

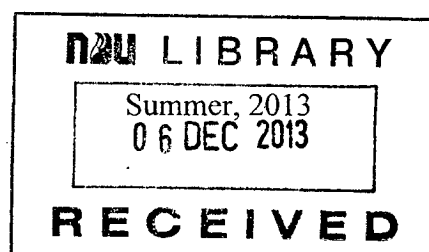
THE EFFECTS OF E-GAMES ON CHILDREN'S COMMUNICATION  
SKILLS: A LEBANESE MOTHERS' PERSPECTIVE

A Thesis  
Submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts in Media Studies/Advertising

by

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LEBANESE MOTHERS' PERSPECTIVE

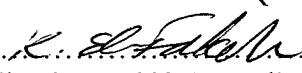
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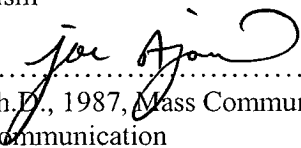
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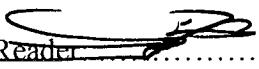
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## **Dedication**

To my family!

### **Acknowledgments**

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### **Abstract**

The effects of e-games on children's communications skills or social interactions as seen by their mothers has been rarely researched and investigated due to the novelty of the subject. Violence in games was the leader in research over the last few decades, until the invention of touchscreens. Many theories were discussed in order to describe the relationship between children and touchscreens (the Social Learning Theory, the Catharsis Theory, and the Cultivation theory).

According to previous research and relevant theories, two research questions were raised. The first question sheds the light on the role of the parents in involving their children to play with these devices and if imitating parents plays a role here. The second question addresses the isolation of children and whether it is related to using touchscreens.

In order to get answers to these questions, a focus group session was conducted with mothers who belong to well-to-do families having children under the age of twelve that go to private schools in Mount Lebanon area. In addition, interviews were conducted with three specialists (a social worker, a pediatrician and a psychologist) in order to get answers to the research questions from experts and compare the different points of view including the parents'. Children's time management got involved as well as the variety of games was of certain significance. Similarly, e-games might lead to an introvert lifestyle, mainly caused by the wrong monitoring of the parents.

The main result was that e-games are not as harmful as expected, yet they affect children negatively if the latter are not well monitored by their parents and if they have a tendency to get affected as well based on their unique personalities.



## **Introduction: A historical glance**

This qualitative descriptive research thesis revolves around toys and games' evolution and their possible effects on children's behaviors, starting with rural wars using little rocks, reaching the iPad and a wide variety of technological games such as arcade games, educational games, and electronic games.

The aim of this thesis is to shed the light on new inventions in the world of video games, while observing and analyzing the different factors that might induce children to get addicted to such devices, and the possible effects of these devices on children's communication skills as observed by their parents.

This thesis will start by providing a historical overview on the history of toys and video games, the different reasons behind their invention, and how they evolved over the years.

As seen in a documentary made by the BBC (April 25, 2011) entitled "Toys over 50 years", at a certain point in history, it was crucial to differentiate between toys and video games due to the fast emergence of video games. History had witnessed a noticeable technological development back in the 1970s'. A toy, by definition is "an object, often a small representation of something familiar, as an animal or person, for children or others to play with; plaything." (Google, Free dictionary). Whereas a video game is "any of various games played using a microcomputer with a keyboard and often joysticks to manipulate changes or respond to the action or questions on the screen or any of various games played using a microchip-controlled device, as an arcade machine or hand-held toy." (Google, Free dictionary). According to the same documentary, video games were followed by the computer that was invented in 1936

which took later on its known shape (keyboard and screen) in the 1980s, and customized games were also created.

In another documentary entitled “History of video games (1972 – 2007)” also produced by BBC (2008), the difference between primitive games and those created nowadays is made clear, moving from two dimensional to three dimensional videos. Hence, the effect of toys and games on children might differ from one another.

When we speak of the “effects”, we mean that these effects might be either positive or negative, which will be highlighted throughout this thesis.

## Literature Review

First and foremost let us start by defining communication skills in general. As said in their book "Messages: The communication skills book", McKay, M., Davis, M., and Fanning, P. (2009) define communication as a basic life skill. It is as important as the ways by which someone makes his way through school or earns a living. The ability of a person to communicate largely determines his happiness. When someone communicates effectively, he makes and keeps friends. He is valued at work. His children respect and trust him. He gets his sexual needs met. However, the writers continue and say that if someone is less effective at communicating, he'll find his life deficient in one or more areas: work may be all right, but his family shouts at the dinner table. Sex can be found, but friendships never seem to work out. He changes job too often and his friends are often cool, but he has a great time with his old school friends. He gets a lot of laughs at parties but goes home alone.

In this same book, McKay, Davis and Fanning (ditto, p.1) then discuss the following question: Effective communication makes life work. But where can we learn it? Parents may often not be good role models. Schools are busy teaching French and trigonometry. Often there's no one to show us how to communicate our wants, our anger, or our secret fears. No one shows us how to fight fair instead of blaming others, how to listen actively, or how to check out someone's meaning instead of mind reading. These skills have been known and available for years, and they should be taught. Young adults, for example should learn parent effectiveness skills in school before having children of their own, not years later when a teenage son is a truant or a daughter runs away. Colleges should provide core courses in the skills of communication in addition to the more traditional courses in communication theory.

Now let's have a closer look on children's communication skills in particular. According to an article entitled "Developing communication skills in the early years (3-5 years old)" (date unknown) written by "communitynet" an American NGO, communication involves both talking and listening. It's the ability to clearly express needs and understand others. Children who communicate well and who are curious to learn about the world around them are children who are ready to do well both at school and throughout life. The article states some obvious features a preschooler with good communication and general knowledge skills has:

- "Tell stories
- Use imaginative play (pretend to be a pirate, or imagine that a block is a tower)
- Understand when they are asked to do something
- Communicate their needs to adults in a way that is easy to understand."

This article also names some of the activities parents should do in order to develop the communications skills of their child. One of these activities is to play games of pretend and imagination. Maybe use dress-ups or other objects in the house. To let them play with many toys and different materials like beads, clay, leaves, pegs, blocks... Another advice given in this article is to keep limits on television, computer and video games which would give the child more time for real experiences to talk about. Using a computer, watching TV or DVDs, even educational ones, do not necessarily help the child to communicate. The article also highlights the importance of practicing other types of activities such as storytelling, parks, museums, swimming pools...

Now moving to how games might affect these communication skills, according to the book "Everything bad is good for you" written by Johnson, S. (May, 2005), the effect caused by video games is not through their violent or sexual content, but rather it is through the fact that the "structure" of the video games induces exploration and stimulates the reward centers of the brain. Johnson speaks about the effect of television and video games on people, saying that culture is becoming more complicated and demanding with time. It is improving the society's intelligence and idea. He summarizes his book by saying: "Popular culture has, on average, grown more complex and intellectually challenging over the past thirty years." (p.1)

Also, according to Beck, J. C., and Wade, M.'s (2006) "The kids are alright: How the gamer generation is changing the workplace" book, the hours spent on games have resulted in future employees with distinctive attributes. "These employees that were known by the "new generation" and that use video games have an amazing ability to apply multitask, to solve problems creatively, and to bring unexpected leadership to the table."

Frasca, G. (2007; p. 201) in his PhD dissertation "Play the message" that deals with play, game, and video game rhetoric, believes that there is a misconception of seeing play as chaos and as an activity where everything is allowed. Play can allow a high degree of freedom but there are always limits and constraints, imposed either by the environment, the rules or by the players themselves. Likewise, play can end up with contradictory results. However, this does not mean that play can negatively be judged, because it would then be pointless. Here, we're still talking about video games. However, in his research, Frasca speaks about an older tradition of unplugged games, toys and playfulness to better understand the relationship between play and

meaning. He says: "Play is not necessarily a better or worse way to understand the world. It is, however, an alternative to traditional means such as having a walk or a random conversation." Play is an engaging alternative and includes a lot of fun. It is relative to each person to know how to practice it in order to better understand the world and each other. Game expression may help us to reach this goal and it also may be considered in academics. But even if it is reasonable that some may be doubtful about how play can change the world, we could at least take into consideration the idea of Confucius, the Chinese philosopher, who eventually encouraged people to play because, as quoted by Frasca G. (2007; p. 201) in this same dissertation, Confucius argued that playing is "better than doing nothing at all".

The effect of games on children has been previously investigated by many, notably the violence in games. For instance, Prensky, M. (2006) in his book "Don't bother me mom I'm learning! How computer and video games are preparing your kids for 21st century success and how you can help", says that playing appropriately with video and computer games, is very helpful to what he called "today's Digital Native kids", who use them in order to get ready for life in the 21st century. Prensky believes that kids are attached to these games because they are curious about "future things" such as collaboration, careful risk taking, putting strategies and executing them, and taking decisions. The author's arguments are supported by scholars studying both violence and games as a whole, and by studies of gamers who have become successful corporate workers, entrepreneurs, leaders, doctors, lawyers, scientists and other professionals.

In their study "Video Games and Aggression in Children", Cooper, J., and Mackie, D. (2006) observed and studied the effect of playing an aggressive or nonaggressive video game on fifth-graders playing freely as follows:

Twenty-two pairs of boys and twenty pairs of girls were randomly exposed to one of three conditions. One of the children in each pair played an aggressive video game, a video game with little aggression, or a non-video maze-solving game for 8 minutes. The other child of the pair watched. Each child was then left individually to engage in free play in a separate room for 8 minutes, and was also allowed to deliver rewards and punishments to another child. The results were similar for both players and observers. Girls evidenced significantly more general activity and aggressive free play after playing the aggressive video game. Girls' activity decreased and their quiet play slightly increased after playing the low aggressive game compared to the control group. Neither video game had any significant effect on boys' free play. Neither girls nor boys gave significantly more punishments or rewards after playing any of the games. (abstract)

In another study done by Dixon, R., Maddison, R., Ni Mhurchu, C., Jull, A., Meagher-Lundberg, P., and Widdowson, D. (2010) on "Parents' and children's perceptions of active video games: a focus group study", the authors wrote that:

Energy expenditure studies have shown that playing Active Video Games (AVGs) is positively associated with increases in heart rate and oxygen consumption. It is proposed that playing AVGs may be a useful means of addressing inactivity and obesity in children. (abstract)

This same study explored:

children's and parents' perceptions of AVGs and the likely facilitators and barriers to sustained use of AVGs. Data were gathered using focus group interviews: seven with children, four with adults. Both children and parents reported that AVGs offered a way to increase activity and improve fitness. Barriers to sustained engagement, according to parents, were the cost of AVGs and lack of space in the home to play the games. According to children, the likelihood of long-term engagement with AVGs depended on game content and child age, with AVGs being seen as more appropriate for younger children than teenagers. It would appear that there is potential for AVGs to reduce inactivity in young people. However, barriers to widespread, sustainable adoption would need to be addressed if this potential is to be realized. (abstract)

In their study "Video games and children's imagination", Bertolini, R., and Nissim, S. (2002) speak about the meaning of video games from a psychotherapeutic perspective, investigating whether this type of activity favors the development of the



infantile transference. Their descriptive research involved observation of children playing with video games by people who deal with childhood (parents, psychologists, psychiatrists and teachers). They discovered that video games help in developing the child's imagination, his powers of judgment as well as their ethical sense.

However, the main concern in this thesis is the iPad and all devices under the same category (such as the iPod, the mini pad, the smart phones...) which continue to invade our homes and our world. These have been also subject to investigations. The release of the first touchscreens game invention the Nintendo DS took place in 2004. It was followed in 2007 by Apple's king of smart phones, the iPhone, with nothing but touch screen technology. Then the iPod touch was born in 2008, the iPad appeared in 2010, and last the mini iPad was released in 2012, according to Apple's website.

"Le Monde", the French newspaper, published 2 articles about this subject one is entitled « La tablette, ce nouveau doudou » (October 10, 2012), and the other one « Enfance et nouvelles technologies: les moins de 12 ans rompus à l'usage des tablettes et autres Smartphones » (August 26, 2012). The first article raises the following question: "Are tablets a cultural change or a rise of a new form of intelligence?" whereas the second speaks about the opinions of French parents who have children under 12. Parents were asked different questions about their opinion regarding this matter: 76% of the parents were positive claiming that it is a good thing that their children become familiar with latest technological means; whereas only 24% were negative.

"American families see tablets as playmate, teacher, and baby sitter" according to a published survey in February 16, 2012 by Nielsen, a global leader in

measurement and information, 70% of tablet-owning households with children under 12 let their children use the device.

“Kids go gaga over tablets” (August 29, 2012), an article by Sam Laird, features a study done by a creative media agency MDG Advertising, which based its research on the following sources: CNN, The Wall Street Journal, MarketWatch and others to develop an infographic, (see appendix A). This infographic shows various statistics about the relationship between children and iPads. For example, it shows that 10% of the children who have used or been exposed to a smart device, such as an iPad or a video iPod are between 0 and 1 year old, while 39% are between 2 and 4, and 52% are aged between 5 and 8 years old. This infographic also states that in tablet-owning household with children under 12 years old, 7 out of 10 of those children are using a tablet, such as an iPad. Also, children aged 6 to 12 wanted apple products most for Christmas 2011: 44% wanted an iPad, 30% wanted an iPod touch, 27% wanted an iPhone, 25% wanted a tablet computer, and 25% wanted a computer. All results will be discussed later on.

The Watertown-Mayer School District in the United States had recently incorporated the iPads in its educational program and wanted to see whether this initiative was successful according to the parents. The school district's survey drew responses from about 275 parents, 56% of whom rated the program as either a 4 or a 5 on a scale of 1-5 when asked how satisfied they are with their child using the iPad for education. Eighty percent of parents rated the program as 3 or better, leaving only 20% of parents that responded with a 1 or a 2. Hence, the survey showed that parents are generally satisfied with the school's iPad program; however, parents also reported that they see their children using the iPad more frequently for gaming than for any

other purpose. More specifically, when asked what activity they see their children using the iPad for the most, 47% said playing games. Thirty-two percent of parents said their children use the iPad more frequently for homework than anything else.

On another note, many mentioned the role of pediatricians in guiding parents. ZillyDilly, is an iPad browser created by a leading child psychiatrist, Dr. Eitan Schwarz MD, who is board certified in both General and Child and Adolescent Psychiatry. ZillyDilly is designed to provide children with an educational yet entertaining web experience, provide a framework for children to learn about the internet and technology, and limit access to undesirable websites meaning parents can manage their kids' media. More information about this application is available on their website.

According to Dr. Schwarz, E. (January 23, 2013) in his article "Please Guide Kids Using iPads and Other Tablets", "Many parents need to know when and how to introduce tablets to kids, but are mostly on their own. They deserve credible guidance from their pediatricians."

Dr. Schwartz divides the opinion of the parents regarding this matter into different groups. Some are wary, others are indifferent, and some others are confused if they are providing their children with the right educational content, or with the open access to dangerous contents. The parents are not sure if these tablets are essential for the kid's awareness about technology and its different usages. They even don't know if it is better to limit the child's access to this type of devices. In addition to that, parents are comparing the long non active hours on TV to more interactive hours playing with touchscreens. Dr. Schwarz says that the use of the tablets keeps the

children's hands busy and hence they cannot have snacks and play at the same time unlike TV watching that's associated with laziness accompanied by eating.

In this same article, Dr. Schwarz also states that rich graphics and engaging games motivate the children and hence promote healthy behaviors. In addition to that, touchscreens are being used by educators because they increase learning engagement. However, Dr. Schwarz admits that more research is needed but as he said: "the benefits of tablets are recognized in an important position statement by the National Association for the Education of Young Children and the Fred Rogers Center for Early Learning and Children's Media." He also refers to the research psychologist Dr. Jordy Kaufman who states that "tablets do not seem to adversely affect children's behavior or attention in the short term." Dr. Schwarz added that each child has to be treated separately when it comes to tablet use. He mentions here David Kleeman, President of the American Center for Children and Media who claimed that "The content and context, as well as the needs and abilities of the individual child, not the type of screen - determine whether a particular piece of media is helpful, hurtful or neutral for the child."

Accordingly, the American Academy of Pediatrics (AAP) has put some "parental guidelines for healthy tablet use" for parents to guarantee safe and productive touchscreen time for their children. These guidelines are available at the pediatricians' clinics (see appendix B).

Parents can purchase ZillyDilly for \$0.99 (USD) and from the Apple Store in the Education category. With free updates, the application allows the user to create a Media Plan for one child. Additional media plans can be added through an in-app

purchase of \$4.99 (USD) per child. A screenshot of the application is found under Appendix C for reference.

It is essential to mention here that many parental control applications that are customized for each tablet are created, yet the percentage of parents that are using them is undefined.

The parents of today are worried about how to raise their children in the middle of infinite applications and games. If unsupervised, children can download countless games and they will never get bored, unlike the old times when children were entitled for a limited number of games. Some parents are referring to online Q and A where they get answers from professionals on their questions. For instance, parents.com is an online forum that treats and publishes topics related to parents. It also answers their questions while referring to professionals or to other parents that were faced with the same situation. One of the mothers asked the following question (date undefined): "Is offline play more valuable for kids' education and development than online play? What if it's the same game, in online and offline versions?" the mom says that this subject is being discussed between mothers. They are trying to encourage their children to play "Memory" with real cards and limit the time spent on touchscreens to play the same game. Same thing applies to other games. The mom here is not sure if she's adopting the good decision.

Dr. Wittenberg, a psychologist specializing in the development of babies, toddlers, preschoolers and parents answered her by saying:

Children learn largely through human interaction, and we should

focus our efforts on relaxed, fun interactions with our kids.

That's how they learn the best. Studies have confirmed this,

with findings including the fact that babies easily learn foreign languages from a real teacher but not from “baby learning” videos. Children are primarily sensory learners, they learn from the information they pick up from all their major senses, in addition to their emotions and feelings. While apps and online toys are temporarily fun, they shouldn't be used as substitutes for hands-on, real-world learning. As your children get older, they will certainly learn more and more from technology, and I'm not suggesting you need to be a technophobe. But young children especially learn best from you!

Parents are also referring to online articles that would enlighten them about this topic. “Does technology hinder or help toddlers' learning?” is an online article written by Philippa Roxby (April 19, 2013), a Health reporter at BBC News. The report states that screen time could help children as young as two to learn words and be curious. The information revealed is based on a trusted research done on children from the University of Wisconsin, presented at a meeting of the Society for Research in Child Development during April 2013. This research found that children aged between two and three were more likely to respond to video screens that required children to touch them than to a video screen that demanded no interaction. “The more interactive the screen, the more real it was, and the more familiar it felt from a two-year-old's perspective. Kids who are interacting with the screen get better much faster, make fewer mistakes and learn faster” the study suggested.

Philippa Roxby's article supports the new technologies. It says that technology in the form of phones and tablets is here to stay. Tablets can be really helpful and interesting tools if used in the right place to help children learn - not all the time, but instead of other things; according to Helen Moylett, president of Early Education, a charity that aims to improve teaching practice and quality for the under-fives. (quoted by Roxby's article). However, her main concern is that parents are not always good role models. "I see parents texting while they walk. Often they are so plugged into their device that it becomes a barrier to communication with their child." Says Moylett.

Another study Roxby refers to is from Stirling University's school of education. This study found that the family's attitude to technology at home was an important factor in influencing a child's relationship with it. It concluded: "The experiences of three to five years olds are mediated by each family's distinct sociocultural context and each child's preferences. The technology did not dominate or drive the children's experiences; rather their desires and their family culture shaped their forms of engagement." Christine Stephen, study author and research fellow at Stirling, says: "most parents understand the dangers of addiction and passivity, and set up rules on screen time to make sure that children do a wide range of indoor and outdoor activities."

Yet, in this same article, contradictory points of view were also revealed. Psychologist Dr. Aric Sigman says that children are watching more screen media than ever, and that this habit should be limited because it could lead to addiction or depression. Dr. Sigman has done his calculations and has reached the following

results: children born today will have spent a full year in front of the screens by the time they reach the age of seven!

Also neutral points of view were stated, like the one of Jackie Marsh, the professor of education at the University of Sheffield. She says that there needs to be more research done in this area. Yet, she assures that it is the quality of applications that matters the most.

However, Professor Marsh explains that good-quality programs and some particular applications can help children develop the skills they do not really master. Online environments can also provide children with a virtual space where they can develop in confidence, something they might not be able to do at home or at school. Her message to parents is that two hours of screen time each day is enough for children aged six and under. Although there is a minority who considers screens not to be healthy, there is no evidence to suggest they are harmful. Children quickly get bored with one type of media and tend to combine screen time with playing with toys and doing outdoor activities. The professor ends that children may just want to enjoy technology the way adults do, just like girls used to play with their mom's make up and boys used to wear their dad's big shoes.

This thesis also sheds the light on the importance of some factors that are present in games but we might not notice their significance. A common person, for example, trying to make a simple interpretation of the evolution of a simple game can easily note that music is playing a significant role in the development of this game. Games started originally with simple music until reaching nowadays a compilation of music and live verbal (Voice Over) communication that can be changed with user's demands. Verbal motivations are also involved. This kind of games (i.e. fighting



game), that a person used to play by means of different controllers like keyboards or joysticks, is now even more interactive and the user himself can be considered as the hero of the game. In other words, while in the past the user was separated by a certain distance from a game, this distance is getting narrower and the interaction between the user and the game is getting bigger.

Moreover, the world of games has become saturated in the sense that we are witnessing an era where adults and kids are interested in the same games. Children nowadays do not settle for less than an iPad and its different "relatives"; they can use it even before they learn how to write, through images, due to the invention of infinite games tailored to each age (i.e. My baby game, see appendix D). While growing up, children then start to learn how to chat and they use these devices for that purpose. On the other hand, an adult owns this same device not only to play but also for other different usages of communication such as business matters.

The different levels of development games had gone through did not happen by chance (primitive wooden toys, soft toys, dolls, arcade games, digital games, electronic games, iPods, iPads...). All might have an effect on children's behaviors and their communication skills, especially as it is expressed by their parents.

## Theoretical Foundations

Some communication theories will be explored to highlight the way children behave and react to games. Some theories assume that games are good tools for children, while others disagree. Some of the theories might be applicable in some cases, while other theories are useful to different cases.

For example, according to the "Social Learning Theory", (Bandura A. 1978), children imitate what they see, if they are addicted to a shooting game, they tend to use guns in real life too. "They do it over and over again with the mouse and joystick with a simple click." Therefore, children may find it easy to do in real life if a situation arises, as expressed in an online article entitled "The effect of violent video games on kids" (date and author unknown). It is known that children imitate their parents starting at the ages of two to three years old. Hence, parents would expect their children to imitate anything they might see, including violent behaviors in games. According to Uhlmann, E., and Swanson, J. (2004), in their study "Exposure to violent video games increases automatic aggressiveness" playing violent games creates and triggers the aggressive traits and actions in memory. Accordingly, this increase in aggressiveness in memory is translated by aggressive behaviors. Hence, the frequent exposure to violent games may create aggressive thoughts and actions especially when provoked, annoyed or angry.

In their study "Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature" Anderson, C. A. and Bushman, B. J. (2001) assure that playing violent video games will increase aggressive behavior: An analytical review of the video-game research literature reveals that violent video

games increase aggressive behavior in children and young adults. Basing their study on Bandura's theory, Anderson and Bushman (2001) also ended up with the conclusion that "exposure to violent video games increases physiological arousal and aggression-related thoughts and feelings. Playing violent video games also decreases prosocial behavior."

Imitation can also be seen here from another perspective: if a parent uses frequently video games, iPads, iPods, or any related device, his child would imitate him and might want to use the device too.

In their research "The role of parents in the socialization of children: An historical overview" Maccoby, E. E., and Eleanor, E. (1992) emphasize on the role of "parent as teacher". They say that:

Emotions and common recognitions are highly involved in the exchanges between the parents and their children and in the establishment of this relationship. One of the pillars of childhood socialization is the parent-child relationship and how it is translated in terms of power and competency. If this pillar is broken, it would highly affect the communication skills of the child.

Bandura A. and Huston A. C. in their study in 1961 entitled "Identification as a process of incidental learning" say that:

Although part of a child's socialization takes place through direct training, much of a child's behavior repertoire is believed to be acquired through identification with the important

adults in his life. When a parent is training his child socially, the child would acquire and grasp two kinds of learning. The first one includes the obvious behaviors that every well raised child should have. The second is the one that the parent doesn't notice, it is gained through daily constant observations without any prior instructions by the parent.

Hence, for example, when a parent punishes his child physically for being aggressive, the expected result of the penalty is that the child should not hit others. However, the other side of this lesson is that the child learns accidentally through the behavior of his parent how to be aggressive against others based on the example he has just experienced. Accordingly, the child may apply this same behavior in later social interactions.

On the other hand, based on the "Catharsis Theory" by Aristotle (1890), Vos Post J. (1995) states that every person has an animal instinct, so do children. Video games allow them to express their wild instincts. Hence, they do not feel to apply aggressive instincts in real life. According to this theory, children can vent out their offensive tendencies through playing the games. The role of the parents here would be to observe their children's reactions to things during or after playing a certain game.

Griffiths, M. (1997), in his journal "Video games and aggression" states that "video games might have the capacity to release aggressive tendencies and that playing aggressive video games would have a relaxing effect by channeling latent aggression and therefore have a positive effect on a child's behavior".

Another study done by VanEenwyk, J. U. L. I. E. T., and Bensley, L. (2001), entitled "Video games and real-life aggression: review of the literature" reveals that "violent video games can provide a safe outlet for aggressive thoughts and feelings." VanEenwyk and Bensley also based their study on a similar theory, the Drive-Reduction Theory developed by Clark Hull (1943) which suggests that "violent video games may be useful in managing aggression." According to this theory, "highly stressed or frustrated individuals may play violent video games to reestablish emotional equilibrium through arousal or relaxation."

Lee, K. M., and Peng, W. (2006), in their study "What do we know about social and psychological effects of computer games? A comprehensive review of the current literature" state that "even though the Catharsis Theory proposes that violent computer games can generate positive outcomes to their users by providing a safe outlet to exercise violence; little evidence has been found to support this argument. They say that there has been little research on negative effects of educational games. As a result, we cannot find sufficient research on the above two issues."

A research that endorsed the Catharsis Theory is the one of Endestad, T. and Torgersen, L. (2003): "Computer games and violence: Is there really a connection". In it, the researchers say that exposure to violent videogames leads to a decreased tendency toward aggressive behavior. Aggression according to the Catharsis Theory further means that engaging in activities that lead to exposure to aggressive behavior, (i.e. game activities) might even lead to reduction in tendency towards violent behavior due to a "venting off" effect of aggressive energy or desires.

Endestad and Torgersen (2003) also added that not many studies exist to address the proposed relationship between violent behavior and video games.

Endestad and Torgersen (2003) refer to Sherry, J. L. (2001) who concluded in a study entitled "The effect of violent video games on aggression", that there seems to be a correlation between video games and violence but specifying the effect of this correlation to be smaller than the correlation found between exposure to television and violence. Sherry demonstrated a greater correlation for games involving fantasy and human characters than for games where the violence was introduced in a sport setting.

Another related theory is the "Cultivation Theory", developed by George Gerbner and his associates of the Annenberg School for Communication of the University of Pennsylvania (1977). This theory links games to violence because the former train children to use weapons to kill hundreds of opponents with few shots in a simple video game which exposes the child to violent content that leads to cultivation. Meaning, the more time children spend living in the games world, the more likely they are to believe social reality portrayed on games. Cultivation leaves children with a misperception of what is true in the world. Here again, parents would have to observe the behaviors of their children on the long term to check whether some changes occurred right after starting to play or maybe a month later.

In their research "Video games and aggressive behavior", Unsworth, G. and Ward, T. (2001) link time to playing violent games. They say that children are spending a significant amount of time entertaining themselves with video games, something that lead the researchers to an investigation of the relationship between the playing of video games and violent behavior, based on the cultivation theory. They concluded that there is preliminary evidence that violent video games may have an

antisocial effect on young players, while changing the player's perception of the real world.

The use of this theory appears to be limited in the studies related to the effect of video games on children, while it is more applicable to the studies related to the television effects, this assumption is suggested in Jan, M., Sultan, K., and Kareem, W. (2012) study titled "Effect of video games on students: test of uses and gratification theory".

However, a remarkable exception is the one of Anderson, C. A., and Dill, K. E. (2000) entitled "Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life." In their study, the authors looked into the level of crime likelihood and safety feelings caused by aggressive thoughts, feelings and behavior. They did not find any relationship between playing videogames and crime likelihood, yet the relationship between former and safety feelings was noticeable. The researchers state that: "These are interesting findings because they are the opposite of what television researchers would normally expect to find." Then they refer to "Television and its viewers: Cultivation theory and research" study by Shanahan, J. and Morgan, M. (1999) which concludes that, in television research, evidence can only be found for "first-order effects" and not for "second-order effects" and argued that:

Such findings are fully congruent with the cultivation theory which posits that television will teach us societal-level lessons about what "the world" is like, but not necessarily impact our perceptions of our own personal reality, where a much wider range of influences and everyday non-mediated

experiences may play a stronger role. The label “first-order effects” refers to estimations of frequency and probability of aspects of social reality that seem to be empirically observable and verifiable in the real world, while “second-order effects” are opinions, beliefs and attitudes. Arguably violence in video games differs from television violence. The higher level of involvement may mean that violence in computer games has a much bigger impact than violence on television.



### **Research Questions**

Based on the literature review and the theoretical background, two related questions can be raised about parents' role and children's possible isolation:

Question 1: Do parents play a major role in involving their children to play with such devices? In other words, do children imitate their parents because they are seeing them using the device?

Question 2: Are children likely to pursue an introvert lifestyle if they frequently play with these devices and hence become isolated?

## **Methodology**

The research technique applied in this study is qualitative descriptive. It relies on the analysis of visual information through observation, and verbal information through words, that reflect everyday experience, according to Wimmer, R. and Dominick, J. (2010, p. 115). In our study, it is the experience of the parents that's observed, analyzed and described.

A focus group session was conducted in order to investigate, analyze and understand the parents' perspective regarding the effect of e-games on their children's communication skills, and their possible role, as well as to study the parents' attitudes and behaviors towards this new technological phenomenon which they all face in their day-to-day life.

A focus group, per definition, is a "research strategy for understanding people's attitudes and behaviors. From six to twelve people are interviewed simultaneously, with a moderator leading the respondents in a relatively unstructured discussion about the topic under investigation." This is also according to Wimmer, R. and Dominick, J. (2010, p. 132).

This study's focus group session was conducted with ten mothers who have children under the age of twelve. Those participants belong to well-to-do families and they can accordingly afford buying touch screens to their children. Their children go to private schools located in Mount Lebanon.

Fathers were excluded from the session because in a normal Lebanese family, even when both the father and the mother are present, it is the mother who monitors and manages the day-to-day life activities of the children. The mother is the one who

gets into the details of her children's life and this is mothers were chosen in this study. Moreover, when it comes to raising children, usually parents agree on a common point of view (i.e. the decision to buy a touchscreen to a child comes after both parents agree on the matter).

Two extended focus group questionnaires were given to the mothers: one that is direct and another one that is indirect. According to Wimmer, R. and Dominick, J. (2010, p. 134), an extended focus group questionnaire is where respondents are required to complete a written questionnaire before the group session begins. It covers the material that will be discussed during the group session, which forces respondents to "commit" to a particular answer or position before entering the group. This commitment induces the person who does not wish to offer an opinion because he/she is in a minority to have his/her answers written on paper.

The direct questionnaire (see appendix E) was filled in on the spot by the mothers. It included fifteen closed-ended questions defining their profile (relationship to the child, age, profession...) and gathering quick answers to short/multiple choice questions (i.e. how much time does your child spend on these devices?,...). These questions lead us to describe precisely the status of the mothers as well as the profile of their children (gender, age, school, grade...).

The second questionnaire (see appendix F) includes fourteen open-ended questions asking parents to describe thoroughly the relationship between their children and touchscreens as constantly observed by them and describe the behaviors of their children versus e-games as well. These questions were sprung up during the discussion to the mothers while running the session.

In-depth focus group session was conducted while making sure that all the participants contributed to the session. Mothers were given equal chances to participate, thus answers to all questions were collected from all. The session was recorded in order to ensure not to miss out on any idea or thought discussed.

The results of the data collected which will be discussed later on are not necessarily a precise representation of the population at large as much as they, to some extent, may represent the well-to-do families from the area specified above.

Also, three interviews (see appendix G) were conducted with specialists in children's health and communication abilities (a social worker, a family doctor, and a psychologist) in order to give medical and professional opinions about the relationship between children, touchscreens and accordingly e-games:

- Mrs. Julie Kai is a social worker who works now in SEF association (Service de l'Enfant au Foyer) where the interview took place.
- Mrs. Hala Kai is a family doctor who works in Ste Famille College as the pediatrician of the school and she has her own clinic in Jeita where she was interviewed.
- Mrs. Elise Bitar is a psychologist who also has her own clinic in Hadath where we conducted the interview.

The same nineteen questions were addressed to the three specialists in order to compare their answers. The questions were inspired by the ones asked to the parents, yet, answers sought have a professional's perspective. The content of the questionnaire is based on the research previously done on this topic, mentioned earlier in the Literature Review (p.11) and Theoretical Foundations (p. 26) parts in this thesis, and notably on the relevant findings and results.

The specialists were asked about their opinions regarding different topics related to my thesis subject that were previously investigated. The questions were also asked in a way to seek advice from the specialists addressed to the parents in order to know how to enhance their children's communication skills with the rise of the e-games that are dominating their lives.

## Results

### *a. Focus group*

The ten mothers with whom the focus group session was conducted are all married, none of them is divorced. Their ages range between 34 and 45 years. Thirty percent of them do not work, while the professions of the rest are: a teacher, a social worker, two graphic designers, a beauty specialist, an architect and a banker.

The noticeable information is that the household income of all of them is above \$2101 per month; while the household income of the majority (80%) is above \$2401 per month. This means that the parents should have a certain monthly income in order to afford buying touchscreens to their children. Parents in the past used to buy at least one toy or game to their children with whatever budget they have. This is not the case anymore because the games are now mostly associated with one type of device, the touchscreen, and not all parents can afford to buy even one device per family.

The children's gender is 40% females and 60% males. Their ages vary between three and twelve years old. They go to different private schools located in Mount Lebanon: Saint Coeur Kfarehbab (10%), College Notre Dame de Louaize (20%), Champville (10%), Antoura (30%), Jamhour (10%), Saint Joseph School (10%), Antonine International School (10%). The children's grades range between C+ and A+.

The mothers were asked about the number of hours of sleep their children have per night. The child that had the lesser amount of sleep has the lower grade in school which is C+. This could be a coincidence, yet it is worth mentioning. The

results show that 10% of the children have six to seven hours of sleep per night, 30% have eight to nine hours of sleep per night, and the rest 60% have more than ten hours of sleep per night. The younger the child is, the more hours of sleep he/she has.

All these children know how to play with touchscreen tablets, however, not all of them own one. Thirty percent of the children play using the touchscreen of their parents, mainly the younger ones. In parallel, 20% of the children own two devices; and the rest 50% own one touchscreen.

Parents were also asked about the amount of time their children spend daily on these devices. The answers showed that the younger the children the lesser time they spend on touchscreens maybe because they don't really understand what's going on, yet they're curious enough to try it, touch it and interact with it but for a short period of time because they are interested in exploring something else. In general, 10% of the children spend less than 30 minutes on the device, 20% between 30 minutes to one hour (50% of these are allowed to use the device 3 times a week). The highest amount of time spent on touchscreens was between one and three hours (40%); and 30% spend between two and three hours, and 30% of those are allowed to spend this time during weekends only. None of the children spends more than three hours.

It is important to mention that not all mothers are familiar with this technology; hence, they don't really know how to monitor their children properly. Thus 20% of the parents do not monitor their children while using the device, while 40% monitor them all the time and 40% keep sometimes an eye on them. As a result, 80% of the parents could name the games their children play, while 20% are totally ignorant about the applications used.

The last question of the questionnaire was related to school and how often the parents allow their children to take their touchscreen to school. Eighty percent said so. One mom allowed her child to take it sometimes, and one mother's child does not go to school yet.

After responding to the extended questionnaire, the ten mothers were invited to start the focus group session. What follows is a developed report of their answers.

The main reason why children ask to have an iPad is because they see their friends using it and accordingly get jealous. In addition to that, the role of TV ads that encourage children to get the device can't be underestimated.

While using the device, mothers reported that each child creates his/her own world. This means that the reactions the child makes while using the device mainly depends on the character of the child as well as the games he/she chooses to play with. If he/she is having a conversation with his friend on WhatsApp, his/her reaction depends on the content of the conversation as well. However, mothers said that if we want to describe in general our children's behavior while using the device, all of them show calmness and full concentration on what they are doing. It is important to mention that the behavioral reaction to game content depends on the gender of the child. Usually boys are more agitated because they play with more aggressive games and accordingly, this agitated state of mind stays with them after using the device for up to one hour. In contrast, the girls are usually calmer because their games are supposedly slower and less violent. In general, the child can get excited, or sleepy, or become very happy if he/she wins, or become upset when his playtime on the device is limited by his parents.



Depending on the character of the child, some mothers said, he/she can either be fully concentrating on a game and become totally disconnected, or he/she can still be aware of what's going on around him/her at the same time. He/she can sometimes show interest on other issues only when he/she decides to.

Since the time spent on the device is limited by the parents, children do spend time with them, but not the time that children used to spend with their parents, say ten years ago. The quality time parents and children have together is of two to three hours per day maximum, and it usually happens at night, talking a bit and watching TV together.

Here, it is important to mention that if the parents themselves spend time on touchscreens in front of their children, they would lose the communication with them too. When asked if they own a touchscreen and how often they use it, some of the parents said yes, while others don't because they can only afford buying one touchscreen for their children. It was agreed among them that they shouldn't spend more than one or two hours on these devices in front of the children. Parents try their best to reduce the time spent on touchscreens in order to benefit from the quality time they can have with their children as much as possible.

Then parents were asked if their child eats while playing with a touchscreen. Most of the children eat chips or any other kind of snack that requires the use of one hand only hence easy to eat, since the other hand is always busy holding the device and it is easy to manage both actions at the same time. A minority (20%) said no when asked this question. Parents mentioned that their children practice physical activities and do not spend their whole time sitting and eating. Though they do some sports in parallel, but it is not as much as they used to before getting a touchscreen.

So, parents concluded that the touchscreen indirectly affects their children getting heavier.

In order to describe more the relationship between the children and touchscreens, parents were asked if their children take their devices with them when going for a family ride. Parents said they do but do not use them all the time. This also depends on the character of the child. If he/she is shy, he/she would find the perfect world where he/she can spend his/her time alone without being obliged to communicate with people around him/her. But if the child is more sociable, he would definitely enjoy the ride and forget about his/her device for a period of time.

Parents feel that their children are addicted to these devices. They feel that if their child was allowed to play all day and all night he/she wouldn't say no to that. However, this also depends on the age of the child as mentioned earlier. On the other hand, parents don't think that this would lead to depression, or at least they have not experienced such a situation yet.

Children did not let go of their social life totally. They still participate in social activities like scout, dancing classes, taekwondo classes, football... and they really like what they're doing. They also still watch movies, or even practice some sports at home.

At the end of the session, as a wrap up, moms were asked to give their opinions about how touchscreens affect their children's behavior in general. Mothers weren't totally negative about these devices. They admitted that those tools have positive function, and they cannot deprive their children from staying up to date on the latest technologies, even if they're expensive. At the end of the day, a touchscreen can teach a lot of skills and parents cannot ignore that. However, the moms agreed

that touchscreens have to be used moderately in order to maintain their children's social life.

*b. Interviews*

Games have become a hi-tech industry. According to an analysis done on Children's health in the "Children and high tech toys" video (uploaded on YouTube on May 10, 2005); Jean Enersen says that "the games of today are becoming more electronic than ever." Game makers are putting all their efforts and creativity on innovative ideas, allowing kids more opportunities to interact with their games. Hence, "children are putting their imagination aside because all information, music and instructions are already clearly given to them", says Dr. Dimitri Christakis, Pediatrician and Director in Child Health Institute, who was interviewed for that analysis in the same documentary. Dr. Christakis says that "traditional and simple toys have an advantage in engaging the child's imagination."

Now that we have explored the different points of view regarding the effect of e-games on children based on previous research and focus group session with parents, we shall seek the opinion of the professionals with whom we conducted in-depth interviews.

The first interview was done with the social worker Mrs. Julie Kai who thinks that a child can own an e-game starting the age of thirteen and not before, mentioning that he/she can sometimes use the device of his/her parents while being fully monitored by them. A child can spend a maximum of one hour per day on a touchscreen controlled by his/her parents.

Mrs. J. Kai believes that if the above is applied, e-games won't affect the grades of a child in school so it doesn't also really affect his/her sleeping pattern. On the contrary, if he/she can concentrate on a game, he/she learns how to concentrate in school, Mrs. J. Kai says.

Whenever a parent is monitoring his child, he/she should be fully aware of the type of applications his/her child is using, be them educational or violent, as well as of the specific content of the game. She thinks that educational games are a good learning tool for children to grasp and memorize information faster.

When asked if children use the device because they want to imitate their parents, she mentioned that these devices should be used very moderately by the parents in front of the children, even if they are using the touchscreen for work purposes, their children won't understand this. Yet, she advises that there should be a working space at home where parents can work on the device alone, and hence children would understand that just like they have their time for studying, their parents have their own time for working. However, Mrs. J. Kai said that children imitate their friends in the first place. Friends are the primary reason why children ask for the device due to jealousy.

Mrs. J. Kai continues that "Children have a wide imagination, and games make it even wider. If the content of the game is bad, it would create bad thoughts in the mind of the child, and accordingly may lead to bad actions. Yet, if the game is educational, it would in contrast feed the mind of the child with good learning and thinking."

However, Mrs. J. Kai doesn't agree that these games are a good way for romping; she thinks that children can spend their time playing many other outdoor games that are more beneficial. Children do not express their aggression in playing such games to vent out offensive tendencies; on the contrary, the aggressive games create the aggressiveness in them and make them believe that their content exists in real life.

While she agrees with Confucius the Chinese philosopher who said that “playing is better than doing nothing at all” even if on an iPad, she doesn't think that playing an e-game is closely related to obesity due to inactivity. When a child is inactive he/she is inactive.

Then we discussed the mental development of children. Mrs. J. Kai agrees that e-games can be considered as a new means of intelligence because children have become more blooming and attentive to details. However, sometimes this intelligence can turn out to be bad and be used for harmful purposes such as violence, or seeking information restricted for people who are under eighteen years old. She sees our children better educated than we are now, and hence they will reach high posts at work in the future because they are well aware of technologies since early age. Children of today learn faster because they are now using their visual intelligence more and very easily.

Now moving to the psychology of the child, the social worker, Mrs. J. Kai doesn't think that frequent touchscreen usage may lead to depression; but a child can become severely addicted to the device if it is being used without control. On the other hand, she did not deny that online environments can provide shy children a virtual space where they can develop confidence. However, this would limit more the child's social interaction. At the end of the day, this place (the touchscreen application) is virtual!

To sum the interview up, the social worker believes that e-games have positive effects on children, yet if badly used (e.g. seeking bad content and/or using e-games for a long period of time), they can hardly affect the child's communication skills especially if he/she is not being constantly monitored by his/her parents.

The second interview was with the family doctor, Mrs. Hala Kai who provided more scientific approach to her answers.

Mrs. H. Kai thinks that a child can use a touchscreen starting at the age of three, and has his/her own one by the age of ten. The time allowed to be spent on the device depends on the age of the child, but on average 45 minutes per day would be enough in her opinion. She thinks that playing with a touchscreen could affect the child's grade at school if used improperly because, if a child plays with the device before going to sleep directly, he/she won't be able to sleep anymore especially if the game requires concentration, and accordingly he/she would lose concentration in school.

Mrs. H. Kai thinks that when a parent is monitoring his/her child while he/she is using the device, he/she should induce him/her to do research, play intellectual games using reasoning and logic in addition to entertaining games. The child shouldn't have an unlimited access to internet and applications because these do not have age ratings and hence he/she can search for inappropriate applications.

Mrs. H. Kai doesn't blame the parents for using touchscreens in front of the children because children themselves are attracted to such devices. Yet, at the same time, if a parent spends too much time on the device, it becomes a habit in the family and would lead to a decrease in the social interaction at home.

Mrs. H. Kai agrees that some games limit the imagination of the child, because he/she is not using his/her senses properly, he/she can't touch, feel and taste what's in his/her hands, so he/she is limited to what the game offers, no additional effort is done from his/her side except playing. However, some applications, notably the educational games, are way better than others.

Mrs. J. Kai and Mrs. H. Kai agree that children can spend their spare time in many ways other than playing with touchscreens for romping. In addition, Mrs. H. Kai totally disagrees with the statement that violence in games is a therapy for children to indirectly express aggression and vent out their offensive tendencies. These games might induce children to think that they represent real life and thus imitate them.

Mrs. H. Kai totally agrees with Confucius on his quote: "Playing is better than doing nothing at all" but she believes that playing with these devices may increase the child's inactivity and cause obesity, first because he/she is sitting all the time, and second because he/she is eating while playing.

Touchscreens can be considered as a new means for enhancing intelligence if they are well used for this purpose. In the pediatrician's opinion, when they grow up, those children will have a very high "electronic intelligence" which will make them very successful at work, yet the drawback will be in their low social interaction. Children who interact with the screen definitely learn faster.

Mrs. H. Kai says that frequent touchscreen usage leads to addiction just like alcohol and cigarettes. It may also lead to depression because the child is not being able to communicate physically, so he/she is keeping all his thoughts for himself which may lead to hyperactivity. On the other hand, she also thinks that online environments might provide shy children a virtual space where they can develop confidence, it is a step to move forward, but it is not an ultimate therapy, shy children need to interact personally with people at the same time.



Mrs. H. Kai concluded that e-games do not affect the child socially (behavior, interaction with others, communication skills, learning) if their usage is mixed with frequent social interaction.

Game makers would claim that their games are specifically made to help in the mental and cognitive development of children with the latest technologies and innovations involved, as suggested by Friedman N., President of Mattel brands in "Children and high tech toys" video (uploaded on YouTube on May 10, 2005). However, psychologists refute this claim and explain their concerns by saying that child-driven play might result in weaknesses in problem-solving skills. In contrast, Dr. Michael Rich, Director of the Center for Media and Child Health, as seen in the video "How do games affect behavior" (uploaded on YouTube on Sep. 16, 2008) assures that games are one of the best teaching tools because children are not only exposed to information just like in movies or sometimes in class, they're also solving problems and making decisions, choices and moves, that would change the directions of their mission. Rewards and punishments are also involved for a better learning.

The type of games children play is also significant because some games are becoming more and more violent and children might grasp this aggressiveness and apply it in their daily lives. Children have fun when they are being subject to kill simulators, which would cause changes in their ways of thinking, and in their behaviors according to Dr. Michael Rich, Director of the Center for Media and Child Health (as said in "How do games affect behavior" (ditto) video).

Here it is important to mention that, just like movies, games have age ratings. Rating systems indicate the ages that are appropriate for a certain game. These are being put by the game makers themselves, but they might not be scientifically based.

However, the latest devices innovations have no rating system at all. iPads, iPods and “new generation games” such as PlayStation and Xbox are open for all ages. Yet, the role of parents in monitoring their child’s activity is important here. They can put passwords to access the devices or even check the history of the games used. Here, the degree of control done by the parents varies among families.

The difference in opinions between pediatricians and game makers is clear: one speaks mainly from a marketing perspective while the other stresses on a social/educational perspective.

The third interview was done with the psychologist, Mrs. Elise Bitar, who explained in depth the relationship between children and e-games. She thinks that a child can own a touchscreen at the age of two-and-a half and three years. The time spent on the device depends on the age, but on average he/she can spend a maximum of two to three hours per day.

If a child uses the device to waste time, Mrs. Bitar says, it can directly affect his grades at school. However, if he/she is playing educational games, the experience would be enriching. Yet, if a child plays with the device directly before going to sleep, it can affect his/her ability to sleep, but if he/she is using it during the day it doesn’t have any effect on his/her sleep at night.

While monitoring his/her child, a parent should pay attention to three factors: the time spent on the device, the type of game that the child is playing, and making sure that he/she is playing a variety of games and not stuck to one single game which he/she plays all the time. Mrs. Bitar thinks that seeing the parents using a touchscreen is not the main cause behind asking for the device, the device is attractive by itself.

With regards to the imagination, she thinks that some games would limit the imagination of the child especially the ones that don't require strategies building and concentration. Games that require strategies building, in addition to educational games and mazes for example, are much better than other games. Children might refer to some games for romping, yet not all of them can be considered as the good way to spend time. She explained again that e-games might be a good therapy to express aggression, yet depending on the type of the game. However, this matter is very tricky because there is a risk of applying this same game in real life. So here the parents should specifically manage the time spent on this aggressive game.

"Playing is better than doing nothing at all" as per Confucius, true, the psychologist said, but this is not an excuse for the child to refrain from playing outside. These devices may increase the child's inactivity and cause obesity with time.

Mrs. Bitar doesn't agree that e-games are a new means of intelligence because intelligence has different functions, and in each game we use (or don't use) more than one function. She explains that these types of intelligence are not innate, they get developed with time.

However, each person is intelligent in a special way and he/she uses his/her intelligence where it applies, meaning in the case of using a touchscreen, each child uses his/her own type of intelligence and applies it in his/her own manner. This way, the child is helping in developing this type of intelligence and not another one. Some types of intelligence are: visual, musical, verbal, logical, bodily...

The psychologist confirms that today's children will be better than previous generations using technology in the workplace in the future, but "I have doubts about how their social life would be at work because they will become more selective". On

the other hand, she thinks that kids who interact with the screen might learn faster depending on the type of learning they're exposed to and to their own access style at the same time. She explains that each child has his/her own access style; it is like his/her key to learning. If he/she uses this key, he/she would learn, if he/she doesn't use it he/she won't evolve. She continues by stating the three types of learning a person can have: auditory (by hearing), visual (by seeing), and kinesthetic (by touching).

The child's tendency to become addicted to a certain game or to get depressed depends on his/her personality. If he/she doesn't have this tendency, he/she can go play with something else without being asked to do so. She also believes that online environments would provide shy children with a virtual space where they can develop confidence but to some limits because it won't help the child in real life unless he/she really works on the real interpersonal communication with others.

In the end, just like the other two specialists, the psychologist does not rule out totally the use of touchscreens. She says: "if they are wisely used, they can be like any other game", where sharing and competition are involved. The child can even take it with him/her to school for example to do some research. Yet, if he/she plays with it alone all the time, it will definitely affect his/her social life. Whenever he/she is well monitored by his/her parents, he/she would be safe.

## Discussion/Conclusion

The role of parents in this controversial issue is essential. This fact has been supported clearly throughout this study. It is been also emphasized in other research. The specialists interviewed stressed on the parental guidance and monitoring role in order to insure that children are properly using touchscreens. Even the parents themselves, admitted that they need to supervise their children, otherwise the children would not be able to communicate successfully at the social level. Both phrases “communication skills” and “social interactions” were used interchangeably throughout this thesis.

Unlike some games and toys, we can conclude that e-games need special operation, meaning the parents should make an extra effort while monitoring their children. One of the major concerns the parents could have when their children used to play with traditional games was that they may swallow small parts of the toy or game. However now, with the rise of the electronic games, the harm is no longer physical only. Children are exposed to mental and moral dangers, in addition to total social isolation which leads to an introvert lifestyle. These dangers require doubling the attention by the parents.

In addition to monitoring the child, parents should stress on the essential communication between them and their children as advised by the specialists during the interviews. This has also been made clear by Dr. Wittenberg a psychologist specializing in the development of babies, toddlers, preschoolers, and parents. Dr. Wittenberg was answering the question of a mom in an online forum (date undefined): “Is offline play more valuable for kids' education and development than online play? Part of her answer was: “...children learn largely through human

interaction, and we should focus our efforts on relaxed, fun interactions with our kids... I'm not suggesting you need to be a technophobe. But young children especially learn best from you!"

"Does technology hinder or help toddlers' learning?" is an online article that was written by Philippa Roxby (April 19, 2013), a Health reporter at BBC News. This article that was mentioned earlier in this research includes different points of view. One of them is the interpretation of Helen Moylett, president of Early Education, a charity that aims to improve teaching practice and quality for the under-fives. (quoted by Roxby's article). Moylett's point of view supports a part of our conclusion. Her main concern is that parents are not always good role models. She says: "I see parents texting while they walk. Often they are so plugged into their device that it becomes a barrier to communication with their child."

Another study Roxby refers to is from Stirling University's school of education. This study also found that the family's attitude to technology at home was an important factor in influencing a child's relationship with it. As said by Christine Stephen, study author and research fellow at Stirling: "most parents understand the dangers of addiction and passivity, and set up rules on screen time to make sure that children do a wide range of indoor and outdoor activities."

When I decided to do this study, my opinion was that the effect of e-games is hundred percent negative. I even assumed that it is true according to parents who view all the dangers the children are exposed to. Yet I was curious to know exactly how e-games can affect the children's communication skills or social interactions, their ability to socialize and their ways of thinking.

However, the opinions expressed to this study reflect, in general, that children now might become more intelligent than their predecessors. They will be better at work, they are able to perform multitask, yet their social lives would have negative drawbacks in terms of communication skills which answers research question number two. Again, it is the variable of time spent on these devices that defines whether a child has been "affected" or not.

The personality of the child also plays a role in affecting him/her or not. This conclusion meets with the one of the psychiatrist Dr. Schwarz, the creator of ZillyDilly application mentioned earlier. He said in his article "Please Guide Kids Using iPads and Other Tablets" that each child has to be treated separately when it comes to tablet use. He mentioned Dr. David Kleeman, President of the American Center for Children and Media who also claimed that "The content and context, as well as the needs and abilities of the individual child, not the type of screen - determine whether a particular piece of media is helpful, hurtful or neutral for the child."

Raising children in our time is in a way becoming more and more delicate. However, children are actually educating themselves using touchscreens without the effort of any mentor, and this is facilitating the lives of the parents. Hence, is it harder or easier to educate a child with the rise of touchscreens? This is maybe a question for a new research.

### **Recommendations for future research**

Knowing that the subject is new and there are very few researchers who already tackled it, it is recommended to do more studies examining the same subject but using different methodologies. More in-depth experimental research should be done on the children themselves in order to observe and analyze closely the relationship between them and e-games in terms of communication skills (i.e. social isolation, aggressiveness, verbal deficiency...) and not only as seen by their parents or by the specialists.



### **Limitations of this study**

Very few articles and journals are previously written about this subject because it is new. It was hard to find similar studies and scholars treating the same subject.

I was supposed to conduct a survey on parents of well-to-do families having children under the age of 12 in private schools in Mount Lebanon area. However, when I decided to distribute my questionnaire to these schools, I was surprised that a similar questionnaire was already distributed to parents, a week before, in the same schools, investigating the same subject, on children of the same age bracket. The study is also done by a team at a university in Lebanon.

So I went to other schools where this questionnaire was not distributed, but it was already too late because the scholastic year of the children under the age of 12 was almost finished, and my thesis is due this summer. Accordingly, I was obliged to change in my methodology and conduct a focus group with parents instead of surveying a sample of 150 parents.

Moreover, since the scholastic year was done by the time I decided to conduct focus groups, it was hard to gather 10 parents at the same time in one focus group session because they started to go on vacation to the countryside. Thanks to the social worker Mrs. Julie Kai who helped me out to gather parents in her office where she works as a social worker. She helped me to get in touch with many mothers that she knows due to her job description, and the focus group session was finally conducted in her office. But I had the chance to make one focus group only due to our tight schedules.

In addition to that, a quantitative research would have been more helpful in collecting the results, yet this was not possible again due to my heavy work schedule.

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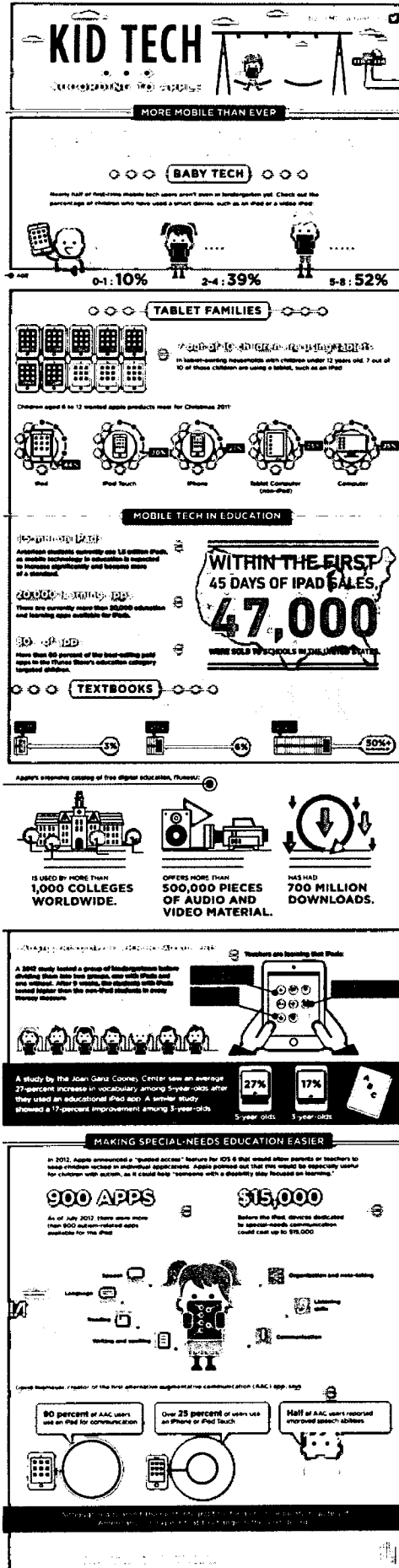
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Appendices

Appendix A: "Kids go gaga over tablets" Infographic



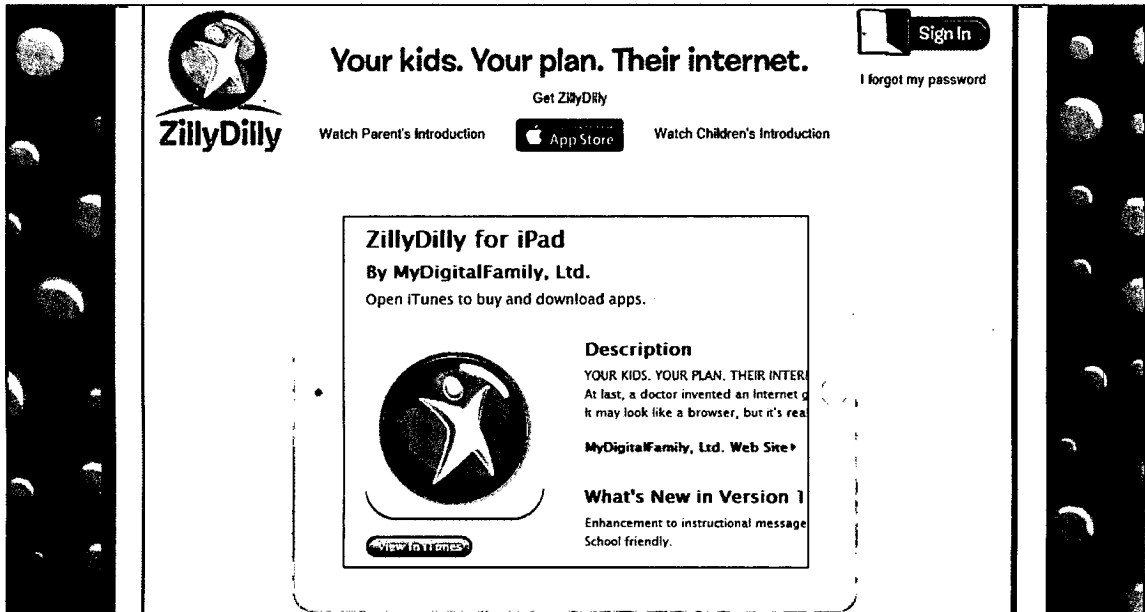
**Appendix B:** "Parental guidelines for healthy tablet use" by the American Academy of Pediatrics (AAP)

1. Ensure that your child's games have an age rating that is appropriate for their age. 90% of teenagers say their parents never check game ratings before allowing them to buy them. Always refer to App Store ratings to ensure the games your child wants are rated for his/her age group.
2. Ensure that any tablet or game use is done in a family setting. Allowing children to use tablets or other smart devices in private can encourage unhealthy and antisocial behaviors. Instead, limit use to family settings, discourage snacking, and accompany your young players in their adventures.
3. Consult fellow parents and trustworthy resources for an accurate, in-depth review of a game/app before purchasing it. If you're unsure of a game's rating or content, check with the child's teacher or use online resources like Common Sense Media to help inform your decision. You can also visit [MyDigitalFamily.org](http://MyDigitalFamily.org) or refer to *Kids, Parents & Technology: A Guide for Young Families* by Dr. S.
4. Limit time spent with tablets/media. Games are good for eye-hand coordination, but they can easily occupy inordinate amounts of time. Be sure that tablet time is balanced with quality family time and activities. Be sure to provide age-appropriate time limits and content.
5. Set good examples. Keep tablets and smart devices in a common area, including your own. Tablets should be treated like appliances, so create a common area where they can be charged and parked to help create media free zones. Refrain from overusing these devices yourself.
6. Balance content between healthy growth and mere entertainment, imaginative creativity and empty-headed reactivity to screen content, reflective and busywork,

handling three-dimensional and other materials like clay and painting and manipulating images on two dimensional screens, and between active play and lazy sitting and snacking. Be aware of signs that your child is over-engaged or addicted to games or a device, and put proper use restrictions in place to counteract this behavior, and don't hesitate to consult a credentialed specialist. The younger your child, the more permanent the impact of damaging experiences to the brain he is forming.

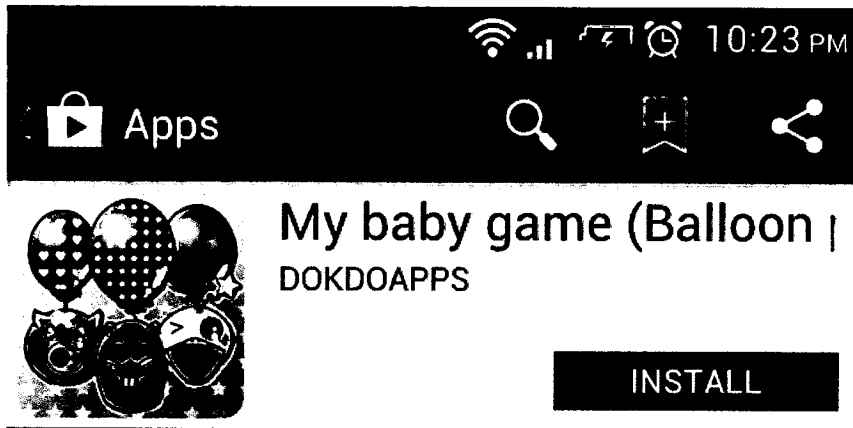
7. Limit web use to age-appropriate sites. It's too easy to stumble upon unsafe or inappropriate online content. Keep online activity restricted to age-appropriate sites and monitor online activity closely. Not all "educational" apps are actually educational.
8. Get involved with your child's teachers to ensure that schoolwork isn't suffering and verify that apps are good for the child. Not all apps claimed as educational truly are. To make sure that you've struck the right balance of tablet use in your home, keep a close eye on your child's school performance. If grades begin to slip, it might be time to revisit his/her media plan and adjust it.
9. Talk to the parents of your child's friends to learn what media they allow in their homes so when your child begins to have sleepovers and play dates, they aren't playing any violent games or spending too much time online or snacking.
10. Require your approval for all game/app purchases. Establish the rule early on that your approval is required for all game purchases. If tablet purchases are made using your personal information, be sure to keep your username, payment information, and password private. This will ensure that no unapproved apps will show up on your device.

Appendix C: "ZillyDilly" Application



## Appendix D: "My baby game" Application

### *Description of the game*



### *Description*

Pop Balloon with your baby!

When first played, your baby may not be able to accurately touch the moving balloon with his/her hand.

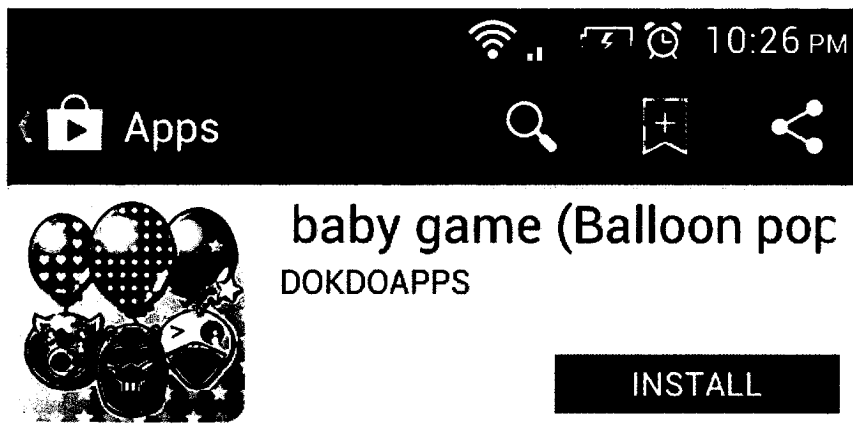
Play the game with your baby consistently for a few days or weeks, and you will be surprised at the mobile development of your baby's hands.

This game must be played in the presence of a parent, and it is encouraged for you to guide your baby through the game at first.

#### ★When to play!

- When your baby is cranky or will not stop crying, playing this application can hold your baby's attention. (The various sounds, animated animals, and vibration stimulate your baby's curiosity.)
- This application may show better results than rattles

*Description of the game*



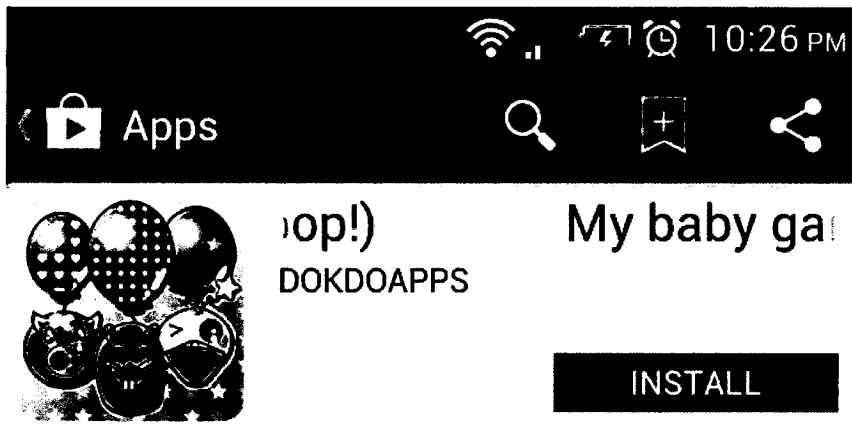
- This application may show better results than rattles or dolls.
- This application is exceptionally handy for parents who spend ample time with their babies but cannot figure out how to fill that time usefully.

This application may be too advanced for infants under 12 months old.

※Caution

- Playing the application for an excessive amount of time or leaving the children alone with the device is not encouraged.
- Be cautious of injury due to dropping the device. (Place the device on a flat surface or hold it in your hand.)
- Keep the device distant from your eyes.
- Babies tend to unawaresly press the "home" button on the device while playing. As this may lead to your baby altering settings on your device, please do not leave your baby alone with your device.

*Feedback and related games' links*



Christmas version (free) : <http://goo.gl/OeB5Z>

Please leave your valuable feedback : <http://goo.gl/zFNL2>

Meet more of our "My Baby" series : <http://goo.gl/6wmxB>

♥You are so good mom, dad. :)

Version 1.70.16

Updated on 06/03/2013

Size: 824KB

Content rating: Everyone

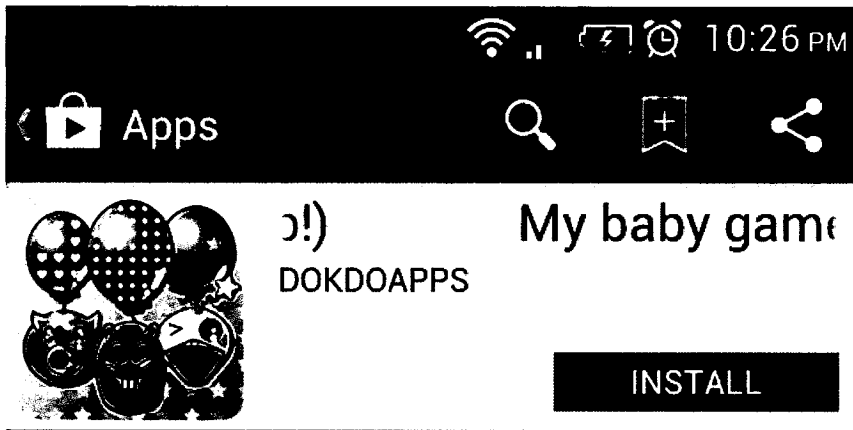


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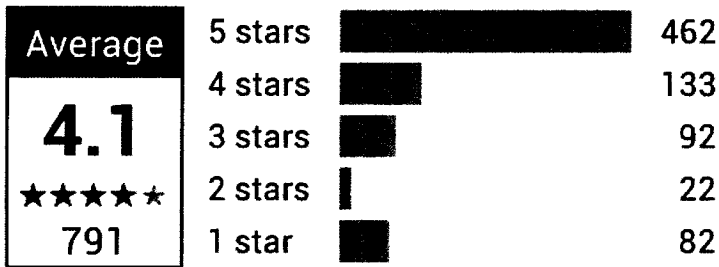
## *What's new*

Add bgm

Parents' feedbacks



Reviews



**Awesome!!**  
 ★★★★★ **Brittany Pitt...** 05/12/2012  
 Motorola Droid X2

My 16 month old & almost 5 year old love this game! They always grab my phone to play and fight for turns! Other than learning to share, they love this app!! \*\*Update: Would LOVE a child lock!! 4\* until that:)

**Bad pop up placement**  
 ★★★★★ **Dana Kay Gr...** 19/02/2013  
 Samsung Galaxy S2

This would get 5 stars, because my baby likes the game but the pop ups are poorly placed



Parents' feedbacks

Apps

Balloon pop!) My b  
DOKDOAPPS

INSTALL

★★★★★ A Google User 16/11/2012

Yes caps lock was necessary. My son is 4yo, autistic and nonverbal. He loves balloon pop games, and this one is a winner. Very simple, easy concept for the kids to grasp, and the surprises in random balloons is fun! If i had one "suggestion" it would be to vary the surprises, maybe some confetti or simple "fireworks" added in...but definitely great as is.

ALL REVIEWS

More by DOKDOAPPS

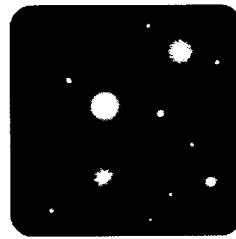
MORE



My baby piano



My baby music boxes



My baby firework

**Appendix E:** Extended focus group closed-ended questionnaire (summary of the answers)

- 1) Relationship to the child: *10 Mothers*
- 2) Age: *34 – 45 – 42 – 35 – 44 – 40 – 37 – 39 – 43 – 41*
- 3) Marital Status: *All married*
- 4) Profession: *Teacher – Social worker – 2 Graphic designers – Beauty specialist – Architect – Banker – 3 none*
- 5) Household income:
  - a. *900 – 1200 /*
  - b. *1201 – 1500 /*
  - c. *1501 – 1800 /*
  - d. *1801 – 2100 /*
  - e. *2101 – 2400 / 2*
  - f. *2401 + / 8*
- 6) Child's gender: *4 females / 6 males*
- 7) Child's age: *3 – 5 – 8 – 8 – 10 – 3.5 – 5.5 – 12 – 8 – 9*
- 8) School: *Saint Coeur Kfarehbab – 2 College Notre Dame de Louaize – Champville – 3 Antoura – Jamhour – Saint Joseph School – Antonine International School*
- 9) Child's grade at school: *Excellent / A+ / A / C+ / A / A / 17 / B / A / Not in school yet*
- 10) How many hours of sleep does the child have per night?
  - a. *Less than 6 /*
  - b. *6 – 7 / 1*
  - c. *8 – 9 / 3*
  - d. *10 + / 6*
- 11) Does your child have and iPod, iPad, iPhone or any other touchscreen?
  - a. *Yes, please name it / 3 iPad belongs to the mom – 4 iPad – mini iPad – 3 iPod – iPhone – (some children have 2 of these devices)*
  - b. *No*
- 12) How much time does your child spend on this device per day?
  - a. *Less than 30 min / 1*
  - b. *30 min*
  - c. *30 min – 1 hr / 2 (1 for 3 times per week)*
  - d. *1 hr – 2 hrs / 4*
  - e. *2 hrs – 3 hrs / 3 (1 only weekends)*
  - f. *3hrs +*
- 13) Do you monitor your child while using the device? *2 no – 4 yes - 4 sometimes*
- 14) Do you know what applications your child uses the most? What's his favorite app? *2 no – 8 games (they named them)*
- 15) Do you allow your child to take his/her tablet to school? *1 sometimes – 8 no – 1 doesn't go to school yet*

**Appendix F:** Extended focus group open-ended questionnaire (summary of the answers)

1) How was your child introduced to these devices?

*Mainly through his/her friends who possess the device*

2) Do you notice any particular reaction your child makes while using the device?

*It depends on the application he/she is using and on the character of the child, but most of the time he/she is totally focused*

3) Do you notice any particular reaction your child makes after using the device?

*No / excited / sleepy / very happy if he/she wins / a bit upset because he wants to play more yet he/she is limited with timeframe*

4) When your child is playing with the device, can he/she concentrate on other things as well? Or he/she is totally disconnected from the world?

*He/she can sometimes concentrate, when he/she decides to, he/she concentrates on other matters of his/her interest*

5) How much time do you spend with your child talking? Does he/she spend time with you? Watch TV together?

*Yes we do both (talking and TV), the total time is 2 to 3 hours, not more.*

6) Do you use these devices? How much time do you spend on them?

*Yes, 1 to 2 hours in the presence of the children. We make sure not to use it very often in front of them in order to spend quality time with them as much as possible*

7) Does your child eat while playing with these devices?

*Yes, chips, pop corn, anything easy to eat/ No*

8) If yes, do you think it's a reason why he/she would become fat?

*Yes but not directly, because he/she used to move more before getting the touchscreen*

- 9) When you go out for a ride does he/she take his device with him?

*Yes, but he/she doesn't use it all the time. It depends on the character of the child*

- 10) Can you say that your child is addicted to this device?

*Yes*

- 11) If you deprive him of using it does he become depressed?

*No*

- 12) Does your child spend his spare time in any other ways? Name them

*Yes, he/she watches TV, do some sports, outside or on DVD*

- 13) Does your child participate in any social/volunteer/service activities?

*Yes, scout, taekwondo, dancing class...*

- 14) How do these devices generally affect the child socially in your opinion?

*We're not against it, it has its pros and cons. At the end of the day, it is a must and our children should be up to date with the latest technologies, yet it has to be used moderately*

**Appendix G1:** Interview with a Social Worker, Mrs. Julie Kai. (summary of the answers)

1. Starting which age can we consider that a child may own a touchscreen?  
*13 – 14 years old.*
2. How much time, do you think, should a child spend on these devices?  
*Not more than 1 hour, controlled by the parents.*
3. Does playing with a touchscreen affect the grades a child gets in school?  
*If controlled, no!*
4. Knowing that sleep is very important for a person's well being and concentration during the day, does playing with a touchscreen affect the child's ability to sleep and to concentrate in school?  
*No.*
5. When a parent monitors his/her child when using the device, what are the dos and don'ts that should be taken into account?  
*Check previous games played, and notably the type of game (violent, educative).*
6. Do children use these devices because they are imitating their parents? If yes, how do you describe the role of the parents in this regard?  
*They imitate their friends first, yet there should be a working place in the house where the parents can easily use the device in order to avoid any imitation.*
7. Do some games limit the imagination of the child?  
*Of course, sometimes negative and aggressive imagination.*
8. Are some applications better than others?

*Yes, educative games.*

9. Can we consider these games as a good way for romping?

*No, he/she can spend his/her time in better other ways.*

10. Do you agree that these games and especially the violence in them (if any) can be considered as a therapy to express aggression and vent out offensive tendencies?

*No, it creates aggressivity.*

11. Do these games make the child believe that their contents do exist in real life?

*Yes.*

12. Confucius the famous Chinese philosopher claimed that "playing is better than doing nothing at all", what do you think?

*I agree.*

13. Do you think that these devices may increase the child's inactivity and hence cause obesity?

*No, I don't think so.*

14. Do you think that these devices can be considered as a new means of intelligence?

*Yes, children are more blooming. However, they can create bad intelligence.*

15. How do you see children of our days in the workplace in the future?

*They would learn more and hence get higher posts at work.*

16. Do you believe that kids who interact with the screen learn faster?

*Yes because children mainly learn visually.*

17. Does frequent touchscreens usage lead to addiction and depression?

*Addiction: yes. Depression: not necessarily.*

**18.** Do online environments provide shy children a virtual space where they can develop confidence?

*Yes, this might be true, but this would limit his social interaction.*

**19.** How do these devices generally affect the child socially in your opinion?

*Touchscreens could be positive just like they could be negative. This depends on the parents' way of monitoring the child.*

**Appendix G2:** Interview with a Pediatrician, Mrs. Hala Kai. (summary of the answers)

1. Starting which age can we consider that a child may own a touchscreen?  
*He/she can use it starting 3 – 4 years old; and own it starting 10 years old.*
2. How much time, do you think, should a child spend on these devices?  
*It depends on the age. 45 min max.*
3. Does playing with a touchscreen affect the grades a child gets in school?  
*It could.*
4. Knowing that sleep is very important for a person's well being and concentration during the day, does playing with a touchscreen affect the child's ability to sleep and to concentrate in school?  
*Yes, if used directly before the child goes to sleep, especially if the game requires concentration.*
5. When a parent monitors his/her child when using the device, what are the dos and don'ts that should be taken into account?  
*Don'ts: unlimited Internet access, no age ratings for games.*  
*Dos: intellectual research, reasoning and logic games, arts.*
6. Do children use these devices because they are imitating their parents? If yes, how do you describe the role of the parents in this regard?  
*No, they are attracted by these things by nature. Yet if the parent uses the device excessively, it becomes a "family" habit.*
7. Do some games limit the imagination of the child?  
*Yes, because he/she is not using some of his senses: touch, feel, taste.*
8. Are some applications better than others?



*Of course.*

9. Can we consider these games as a good way for romping?

*No. he/she can do it in other ways.*

10. Do you agree that these games and especially the violence in them (if any) can be considered as a therapy to express aggression and vent out offensive tendencies?

*Big NO.*

11. Do these games make the child believe that their contents do exist in real life?

*Yes.*

12. Confucius the famous Chinese philosopher claimed that "playing is better than doing nothing at all", what do you think?

*Definitely.*

13. Do you think that these devices may increase the child's inactivity and hence cause obesity?

*Definitely.*

14. Do you think that these devices can be considered as a new means of intelligence?

*They can, if they are well used for this purpose.*

15. How do you see children of our days in the workplace in the future?

*Very successful, with high electronic intelligence and low social interaction.*

16. Do you believe that kids who interact with the screen learn faster?

*Yes.*

17. Does frequent touchscreens usage lead to addiction and depression?

*Addiction: definitely, just like alcohol and cigarettes*

*Depression: yes, because the child is not able to communicate and this might lead to hyperactivity.*

**18.** Do online environments provide shy children a virtual space where they can develop confidence?

*Yes, it is a step to move forward, but they need to face people as well.*

**19.** How do these devices generally affect the child socially in your opinion?

*No social interaction.*

**Appendix G3:** Interview with a Psychologist, Mrs. Elise Bitar. (summary of the answers)

1. Starting which age can we consider that a child may own a touchscreen?  
*2.5 – 3 years old.*
2. How much time, do you think, should a child spend on these devices?  
*1 – 2 hours. Depends on the age.*
3. Does playing with a touchscreen affect the grades a child gets in school?  
*Depends on the type of game.*
4. Knowing that sleep is very important for a person's well being and concentration during the day, does playing with a touchscreen affect the child's ability to sleep and to concentrate in school?  
*Yes, if played directly before going to sleep. If not, it doesn't affect him/her.*
5. When a parent monitors his/her child when using the device, what are the dos and don'ts that should be taken into account?  
*Time, type of game, variety of games.*
6. Do children use these devices because they are imitating their parents? If yes, how do you describe the role of the parents in this regard?  
*It is not a direct cause; the device is attractive by itself for the child.*
7. Do some games limit the imagination of the child?  
*Yes of course, especially the games that don't require strategies creation.*
8. Are some applications better than others?  
*Of course, educational and strategic games, mazes...*
9. Can we consider these games as a good way for romping?  
*All depends from the type of game.*

**10.** Do you agree that these games and especially the violence in them (if any) can be considered as a therapy to express aggression and vent out offensive tendencies?

*Yes, but at the same time there is a risk of applying the game in real life.*

**11.** Do these games make the child believe that their contents do exist in real life?

*Yes.*

**12.** Confucius the famous Chinese philosopher claimed that “playing is better than doing nothing at all”, what do you think?

*True, and these games shouldn't make us afraid if well used. The child shouldn't refrain from playing outside.*

**13.** Do you think that these devices may increase the child's inactivity and hence cause obesity?

*Yes of course because he/she is not doing any physical activity.*

**14.** Do you think that these devices can be considered as a new means of intelligence?

*No, because intelligence exists in different functions, and each function is used in a different game, just like it might not be used.*

**15.** How do you see children of our days in the workplace in the future?

*They're better than us technology wise, but I have doubts about their social life at work, they will be more selective.*

**16.** Do you believe that kids who interact with the screen learn faster?

*All depends on the learning access style they have (auditory, visual or kinesthetic)*

**17.** Does frequent touchscreens usage lead to addiction and depression?

*If the child has a tendency to get affected, yes. If not, he/she will go play with something else without being asked to do so.*

18. Do online environments provide shy children a virtual space where they can develop confidence?

*Right, but to what extent? This won't help him/her in real life.*

19. How do these devices generally affect the child socially in your opinion?

*If they are well used, they can be considered like any other game. If the child plays alone all the time it will definitely affect his/her social life. Parents should monitor and limit the time spent on them.*