q2); competition; group play; feeling of mastery (Q3); challenge (Q4); doing things that are not possible in real life (Q5); and good-quality graphics, realistic graphics, and the feeling of really being in the game (Q6). Boys frequently mentioned that they liked violent video games (Q7). Girls often reported that they liked “life simulation games” (e.g., games in which they can babysit, cook, or dress hair).

#### ***What do you think of active video games (aspects liked/not liked)?***

Aspects that adolescents liked about active gaming were as follows: Being physically active (Q8); interactivity (Q9); realistic movements; one-to-one translation of

their movements into the game; and the social aspect. Adolescents mentioned that they mostly enjoyed the one-to-one translation of their body movements into the gameplay and being challenged to make realistic body movements in order to play the game successfully. For example, they disliked needing to play a tennis game by making small wrist movements instead of a realistic arm swing. Adolescents particularly liked the suitability of active games for playing with other people. They played active games less seriously than non-active games; they liked to laugh with and at each other while playing active games.

Aspects that adolescents did not like about active gaming were as follows: Failure of technique (Q10); no one-to-one translation of their movements into the games (Q11); expensive accessories; injuries/accidents; and solo play. The main complaint regarding technical failures was that the sensor or controller in active games was not responding properly to their actions as it does in non-active games (Q12). Some adolescents in the higher educational level group expressed that it was actually “kind of stupid” to take part in a sport in front of a screen if the sport can also be practiced outside in real life, in particular when expensive accessories are necessary for playing the game. In the lower educational level group strains or injuries (Q13) and accidents that can occur during active video gaming (Q14) were discussed.

#### ***Which kind do you like better: Active or non-active games?***

Some adolescents (mostly girls) said that they preferred active games over non-active games, but more often a preference for non-active games was mentioned. However, when in the company of their friends, many adolescents preferred active games above non-active games (Q15). The reasons for preferring non-active games over active games appeared to be mostly based on the lower quality of active games in terms of the graphics, storyline, diversity of games (Q16), controls, and technique. Some of the participants believed that the quality of active games will improve over time and that they will become even more fun than non-active games (Q17).

#### ***What makes a videogame attractive in the long term?***

An aspect of influence on attractiveness in the long term was the amount of puzzles and missions that be solved and completed in a game. This aspect is mainly relevant for the action and adventure game genres. The adolescents indicated that action and adventure games are no longer interesting when all the puzzles are solved and all the missions are completed. It can take adolescents from 10 minutes up to 1 year to finish an action/adventure game. This depends mostly on the quality of the game; higher-quality games (e.g., “Grand Theft Auto” [Rockstar Games, New York, NY] [Q18]), with extensive worlds and many missions to complete, will last longer and can even be played again after finishing. Also, sports (e.g., “FIFA Soccer” [Electronic Arts, Redwood City, CA] [Q19]) and simulation video games (e.g., “The Sims” [Electronic Arts]) were mentioned



as video games that retain their attractiveness in the long term. In addition to genre, the following features were also mentioned as being of importance for the attractiveness of the game in the long term: Online modus; multiplayer options; and the opportunity to improve oneself (Q20).

Some adolescents indicated that active games became boring sooner than non-active games. They initially liked playing active games but quickly got bored and hardly ever played them anymore. One adolescent mentioned that active games remained more enjoyable in the long term compared with non-active games because often an active game never ends (Q21) and you can keep on getting better at it (Q22).

***Can you describe your ideal videogame?***

Many adolescents described their ideal videogame as a game in which they were fully transported into a virtual world. They talked about a helmet that would bring them into a three-dimensional and realistic virtual world (Q23, Q24). The ideal game control was by means of their own body movements (if it worked properly [Q25]), with an exact representation of their actions in the game (e.g., if they ran, they also wanted to see that translated into the game immediately) (Q26, Q27). However, there were also adolescents who preferred to use a traditional joystick or a handheld controller with buttons.

**Contexts of active and non-active gaming**

***When do you play video games? Is there a difference between active and non-active games?***

The most frequently mentioned context was gaming when the adolescents felt like it, when they had nothing else to do (Q28), or when they felt bored, as it is “an easy solution to boredom” (Q29). The adolescents mostly played video games in the afternoons, after finishing school or homework, or in the evenings. Some adolescents said that they were more likely to play video games in bad weather and that they preferred going outside in good weather (Q30, Q31).

For playing active games, the contexts were generally similar, except for the fact that adolescents mentioned that they played active games whenever they saw the console and were reminded of the games. It was mentioned that they played active video games more often in winter than in summer because they did not like to play active video games when it was hot (Q32). Another adolescent mentioned to play active video games in order to warm up when it was cold.

***With whom do you play video games? Is there a difference between active and non-active games?***

Many adolescents liked to play video games with their friends. In particular, active games were played with friends or when there was a social gathering or party (Q33). As such, active games were called “party games” (Q34). Some adolescents mentioned

that it was not “cool” to play active games on your own (Q35). Friends were not always around, and so then they would play games on their own (mostly non-active games) (Q36). In addition to their friends, siblings and parents were also mentioned as gaming partners. Some adolescents mentioned that they did not enjoy gaming with their parents or siblings because they were not good at it. When parents were mentioned as gaming partners, it was mostly for active video games and not for non-active video games (Q37).

***Do your parents have any rules or restrictions for you regarding playing video games? Is there a difference between active and non-active games?***

Almost none of the adolescents mentioned that their parents had game-related rules or restrictions for them. Most adolescents indicated that when they were younger, there were more rules and restrictions regarding gaming (Q38). If parents did apply rules, then it was a maximum amount of gaming time (Q39), a rule against gaming late in the evening, or rules related to schoolwork. Some adolescents expressed that they had to share the game console with their siblings and that their parents have rules to make sure that the gaming time is spread evenly among all of the siblings (Q40).

When asked about rules for active games, some adolescents thought that their parents allowed them to play for longer with active games compared with non-active games (Q41, Q42).

**Table 3. Selection of illustrative quotations per topic**

Theme and question	Participant quotation
<b>1. Perceptions of active and non-active games</b>	
<b>a. What is fun about playing non-active games?</b>	<ol style="list-style-type: none"> <li>1. "Not some story about somebody dying and everyone throwing a party and then, uhm, (...) gets mad, yeah, some story like that." [Lower educational level, boy]</li> <li>2. "It's like, uhm, in some games you just, uhm, have a rocket or you drive a tank over a tree and it doesn't break down, or you drive right through it." [Lower educational level, boy]</li> <li>3. "It gives you a feeling kinda like: 'Wow! I did it'." [Higher educational level, boy]</li> <li>4. "And a challenge to finish the game". [Higher educational level, boy]</li> <li>5. "It's like you can do things that you wouldn't normally be able to do, you know." [Higher educational level, boy]</li> <li>6. "It is just fun to get in the game ...". [Low educated, girl]</li> <li>7. "Shooting everybody, ha ha [laughs]. That's what I like." [Lower educational level, boy]</li> </ol>
<b>b. What do you think of active games? (aspects liked/not liked)</b>	<ol style="list-style-type: none"> <li>8. "You have to be active, you know, you don't just sit on the sofa or whatever. You actually have to do something." [Lower educational level, boy]</li> <li>9. "It's interactive. That's really fun. That you can control it yourself just by moving. You know, you can put your own body movements into the game, you know." [Higher educational level, boy]</li> <li>10. "It's like with EyeToy [an active game] it doesn't always work right. And then, uhm, and then if something goes wrong and then you, like, have to do something all over again. And that really sucks, you know?" [Higher educational level, boy]</li> <li>11. "The game character is spinning around really fast and he is like waving his sword around with both hands ....but you only have to make a small wrist movement to make him do that...." [Higher educational level, boy]</li> <li>12. "In an active game it doesn't always responds and a non-active game just responds. It just works if you push the button". [Higher educational level, boy]</li> <li>13. "Your arm can start to hurt when playing on the Wii and smashing like this [makes arm gesture] the whole time". [Low educated, boy]</li> <li>14. "I once played on the Wii and then I got a wound... I hit my arm against the lamp". [Low educated, boy]</li> </ol>

Theme and question	Participant quotation
<b>c. Which kind do you like better: active or non-active games?</b>	<p>15. "Usually if your friends are over, it is more fun to play active games..." [Higher educational level, boy]</p> <p>16. "As for non-active games you've just got more, more fun games. The Wii is just more of the same." [Lower educational level, boy]</p> <p>17. "If they work out the game plan in a good way and the controls were better, then it [active video games] would probably be more fun, because you'd be more active. But now I still think the non-active games [<i>are more fun</i>]." [Higher educational level, boy]</p>
<b>d. What makes a video game attractive on the long term?</b>	<p>18. "[<i>GTA</i>] it doesn't matter if the story is over, .... you can still mess around in the virtual world where the story takes place" [Higher educational level, boy].</p> <p>19. "And Fifa, because there are always new actions possible, you know, you can always shoot in different ways and eh ..... a lot of options for shooting and that makes it fun...."[Lower educational level, boy].</p> <p>20. "But that [<i>Guitar Hero</i>] is just a game, at which you can get better and better at it; four levels you know like first there's easy, then hard and then expert...and you keep going and it's always fun...hard to believe but it's the truth..." [Higher educational level, boy].</p> <p>21. "You just can keep on playing those games [<i>active games</i>] ..... You can't end those games" [Higher educational level, boy].</p> <p>22. "You can improve yourself" [Higher educational level, girl].</p>

Theme and question	Participant quotation
<b>e. Can you describe your ideal video game?</b>	<p>23. "My ideal game is one just like D. [other participant] explained with a helmet and that you are really transported into the game, that would be awesome. I really would pay 500 Euro's or something for that kind of game.....That it is super real and that the helmet makes a connection with your brains or something...."" [Higher educational level, boy].</p> <p>24. "Yes, you can sit with your head in a helmet.....and then you have a car and a steering wheel and then you can see everything in 3-D and everything is coming right to you. And you are totally disconnected from the space around you. You are really in the game." [Lower educational level, girl].</p> <p>25. "I think that would be an active game, but then everything should really work well." [Higher educational level, boy].</p> <p>26. "That if you trip, the avatar also trips .... That when there is a real weapon, that you hold a fake weapon and you shoot like this...."[Lower educational level, boy].</p> <p>27. "Fifastreet with body movements....that would be really cool.... and that you do your own tricks, that would be really fun." [Lower educational level, boy].</p>
<b>2. Context of active and non-active gaming</b>	
<b>a. When do you play video games? Is there a difference for active and non-active games?</b>	<p>28. "During summer break you have other things to do." [Lower educational level, boy] "An easy solution to boredom..." [Higher educational level, boy].</p> <p>29. In summer when its holiday time, you'd rather go swimming for example than sitting behind the computer for the whole day." [Higher educational level, boy].</p> <p>30. "When the weather is nice, you usually go outside." [Higher educational level, boy].</p> <p>31. "If it is already really warm and you would have to be active.... ..." [Lower educational level, girl].</p>

Theme and question	Participant quotation
<b>b. With whom do you play video games? Is there a difference for active and non-active games?</b>	<p>33. "If there are a bunch of people around you're not going to go sit by yourself and play a shooter video game." [Higher educational level, boy]</p> <p>34. "Active games are generally 'party games'. Ehh, that's fun if you are with a group of people. If I play Wii Sports, it's usually because we're throwing a party... a barbeque or something, with a bunch of people. Everyone plays, it's just a party game." [Higher educational level, boy]</p> <p>35. "But another thing is that those active games on the Wii and whatever usually aren't too much fun on your own. I think it's a lot more fun if a bunch of people play. But then if you're alone, it's just, it's just... if you play Wii Sports on your own then you're really just a bit of a loser". [Higher educational level, boy]</p> <p>36. "But it depends, because sometimes, uhm, you know, my friends can't come over and then I play on my own." [Lower educational level, girl]</p> <p>37. "Hahaha [laughs] my parents also just like the Wii. Hahaha [laughs] my mother also played it once with her friend" [Higher educational level, girl]</p>
<b>c. Do your parents have any rules or restrictions for you regarding playing video games? Is there a difference between active and non-active games?</b>	<p>38. "We used to have rules but they became less and less strict ... so nowadays I can game basically whenever I want ... but sometimes it just is enough you know..."[Higher educational level, boy]</p> <p>39. "Two hours, but I don't know, I usually sit for five hours or something" [Lower educational level, boy]</p> <p>40. "1.5 hour or something and then it is my brother's turn again." [Lower educational level, girl]</p> <p>41. "If I play active games with friends, it is not like they say 'now you have to stop playing', because parents often say that you should do something with friends and then you are doing something active with friends and although it is still gaming, the rules just disappear." [Higher educational level, boy]</p> <p>42. "I am allowed to play active games more often than non-active games, because it is good for you" [Lower educational level, girl]</p>

## Discussion

The current study aimed at gaining insights into (1) adolescents' perceptions of active and non-active games and (2) the contexts of playing active and non-active games.

Almost all adolescents said they enjoyed playing active video games, although a substantial number of adolescents expressed that they enjoyed non-active games more than active ones. According to self-determination theory, enjoyment is an important aspect of behavioral choices and the decision to continue a specific behavior [14]. Therefore, in order to replace time spent on non-active games by time spent on active games, it seems important that active games become as enjoyable as, or even more enjoyable than, non-active games. When we asked why the adolescents liked active games, answers were merely related to physical activity and the interactive aspect in the game. This suggests that action is a real part of the gameplay for active games. Reasons for liking non-active games more were related to the better quality of graphics and storyline, more diversity in non-active games, and good working technology and controllers. It is important that ultimately the best of both worlds are combined: High quality in storyline and gameplay and fun body movements. If these two aspects are integrated in future active games, it seems likely that popularity of active games will increase, which could lead to more adolescents playing active games and being physically active while gaming. So if active games are going to be used as tool for increasing physical activity in adolescents, it is important to improve gameplay of active games. Specific recommendations for active games that came forward from the focus groups were as follows: More precise translation of body movements into gameplay; better quality graphics; more realistic graphics; more variety of games; better working controls; and using three-dimensional images. The focus groups did not provide clear examples of active games that are better appreciated. Future studies should focus on which active games are better appreciated and evaluate why that is. If active games are to be used in interventions aiming at reducing sedentary behavior and overweight in adolescents, it is important that active games remain attractive and fun in the long run. The current study shows that this is an important aspect to consider because adolescents often mentioned that active games get boring quickly, whereas non-active games do seem to be able to maintain interest of adolescents in the long term. Active games seem to lack the thrill that the higher-quality non-active games can deliver. Important elements for increasing sustainability in gameplay were, for example, high-quality story and online play possibilities. The active games that the adolescents were exposed to (mostly Nintendo Wii games) were often of lower quality with simplistic virtual worlds, little story, and fewer options for online play compared with non-active games. Although more research is still needed on how the long-term use of active video games can be stimulated, these elements should be taken into account in future active games design and when selecting active games for implementation. The results on the second theme—gaming context—showed that active games were primarily played when other people were around. Active

games were considered more social than non-active games. As group play can encourage participation in active games [17;24], the social nature of active games is an aspect that should be capitalized on. For example, increasing options for online play in active games could provide an extra opportunity for group play.

Although other studies showed that parents appeared to play a role in terms of applying game-related rules and restrictions [2;27], adolescents in the current study indicated that their parents applied few rules and restrictions regarding gaming. A small supplementary study, involving 10 interviews with adolescents' parents (authors' unpublished data), confirmed this and suggested a positive attitude from the parents toward active gaming, which opens up an opportunity for implementing active games in the home setting.

The current study was the first to explore perceptions of active gaming in 12–16-year-old children, but similar studies have been conducted among 8–12-year-old\* and 10–14-year-old children and their parents [16] that also showed support for active gaming from both parents and children. The 8–12-year-old children even preferred active games above non-active games.\* The 10–14-year-old children in the study of Dixon et al. [16] mentioned that playing active games would be less popular when they reached high school because it would not be seen as “cool.” It seems that adolescents have higher demands for game quality that should be taken into account when implementing active gaming for adolescents, together with the “coolness” factor.

Limitations of the study are that, although effort was made to include gaming adolescents from a range of ethnic backgrounds and educational levels, reported findings are descriptive and cannot be generalized. Quantitative studies should further evaluate the factors identified in representative samples. Furthermore, most adolescents in our study population played active games on the Wii, as this was the most widely available console at the time of study, so most quotes are concerning Wii games. Very recently, also other active game consoles, like Xbox 360 Kinect and PlayStationMove, have been introduced. These active game consoles use different technology than Nintendo Wii, so not all results are translatable to all active game systems.

In conclusion, the positive attitudes shown by adolescents and the lack of major restrictions for gaming at home suggest that active video games may potentially be used in a home setting as a tool to reduce sedentary behavior. However, to make active games as appealing as non-active games, attention should be paid to quality, diversity, and sustainability of active games as they are currently perceived to be inferior to traditional non-active games.



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## Footnote

- \* De Vet EWML, Wesselman M, Simons M. Why do young children play active or non-active videogames: A focus group study. 2011 (manuscript submitted for publication).

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