Understanding children’s sedentary behaviour: 
a qualitative study of the family home environment

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Abstract

Electronic media (EM) (television, electronic games and computer) use has been associated with overweight and obesity among children. Little is known about the time spent in sedentary behaviour (SB) among children within the family context. The aim of this study was to explore how the family home environment may influence children’s electronic-based SB. Focus groups and family interviews were conducted with 11- to 12-year old children (n = 54) and their parents (n = 38) using a semi-structured discussion guide. Transcripts were analysed using a thematic content approach. A brief self-completed questionnaire was also used to measure leisure behaviour and electronic devices at home. Children incorporated both sedentary and physical activities into their weekly routine. Factors influencing children’s EM use included parent and sibling modelling and reinforcement, personal cognitions, the physical home environment and household EM use rules and restrictions. Participants were not concerned about the excessive time children spent with EM. This under-recognition emerged as a personal influencing factor and was viewed as a major barrier to modifying children’s electronic-based SB. Efforts to reduce SB in children should focus on the influencing factors that reciprocally interact within the family home. An emphasis on increasing awareness about the risks associated with spending excessive time in screen-based activities should be a priority when developing intervention strategies aimed at modifying the time children spend in SB.

Introduction

Like many western societies [1], Australia has seen a dramatic increase in childhood overweight and obesity rates over the past two decades [2, 3]. The causes of overweight and obesity in children are complex. Declines in physical activity (PA) and increased time spent in sedentary pursuits such as television (TV) viewing and other electronic media (EM) use are considered major contributors [4–7]. Watching TV for >2 hours per day during childhood and adolescence has been shown to attribute to 17% of adult overweight [8]. Although positive associations between TV viewing and various indices of adiposity in children have been shown [9–11], some studies have demonstrated a weak association [12] while others have shown no association [13]. Despite these inconsistent findings, TV viewing may contribute to overweight and obesity through increased snacking while watching TV [14] and an increased demand for energy-dense foods advertised on TV [15]. Children who watch >2 hours of TV per day consumed less fruit and vegetables and more high energy drinks [16]. It
has also been hypothesised that the time spent using EM may displace [17] other activities that require more energy such as children’s active free play [18] and structured PA [19, 20]. In addition, excessive TV viewing and other EM use have been linked to other negative outcomes among children such as poor cognitive performance [21], anti-social behaviour [22] and reduced sleep time [23].

Most EM use (73%) among children aged 10–13 years comprised TV viewing [24]. Despite Australian [25] and US [26] guidelines recommending that children limit their EM use to ≤2 hours daily, on average, Australian children spend 2.5 hours a day watching TV alone [20]. Recent data suggest that children who are significant TV watchers at a young age are likely to remain so when much older [27]. The actual amount of time children spend watching TV has remained relatively stable over the past five decades [13, 28]. However, there has been a 1% annual increase in average minutes per day households use electronic games since 1995 [29]. Household ownership of personal computers (PCs) has also increased. In 1998, 45% of households had access to a PC compared with 73% in 2006–07 [30]. Simultaneously, the uptake of home internet access has increased during 1998–2007 [30] with children’s access to the internet increasing from 14% in 2003 to 25% in 2006 [31]. Furthermore, during 2006, 64% of children reported playing electronic hand-held or personal computer games (E/PCG) with boys spending an average of 9.2 hours and girls 5.7 hours per fortnight [31].

To reduce screen time among children, it is important to identify influences on this behaviour. The significant media presence within homes may be a powerful influence on children’s EM use. Household ownership of multiple TV sets and video cassette recordings doubled to 86% between 1991 and 2001 [32]. In addition, 28% of 10–12 year olds had a TV set in their bedroom [20]. Multiple TVs and videos in the home and having a TV in the bedroom have been associated with greater amounts of TV viewing in children [20, 33]. The broader family environment has also been shown to be influential with factors such as family TV viewing habits [34, 35], TV viewing rules [36], eating meals while watching TV [35, 37], family structure [35] and family dynamics [38] related to TV and other EM use. To date, little is known about children’s and parent’s perceptions about TV and EM use within the family home setting. With the proliferation of EM within households, it is unknown whether children and parents consider TV or overall EM use as a potential risk for overweight and obesity or other adverse health outcomes. This qualitative study aimed to examine how the family home environment may shape 11–12 year olds’ EM use within the home, providing insights for the development of intervention strategies that seek to modify children’s EM use during leisure time.

**Methods**

Focus groups and family home interviews were undertaken with 11- to 12-year old children and their parents. Qualitative methodologies allow in-depth exploration and identification of perceptions, attitudes and beliefs that may not have been identified previously or may not be well captured in quantitative research [39]. Data were collected between July 2003 and May 2004, prior to the official release of the Australian PA and EM use recommendations [25]. The University of Western Australia Human Research Ethics Committee approved the study protocols.

**Recruitment**

Metropolitan government and non-government primary (elementary) schools in Perth, Western Australia, were randomly selected from low, middle and high socio-economic postcodes [40]. Of the 35 schools selected, nine (n = 8 government and n = 1 private/non-government) agreed to post written invitations to homes of parents of 11- to 12-year old children. A family pass to an entertainment venue was offered as an incentive to participate. In addition, a choice to participate in either (i) a parent and/ or child focus group or (ii) a family home interview was also provided to further increase participation.

Written informed consent to participate in the study was obtained from children and parents.
Children returned these forms to the teacher, who then posted them to the researchers. All invitation materials included researchers and institution contact details. The researchers then contacted participating families to arrange a suitable time for family home interviews and/or parent focus groups. School principals were also contacted to organize discussion facilities and scheduling of parent and children focus groups. Parent discussions took place on school grounds and outside school hours, while children discussions were conducted during school hours.

Data collection

In total, 7 focus groups with (only) children (three low, one mid and three high socio-economic status (SES), 6 focus groups with (only) parents (three low and three high SES) and 16 family interviews (4 low, 2 mid and 10 high SES) were conducted. On average, focus groups took ~90 min and family home interviews 45 min. All focus groups were held at the school from which families were recruited. Family interviews were held at participants’ homes. As ~80% of participating parents were mothers, most family interviews included only the mother and participating child.

Focus groups and family home interviews were conducted in a semi-structured format; a schedule with four pre-identified themes and open-ended questions was used to guide the discussion. The four discussion themes included perceptions of EM use, TV viewing behaviour and family experiences with EM use, family rules and restrictions regarding EM within their household and perceptions and experiences with alternative activities to EM use at home. It is also important to note that given the timing of this study, participants’ knowledge of the Australian EM use guidelines was not specifically explored.

Each focus group and home interview was conducted by a trained facilitator and an assistant. Interviews were tape-recorded with participant’s consent. Verbatim transcripts were made and participants’ names were omitted. After each discussion/interview, children and parents were asked to complete a brief self-administered questionnaire requesting demographic details, duration of EM use during a typical school week and child’s preferences for leisure activities on weekdays and weekends. The questionnaire also included an inventory of EM equipment at home (e.g. number of TV sets, PCs, portable/hand-held electronic games and internet access). A separate sample of parents (n = 4) and children (n = 4) were involved in the pilot testing of the schedule and questionnaire. Face and content validity of the schedule and questionnaire were established via an expert (n = 6) panel review. The panel consisted of individuals who were experienced researchers in the field of children’s PA and sedentary behaviour (SB).

Data analysis

Data from post-interview questionnaires were analysed using SPSS (Statistical Package for the Social Sciences) Version 12 and descriptive statistics generated. Thematic content analysis [41] was used to analyse focus group and family interview transcripts using the software program NVivo Version 2.0 (QSR NU*DIST Vivo) [42]. This process attached meaning to the transcribed data through generation of categories and themes. Three levels of coding were established [43]. The first level, ‘open coding’ (free nodes) included descriptions of children’s SBs including TV and EM use. Words or text passages were highlighted and categorized. The second level of coding collapsed open codes into ‘axial’ codes (tree nodes). Where appropriate, third-level ‘selective’ coding was applied (further collapse of second-level codes into major or sub-themes). The main coding frame was independently validated by a second researcher. In addition, five randomly selected transcripts were cross-coded by the second author to ensure agreement and consistency of coding. Five inconsistencies between codes were discussed until a consensus was reached and codes amended accordingly [44]. The results presented herein are analytical interpretations of themes and categories supported by verbatim quotes.
Results

Participant characteristics
Ninety-two participants took part in this study of which 54 were children (26 males and 28 females) and 38 were parents (9 males and 29 females). Overall, 16 parents and 38 children participated in focus group discussions and 22 parents and 16 children took part in a family home interview. Children were aged 11–12 years, with an average age of 12.12 years. The majority (70%) of parents was aged between 41 and 45 years. Seventy-seven percent of parents had a tertiary education. Thirteen percent of participants lived in a low, 23% in a mid and 64% in a high socio-economic area (SES).

Routine EM use
Children’s daily routines consisted of both sedentary and active pursuits. This interpretation formed a strong over-arching theme within the context of weekday and weekend routine use of EM at home.

Weekday routines
For most children, the weekday routine consisted of a range of structured and unstructured PA and sedentary activity including school, homework, PA, music practise/lesson and socializing. For some children, early morning periods were characterized by watching TV before school, but morning TV generally appeared to be restricted by most parents. After-school activities usually consisted of homework followed by a structured activity (i.e. organized sport training/game or music lessons), active free play (i.e. kicking a ball outside or jumping on a trampoline), independent play with friends (i.e. beanie kids or with dolls), other PA (i.e. riding a bike to a friend’s house or taking the dog for a walk) or a sedentary activity such as TV viewing or playing E/PCG.

Variability among households regarding TV watching during evening meals was noted. Most families cited often had dinner while actively watching TV. A few respondents mentioned usually leaving the TV on as part of background noise. Very few reported actively switching off the TV during evening meals.

Following dinner most children reported watching TV, playing E/PCG, or using a computer (PC). Most children described going to bed between 8.30 p.m. and 9.30 p.m., with some preferring to read before falling asleep. However, those who had a TV or other EM in their bedroom revealed that they continued watching TV until they fell asleep or stayed awake to play E/PCG:

(I) get up watch TV, have breakfast, get ready, watch TV (for) half an hour, go to school, come home watch TV (for) about an hour or so, go to sport, watch TV after sport... watch for about half an hour or so or maybe an hour depends, have dinner, and after dinner I watch about another hour and a half maybe two hours... until bedtime (Boy, mid-SES).

We (family) eat tea while we watch TV, then I just watch TV for the rest of the night because I have a TV in my bedroom so I watch it there. Usually I get to sleep around 9 (pm) sometimes later (Girl, low-SES).

I got one (TV), a computer and a (game) console in my room. I can also put the DVD player in my room. I usually play (E/PCG) in my room at night (Boy, high-SES).

Weekend routines
Children’s weekend routines typically consisted of some organized PA, mainly team sports and screen-based activities. The use of EM was seen as an important part of the weekend routine:

Computer games kind of rules my life on the weekends. I wake up and play some and then I go to sport games, come back play (more) computer games ... for two or three hours and then go to my friends place, come back and play some more ... more on Sunday than anything else (Boy, mid-SES).

Social and other recreational activities were also a significant part of children’s weekends:

On the weekend I do a lot of things ... we (family) sometimes go to the beach, go fishing, we go to
the park. (On the weekend) I do watch a bit more TV maybe about two hours a day (Boy, mid-SES).

(On the weekend) I just watch sport and play sport … Sunday I have my soccer games (and Saturday) I go to my friend’s house and play (Boy, high-SES).

Most children went to bed later on weekends than on weekdays. For many children, bed time appeared largely dependent upon evening TV programs. Children who frequently mentioned attending sleep-over parties generally participated in more screen time than other children:

I sometimes go to bed at 9.30 pm it depends on what’s on (TV), sometimes I go at 9 pm (and) sometimes I go at 8.30 pm and read until 9 pm, but if it was like a Friday night and my friends are over until the next day I might stay up and (we) watch a movie and that might go on until 11.00 pm…or we stay up (and) watch movies until midnight (Boy, mid-SES).

Perceptions of daily EM use
The vast majority of children and their parents reported that the child spent ≥2 hours using EM during their leisure time on a typical school (88%) and weekend (87%) day. The largest contributor to EM use was TV viewing: over one-third of children reported spending ≥2 hours watching TV on school days. While most reported playing E/PCG or using the internet on school days, few exceeded 2 hours in these activities. The proportion of children who exceeded 2 hours of any of the three types of EM use was approximately twice as high on weekends. Parent reports of their children’s EM use were generally lower than their children’s estimates (Table I).

When asked about their favourite leisure activities at home, children preferred to be indoors and play with toys, games or practice their musical instrument. Most children’s second choice of activity was being active outdoors with friends.

Nearly all parents perceived that their children had an adequate mix of active, sedentary and social leisure activities that they performed on a weekly basis, and most perceived that their child spent an acceptable amount of time using EM. Children’s views were similar. Overall, very few parents considered their children’s screen time to be problematic or excessive. This in part appeared to be related to a perception that children’s participation in PA and social activity counteracted sedentary time:

Table I. Electronic-based SB as reported by parents and children during a typical school day and on a weekend day

<table>
<thead>
<tr>
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<th>Parent-reported children’s ESB (n = 30) (%)</th>
<th>Children’s self-reported ESB (n = 54) (%)</th>
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<tr>
<td></td>
<td>0 h</td>
<td>&gt;0 to &lt;2 h</td>
</tr>
<tr>
<td>TV watching/school day</td>
<td>13</td>
<td>64</td>
</tr>
<tr>
<td>TV watching/weekend day</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>E/PCG/school day</td>
<td>52</td>
<td>43</td>
</tr>
<tr>
<td>E/PCG/weekend day</td>
<td>18</td>
<td>73</td>
</tr>
<tr>
<td>PC/internet use apart from homework/school day</td>
<td>4</td>
<td>73</td>
</tr>
<tr>
<td>PC/internet use apart from homework/weekend day</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>Total screen timea/school day</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Total screen timea/weekend day</td>
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<td>14</td>
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aTotal screen time is a composite measure of TV watching, E/PCG playing and PC/internet use.
I think that I have a pretty balanced (life)...I think it is pretty balanced because we all three (including sisters) do a lot of sport activities (Girl, high-SES).

(EM use) is just something that happens in the background and it invariably fills in the space between clarinet, homework, swimming, drama, band, football, netball and all those other activities (Father, high-SES).

Influences on EM use
Children’s EM use appeared to be strongly influenced by the family home environment. A range of factors within the home were raised by all participants and included role modelling, reinforcement and encouragement from siblings and parents, monitoring rules and restrictions about EM and the physical home environment. Although other influences were mentioned, such as ‘stranger danger’, seasonal variations in leisure preferences, availability of PA facilities within the neighbourhood and having friends nearby, these represent more external influences and are not discussed here.

Modelling and reinforcement by siblings
Siblings appeared to have a strong influence on EM use among children particularly in families who had same sex children. It appeared that siblings reinforce the use of EM by doing the activity with the child. Male siblings, in particular, often enjoyed co-playing E/PCG:

They just watch each other play (electronic games) and he (11–12 year old boy) identifies with his (older) brothers (Mother, high-SES).

The boys (11–12 year old boy and his brother) just want to play (electronic games) all the time (Mother, low-SES).

However, siblings also appeared to influence children’s PA and opportunities for active pursuits, with older and younger siblings encouraging different types of PA. For example, older siblings appeared to reinforce, encourage and support physically active pastimes, while younger siblings appeared to encourage free play:

Our older brothers, they are kind of like second parents to us, they really get us going which I find is really good, like we might play cricket with them ... they do a lot of things with us ... they play with us a lot and they take us out (Boy, mid-SES).

My younger sister loves going to the park so I kind of spend half my time in the park and play (Boy, low-SES).

Modelling and reinforcement by parents
Parental role modelling and reinforcement of both EM and PA also emerged as key influences on children’s behaviour. Some parents described their propensity towards TV viewing as a negative example for their children. Others described their physically active lifestyle as an impetus for arranging family PAs:

My husband, he likes quite a bit of TV. He and the kids tend to watch more. I’m not a big TV fan at all. In fact if we didn’t have one (TV) it wouldn’t worry me (Mother, high-SES).

I love my TV and I pretty much know everything that is on, and that is possibly a bad influence for my girls (Mother, high-SES).

I (bike) ride to work each day. On the weekend or in the school holidays I try and go for a ride with them (kids) everyday. We go together to a local park and ride around or have a play and ride (back) home (Mother, high-SES).

Among some families, co-viewing of certain TV programs or digital video discs appeared as ‘family time’:

We (family) like watching ‘program x’ together, that’s one of our favourites ... and if you watch TV together it promotes a lot of conversation (Mother, low-SES).
On the weekend I always ride down to the video shop and get a few DVD’s and we (family) watch DVDs for most of the day on Saturday (Boy, low-SES).

However, among few families, the age range of their children made co-viewing difficult:

Not a whole family gets to sit down … because of the huge age difference (in children) … there wouldn’t be much on (TV) that would suit six people with that age range (Mother, mid-SES).

Monitoring rules and restrictions
Mothers appeared to be ‘gatekeepers’ of the time their children spent in PA, homework and social pursuits and with EM. Children often described their mothers’ watchful eyes on their TV consumption:

I know that I’m watching too much TV because mum comes in (and) says I’m watching too much (Girl, high-SES).

Most parents appeared to regulate children’s EM use through rules and restrictions. Although these rules varied between families, TV viewing before school was commonly monitored and restricted. Some children also mentioned not being allowed to use EM after school until homework was completed:

We are not allowed to watch it (TV) in the morning unless it is the weekend or it is a pupil free day (at school) and sometimes mum just says ‘I think you’ve had enough’ (Girl, high-SES).

I am only allowed to watch it (TV) after school but I have to do my homework first (Boy, high-SES).

Some parents cited placing time limits on evening TV viewing. This appeared to be consistent with bed time curfews. A few parents described the physical side-effects of late TV viewing on children:

Recently we have said no TV after 9.00 pm because the kids are just too tired. We can see it (TV) starting to have an effect on the kids. They are having trouble waking up (in the morning) (Mother, high-SES).

In general, for many children the concept of rules regarding EM use appeared to be in place since early primary (elementary) school years.

The physical home environment
The design and availability of electronic equipment within the home emerged as another influence on children’s use of EM and other leisure activities. For example, elements of the family’s home design and the size of their residential block seemed to impact on the type of activities children performed in the evening, with different designs either encouraging or prohibiting active play:

Because our kitchen and dining area is alfresco…we go outside, have our meal out there and they (kids) play outside … there is more room outside than there is in the house, and everyone just sits outside and we just don’t get round to watching the TV (Mother, high-SES).

There is one problem with (playing) in our backyard it’s very small … and we don’t have a front yard (Boy, low-SES).

In the post-interview questionnaire, most children (44/54: 81%) reported having two or more TV sets at home and 35% (19/54) having a TV set in their bedroom. About half of the children in this study (28/54) reported having two or more electronic game consoles. Most households (45/54:83%) were connected to the internet and 18% (10/54) had pay TV.

Multiple TV sets in the house were not perceived by some parents as excessive, rather as a social convenience. The purchase of electronic game consoles was often an impetus for an additional TV set at home. The number of TV sets at home influenced co-viewing patterns. For instance, some children indicated that they would watch their favourite TV programs in separate rooms with siblings and/or parents while at other times they watched in isolation. Occasionally, participants also referred to
multitasking in the context of reading and watching TV simultaneously:

(My son) has his (own) TV set so that he can play (console) games (Mother, high-SES).

Sometimes we have all three TV’s going at once, and they (children) are all in different rooms and there might be different things that we like to watch (Mother, high-SES).

Several parents raised concern about children having a TV in their bedroom. However, this concern was predominantly mentioned in the context of children not being ready on time for school, having their TV set constantly switched on and refusing to go to bed when instructed.

Discussion

This qualitative study provides insights into children’s EM use within the family home environment. The results indicate that children have weekday and weekend routines within which a repetitive pattern of sedentary activity and PA is evident with many having a strong preference for EM use during leisure time. The findings of this study appear to be consistent with Social Cognitive Theory (SCT) [45] with the main constructs of SCT (personal cognitions, observational learning, reinforcements, expectations and self-efficacy) reflected in the results. All these elements can be viewed as theoretical underpinnings that may assist in designing interventions aimed to reduce EM use at home. The notion of reciprocal determinism, whereby individuals and their environment constantly interact and influence each other [45], suggests that it is important to include strategies that address each of these elements in potential interventions.

The results of this study suggest that parents, siblings and friends shape children’s EM use and PA, particularly through modelling and reinforcement of behaviour. In this study, children’s EM use was influenced and reinforced by the behaviours of parents and siblings (i.e. co-viewing, rules and restrictions) as well as the actions of friends in the neighbourhood. Similar to previous studies [34, 35, 38, 46] that showed significant others having a powerful and dual role in influencing children’s preferences and levels of participation in active and sedentary activities, the results of this study found role modelling of an active lifestyle or sedentary leisure pastime by parents and siblings to influence children’s choices of leisure activities. But the level of influence appeared to be related to the type of behaviour significant others preferred and modelled. For instance, children who reported having an older brother who was involved in structured PAs or a younger sister who enjoyed going to the local park appeared to be influenced to do the same. Conversely, children who had an older brother who spent considerable amounts of time playing E/PCG were also influenced to do the same. Taylor et al. [46] refer to this concept as familial aggregation where family members can influence each others behaviour in a bidirectional manner. Thus, siblings may both positively influence PA and negatively influence EM use. Therefore, interventions to reduce children’s EM use should also include siblings.

The physical home environment and household rules about EM use also emerged as important influences on children’s EM use. In this study, house design and the availability of multiple electronic devices within the home including children’s bedrooms appeared to impact on children’s leisure activities. Having a media-rich physical home environment is commonplace [32, 33, 47]. Extensive accessibility and availability of home multimedia entertainment have been previously shown to provide an enticing setting for EM use among children and families [48, 49]. As parents typically control the acquisition of electronic equipment, there is significant potential to alter the physical home environment with the assistance of parents.

This study also found that children’s EM use was influenced by their personal preferences and the value they placed on performing these activities. Most children in this study spent >2 hours a day using EM. Interestingly, both parents and children generally felt that this amount of time was acceptable and part of a balanced lifestyle, despite the amount being more than the recommendations for
Australia [25] and the United States [26]. A similar study [50] also found that mothers and daughters perceived that the quantity of TV viewing was acceptable, despite mothers reporting that their daughters watched a substantial amount of TV a day. Crawford et al. [51] have also suggested that a significant proportion of parents are not concerned about risk behaviours such as excessive time spent in front of screens. This type of parental under-recognition may be due to a lack of awareness about the current guidelines and the risks associated with excessive EM use. Strong parental propensity towards EM use further complicates the issue, adding another barrier to modifying children’s EM use.

The process of modifying behaviours requires a level of self-ability and confidence to accept and change an action: self-efficacy [45]. However, enhancing children’s self-efficacy to enable them to successfully change their SB may be a challenging task for future interventions especially if neither children nor their parents recognize the risks associated with excessive EM use. Strong parental propensity towards EM use further complicates the issue, adding another barrier to modifying children’s EM use.

Limitations

Despite the random selection of primary (elementary) schools from which the participants were recruited, mothers were over-represented among parent participants. As well as bias towards participants from schools in high SES areas in the sample, it is possible that those who volunteered to take part were more interested in EM use than other families, hence the sample was self-selected. In addition, as duration of EM was self- and proxy-reported, inaccuracy in average EM use per day is plausible. Social desirability bias may also be an issue given the nature of the home-based interviews, focus groups and the administration of the self-completed questionnaire following the interview/discussions. This qualitative study is also subject to interpretation bias by the coders, despite efforts to enhance rigour through validation of the coding frame and cross-coding of random transcripts.
Future research and conclusion

This study found that EM use, while dynamic, was largely predictable and related to children’s weekly routines and a complex mix of factors that interact within the family home. Figure 1 summarizes this study’s findings and can be used as part of a theoretical framework in shaping future interventions aimed to modify children’s EM use.

However, further exploration into children’s personal beliefs and expectations to change their EM use, their parent’s ability to set realistic and achievable goals to alter EM use and the efficacy of establishing positive reinforcements in a bid to modify children’s EM use are required. Similarly, future research into children’s leisure time should also explore other forms of SB that may have a positive impact on children’s health and development such as reading, playing musical instruments and singing, drawing or talking to friends on the telephone to obtain a broader view of children’s leisure choices. Whether EM use contributes to short sleeping hours particularly during weekends also warrants further research.

The key findings of this study are that EM use among 11- to 12-year old children co-exists with varying levels of PA. Parents, siblings and friends exert a significant influence over children’s SB particularly in the form of EM use. The family home environment may be a potent and context-specific setting for children’s EM use. Future efforts in modifying children’s SB should focus on heightening the awareness of health risks linked to excessive EM use and address personal, familial, social and physical home factors that can hinder SB modification or enhance active alternatives in children. In particular, EM use may be altered by focusing on changing children’s preferences for particular leisure activities, targeting parents and siblings (and their individual EM behaviour) to encourage modification of co-viewing and co-playing patterns, thereby reinforcing and further encouraging the instigation of EM rules and restrictions within the family home. Additionally, an exploration of

Fig. 1. A conceptual schema representing children’s incorporation of physical and sedentary leisure activities and the influences on electronic-based SB within the family home environment.
Understanding children’s sedentary behaviour

barriers and facilitators to reducing EM use within the family home environment from both a child and a parent perspective is equally warranted.

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Conflict of interest statement

None declared.

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