



Young children (0-8) and digital technology

THE NATIONAL REPORT FOR MALTA



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Executive summary

The Malta National Report forms part of a Europe-wide project on the use of digital technologies by families with young children in Malta. The study, which was conducted in conjunction with the Joint Research Centre (JRC) of the European Union, discusses the level of technologisation of childhood in Malta, the use of digital devices by families, finding the right balance when using technology, and the changing role of parents and their concerns. Recommendations are made about the integration of digital and non-digital practises, promoting emergent literacy, internet safety, school curricula and teacher preparation, strengthening of home-school links, the role of libraries, use of technology in bilingual and multilingual settings, technology use policy, and public awareness about the impact of digital technologies.

Key findings

A) The Technologisation of Childhood

- 1) Most of the children were actively using digital devices since they were one year-old or earlier.
- 2) The children were attracted to the touch screen capabilities and the portability of the smartphones and tablets.
- 3) The digital devices were used mainly for entertainment purposes in the homes.
- 4) Oftentimes the children's games were influenced by what they watched on TV and online.

B) The Use of Digital Devices

- 5) TV watching was the most popular activity. The second most popular digital device was the smartphone and in third place was the tablet.
- 6) It was common for the children to use their parents' devices. The children had a sense of ownership, even though some of them did not have their 'own' device.
- 7) The children were versatile when using the digital devices. Most of them learnt how to use the devices by observing their parents or by handling them on their own.
- 8) The use of digital devices was highly supervised by the parents.

c) Finding the Right Balance

- 9) The children used digital devices (tablet, smartphone, TV etc.) but played with traditional toys as well (dolls, ball, building blocks etc.).
- 10) Some parents were concerned that there was not enough balance between the use of digital technologies and other non-digital activities in their children's lives, and that their children may become over-reliant on technologies.
- 11) Children were using digital devices more frequently than their parents thought.

d) The Changing Role of Parents

- 12) Family life was strongly influenced by the use of digital technologies. Parents believed that this had changed their role as parents.
- 13) The children's attitudes towards digital technologies reflected often those of their parents.
- 14) At times children were more proficient in using certain features of the digital devices than their parents.
- 15) Many joint activities between the children and their parents involved the use of digital technologies (e.g. watching movies, playing games etc.).
- 16) Digital devices were often used as a reward/punishment strategy by the parents.
- 17) Digital technologies and the Internet were a means of connecting families as they used them together and to communicate with members of the family who were abroad.
- 18) The parents recognised the importance of digital technologies for their children's upbringing. Most of the parents believed that digital technologies have a lot of potential for the educational and creative development of their children.
- 19) The parents believed that children needed to be guided and supervised when using the devices.
- 20) The rules set by the parents about their children's use of digital devices were changed according to the age of the children.

E) Parental Concerns

- 21) The parents were aware of the risks associated with the overuse of digital devices and of unsupervised access to Internet. Some of the parents were not sure about how to address this situation.
- 22) Some parents were concerned that they could not ensure the balanced use of digital devices by their children when they could not supervise them (e.g. at school or with friends).

- 23) Online safety and accessing violent games were some of the main concerns of the parents. The children were almost always supervised when going online and parents had control over the apps and games their children had access to.
- 24) Most of the parents were concerned also about their child's online safety in the future when they start using the Internet, especially social media, more frequently.

Recommendations:

1) Integrating Digital and Non-Digital Practices

The children in our study enjoyed playing with both digital and non-digital toys. Parents and educators require support and guidance to recognise how digital and non-digital practices may be combined. Studies like that of Price, Jewitt, & Crescenzi (2015) indicated differential benefits and limitations of the use of touch screen technologies in pre-school learning contexts. They suggested that these technologies should complement other activities, such as physical painting, which involve messy and sensory experiences. Parents need to be supported to find examples of good apps and e-books to share with their children and to be able to access advice offered by other parents and educators. Parents of children who have specific learning needs require well-informed advice to understand how digital technologies can support their children.

2) Promoting Emergent Literacy

Our findings showed that although the children read digital books, print books were also valued highly by most of the families. Young children's experiences with literacy at home determine the development of emergent literacy. There is already some evidence about the impact on literacy development of increased use of touch screen tablets, like iPads, in homes and early education settings. Studies like that of Neumann (2016) showed a positive association between children's access to apps and print knowledge. A positive association was found between the frequency of writing with tablets and print awareness, print knowledge and sound knowledge. Further research is required to investigate the effects of tablet writing on literacy development. Such research should illuminate policy and practice in this field and provide the sufficient basis for parental and early childhood teacher education. Parents and educators need to recognise how print and e-books can complement each other.

3) Internet Safety

Most of the parents expressed concern about the internet safety of their children. Parents should become more aware of the ways in which their children are using digital devices and of what they are in fact watching and playing. The parents claimed that they supervised their children's online activities. However, when asked specific questions, some of them could not identify which sites their children were accessing and which games

they were playing. Parents need to become more engaged and involved in the online life of their children. They need to be supported to be able to reduce their children's exposure to inappropriate content. Parents need to make more efficient use of the parental control apps. More effective and user-friendly apps should be developed to allow parents to monitor better the online activity of their children. Parents are to explain to their children and to discuss with them the reasons for establishing boundaries for their online activity. In this way children gain the maturity to be able to engage in the required self-regulation.

4) School Curricula and Teacher Preparation

Most of the children in our study experienced digital technologies and texts at school too. Schools should include digital awareness and education in a more systematic way in their early childhood education curricula. Early childhood educators require relevant training in the use of digital technologies, both in their initial teacher education and as part of their on-going professional development.

5) Home-School Links

It is important that children receive consistent messages about the use of digital technologies from home and school. Early childhood educators need to be able to strengthen the home-school links with regard to the use of digital technologies. This should ensure better harmonisation between the parents and the teachers when guiding the children in the use of digital technologies.



6) Libraries

The local community needs to provide additional digital resources for children to support families and schools. Libraries are to make available age-appropriate and educational apps for children. They are to offer programmes about the benefits and risks of digital technologies for parents and children.

7) Bilingual and Multilingual Settings

In view of bilingual and multilingual settings, like the Maltese context where both Maltese and English are the languages of schooling, more digital content needs to be made available in the home languages and in diverse languages. Most of the digital content available is in English. Child friendly apps in local languages should be developed and promoted.

8) Technology Use Policy

Clear policies about internet safety in homes and schools are to be developed and made accessible. Children, parents and teachers in Malta are presented with literature in both Maltese and English about internet safety outlining both the benefits and risks of online activities. Policy-making should be evidence-based. More research is required on the uses of digital technologies in homes and in schools to guide policy.

9) Public awareness about the impact of digital technologies

There needs to be more public awareness about the impact of digital technologies on contemporary life. Public awareness campaigns by public agencies about the use of digital technologies should target the general public and specific sectors like children, parents, educators, etc.

1. Introduction

This Malta study is conducted in the framework of the JRC's Project ECIT, Empowering Citizens' Rights in emerging ICT (Project n. 572). ECIT deals with the "identification of new threats to children by ICT besides social networks and the development of recommendations to empower children's rights by preventing and mitigating these emerging issues through education, school and community co-vigilance, as well as reconciliation of digital and personal interactions".

Research focusing on the benefits and challenges associated with children's use of the Internet has, so far, mainly targeted 9-16 years old (see, for example, the EU Kids Online research carried out since 2006). However, research shows that children are going online at an increasingly younger age and "young children's lack of technical, critical and social skills may pose [a greater] risk" (Livingstone et al., 2011, p.3). In spite of the substantial increase in usage by very young children, research seems to be lagging behind. Therefore, research targeting 0-8 years old and which explores the benefits and risks of their online engagement is imperative.

In collaboration with a select group of academic partners in different European countries, the present study is a qualitative study that explored young children and their families' experiences with new technologies in Malta. In particular, we looked at their (online) technological engagement as well as the potential benefits and risks associated to their (online) interactions with new technologies. The results of this study should serve as a basis for policy recommendations¹ and indicate what should be looked at when launching larger EU studies on the benefits and challenges associated with young children's use of new (online) technologies.

The aim of this research was to generate data to address the overall question: *In what ways, if any, are children and/or their families empowered by the use of new (online) technologies? In other words, what benefits or risks can be identified from the research, regarding young children's use of digital technologies at home?*

In 2015, four areas of specific investigation were identified (see below). The first two areas were core to the study, and the second two were investigated as additional areas, insofar as time with the families allowed.

In general, the interviewees focused on the HOW, WHY and their own observations. They explored and took notes about interesting quotes/stories from the children and the parents.

- ▶ Research Question 1: How do children under the age of 8 engage with technologies?
- ▶ Research Question 2: How are technologies perceived by the different family members?
- ▶ Research Question 3: What role do these technologies play in the children's and parents' lives?
- ▶ Research Question 4: How do parents manage their younger children's use of technologies?

¹ In the framework of the EU agenda for the Rights of the Child (2011) and the European Strategy for a Better Internet for Children (2012)

Four dimensions were identified (Use, Perceptions/Attitudes, Individual Context, Family Context) and linked to the 4 research questions. These were framed as follows:

Table 1: The research questions framed within the 4 dimensions

	Individual Context	Family Context
Use	RQ 1: Individual Use: children/ parents	RQ 3: Family Use/Dynamics/ Practices
Perceptions/ Attitudes	RQ 2 : Awareness of risks/ opportunities <ul style="list-style-type: none"> ⦿ for the children ⦿ for the parents 	RQ 4: Parental Mediation <ul style="list-style-type: none"> ⦿ Passive/active ⦿ Restrictive/ permissive ⦿ Implicit/explicit ⦿ Reverse mediation



The Maltese Context

Malta is an archipelago located in the centre of the Mediterranean Sea. The population of about 420,000 is concentrated on the three islands of Malta, Gozo and Comino. Maltese is the first language for the large majority of the population. Most of the Maltese population are also proficient in English at varying degrees. Maltese and English are the official languages and the languages of schooling.

Over 80% of the Maltese households have access to computers, while 70% of them make use of mobile phones. Around 73% of the people aged 16 to 74 are regular internet users, 60% of them are making use of eGovernment services and 64% use online shopping and services. However, only 82% of the computer users have basic e-skills and 32% of the internet users use cloud computing services. (National Statistics Office, Malta, 2015)

The Maltese educational system promotes inclusive and free quality education for all in the state institutions, from early childhood education and care to tertiary education. Formal education in Malta is offered by the State, the Catholic Church and the Independent sector and is divided in four stages: early years (from 3 to 6 years), junior years (from 7 to 11 years), middle years (from 11 to 13 years) and secondary years (from 14 to 16 years). Almost all children attend kindergarten classes from the age of 4, although this is not obligatory. All the children who took part in the study had been enrolled in preschool and primary school for at least 2 or 3 years and could read, write and communicate in both Maltese and English to varying degrees. The children in the study spent between 6 and 8 hours at school and all of them were enrolled in a number of extracurricular activities, like football, ballet, different clubs etc. after school hours or during the weekend.

There is limited research on the use of digital technologies by young children and their families in Malta. Palaiologou (2016) conducted a study of digital technologies used by children under the age of five at home and the attitudes of their parents. All the Maltese families from the study had access to a TV, a computer and the Internet. The majority of the families had positive attitudes towards technologies, and 68% of the parents found them to be useful for their children's learning.

A Policy document: Digital Literacy, 21st Century Competences of our Age (Ministry for Education and Employment, 2015) sought to raise awareness of the importance of digital literacy among teachers in Malta. The National Literacy Strategy for All in Malta (Ministry for Education and Employment, 2014) placed emphasis on digital literacy. Tablets were rolled out to a number of classes of seven and eight year-olds in 2015. They were intended mainly to support the national policy of balanced literacy teaching and learning. Findings from a study (Mifsud & Grech, 2017) of five primary classrooms showed that the teachers integrated the use of tablets in their teaching for a number of creative literacy activities in the two languages of schooling in Malta, Maltese and English. Relevant apps were used to support reading and writing activities, such as reading comprehension, guided and creative writing in both languages.

2. Method

2.1 Procedure

The study was conducted according to the research protocol recommended by the JRC. A team of two researchers from the University of Malta visited the homes of ten families. They conducted semi-structured interviews with the children and their parents, and observed how the children were using digital devices. The interview schedule was developed by the JRC team and then adapted and translated for the Maltese context by a team from the Centre for Literacy at the University of Malta. Each visit consisted of introductions, a briefing about the project, an ice-breaking activity, interviews with the parents and the children, and observation of how the children were using digital devices. Individual and family games were used to prompt the family members to talk about digital technologies.

2.1.1. The sampling procedure

The Centre for Literacy project team used the snowball sampling technique – asking colleagues and acquaintances if they knew someone who has a 6-7-year-old child and was willing to participate in a study about digital technologies. They sought to recruit families from different parts of Malta and families with different socio-economic statuses. The response rate was good and the desired sample size was reached.

The parents were first contacted on the phone by one of the researchers who explained the purpose of the study in more detail. A face-to-face meeting was arranged with those parents who showed an interest to participate. They were informed that participation was strictly voluntary and they were free to withdraw their participation at any stage of the research process. Those parents who accepted were presented with an invitation letter and asked to sign a consent form, of which they received a copy. The aims of the research were explained again at the beginning of each house visit. At the end of the study the families were presented with small gifts from the JRC, book vouchers from the Centre for Literacy and materials related to online safety.

2.1.2. The Research Participants

The research participants were ten families with at least one child who was 6 to 7 years of age. They were from different parts of Malta. The income brackets of the parents were deduced according to average earnings for their respective occupational or professional categories. The parents in two of the families were separated and did not live together. Two of the families had adopted children from other countries. All the participants were Maltese nationals.

The age of the children in the study ranged from 4 to 10 years. The primary focus was on the 6-7 year-old child of each family. The family structures were as follows: two of the children were a single child, five had a younger sibling, one had an older sibling, a set of six year-old twins, and one girl was the middle child in a family of three children. A detailed description of the sample is presented in the table below:

Table 2. Research participants

Family code	Family income	Gender	Age	School Year/ Level of education	Profession of parents
MT01	Medium	M	39	Tertiary	Accountant
MT01	Medium	F	39	Tertiary	Primary school teacher
MT01	Medium	F	6	Year 2	
MT01	Medium	F	4	Kindergarten	
MT02	Medium	M	41	Secondary	IT employee
MT02	Medium	F	38	Secondary	Part-time employee
MT02	Medium	F	6	Year 2	
MT02	Medium	F	5	Kindergarten	
MT03	High	M	39	Tertiary	Lawyer
MT03	High	F	38	Tertiary	Part-time employee
MT03	High	F	7	Year 2	
MT03	High	F	4	Kindergarten	
MT04	Low	M	41	Secondary	Carpenter
MT04	Low	F	40	Secondary	Kindergarten assistant
MT04	Low	F	10	Year 6	
MT04	Low	M	7	Year 4	
MT05	Medium	M	42	Tertiary	Secondary school teacher
MT05	Medium	F	43	Tertiary	Secondary school teacher
MT05	Medium	F	6	Year 2	
MT05	Medium	M	6	Year 2	
MT06	Medium	M	39	Tertiary	Bank clerk
MT06	Medium	F	37	Tertiary	Journalist
MT06	Medium	M	6	Year 3	
MT07	Medium	M	44	Tertiary	University Lecturer
MT07	Medium	F	44	Tertiary	Language support assistant
MT07	Medium	F	9	Year 5	
MT07	Medium	F	7	Year 3	
MT07	Medium	M	4	Kindergarten	
MT08	Low	M	39	Secondary	Machine maker
MT08	Low	F	33	Tertiary	University student
MT08	Low	F	7	Year 3	
MT08	Low	M	4	Kindergarten	
MT09	High	M	47	Tertiary	Medical professional
MT09	High	F	37	Tertiary	Medical professional
MT09	High	F	7	Year 3	
MT09	High	F	4	Kindergarten	
MT10	Low	F	Not known	Secondary	Childcare assistant
MT10	Low	M	7	Year 3	

2.1.3. Implementation of the protocol of observations

The interviews and observations were conducted over seven weeks between November 2015 and January 2016 in the homes of the families at a time of their choice, sometimes after work hours, during the weekend or on public holidays. Each visit lasted about one and a half hours, but never longer than two hours. Two researchers were present during each interview and observation. One researcher carried out the interviews with the parents and the other one interviewed and observed the children.

The interview schedules and observation protocols for the parents and the children prepared by JRC and adapted for the local context were implemented. All the visits were structured in the same way. At the beginning the researchers introduced themselves, and explained the aims and the objectives of the project. The parents were given hard copies of the information letter and the consent forms and the opportunity to withdraw their consent. A verbal consent was requested from all children participating in the interview. During the individual interview the parents and the children had the possibility to stop the interview if they wished.

The interviews started with the ice-breaking activity (Activity Book – Play and Learn Online: Being Online). The game helped the family members to relax and to interact with each other providing us with insights about the use of technologies in their everyday lives. Either the parent or the child usually took the lead, however the siblings often gave ideas and suggestions regarding the activities performed by the families.

After the ice-breaking activity, the parents went to another room for their individual interview. Only one mother did not agree with this arrangement and both interviews were conducted in the same room. One family requested the presence of another family member in the beginning of the interview with the child.

The research focus was on the 6-7 year-old children. However, at times the siblings took part in the games or the interview. The interviews with the children started with the card game. The children were presented with cards showing a number of digital devices and traditional toys. They were asked to sort out these cards under other marker cards showing sad, happy and neutral faces according to how they felt about a particular device or a toy. The interviewer discussed the children's choices with them and sought to follow their prompts, based on their interests and preferences. Some of them appreciated the opportunity to have additional "unregulated" time with the tablet, outside the usual time parameters set by their parents. Some of the children, who did not have access to their devices during the interview, were shown screen shots of popular websites (such as Google and YouTube) and asked questions about them. Most of the children enjoyed answering the questions and showing off their devices.

During the interviews the children showed the researchers their favourite games or apps for taking photos. They did not access internet during the interviews. Some of them had to run back and forth to their parents to request permission for the use of the devices. If the interview with the child finished before that with the parents, the children were given the choice to either draw a picture or to play a memory game using the cards.

All interviews ran smoothly, apart from the interview with Carl, who appeared to have some difficulties to understand both Maltese and English. He was helped by his older sister when he hesitated on some of the questions. Another case was when Mark and Ella, the twins, became overexcited and stopped giving relevant answers to the questions. They were given the choice by the researcher to stop the interview. However, after having a minute to reflect on it, they resolved to behave better and to continue the interview. At the end they seemed to having enjoyed the interview and the memory game.

2.1.4. Recording

All parents were asked for permission to audio and video record the interviews. All parents accepted that the child and parent interviews were audio-recorded. Only two families did not allow the interview with the child to be video-recorded. Transcripts of the interviews were drawn up. The audio-recording of two of the parent interviews were unsuccessful due to technical issues. However, the interviewer had taken very detailed notes which allowed him to reconstruct the answers given by the parent.

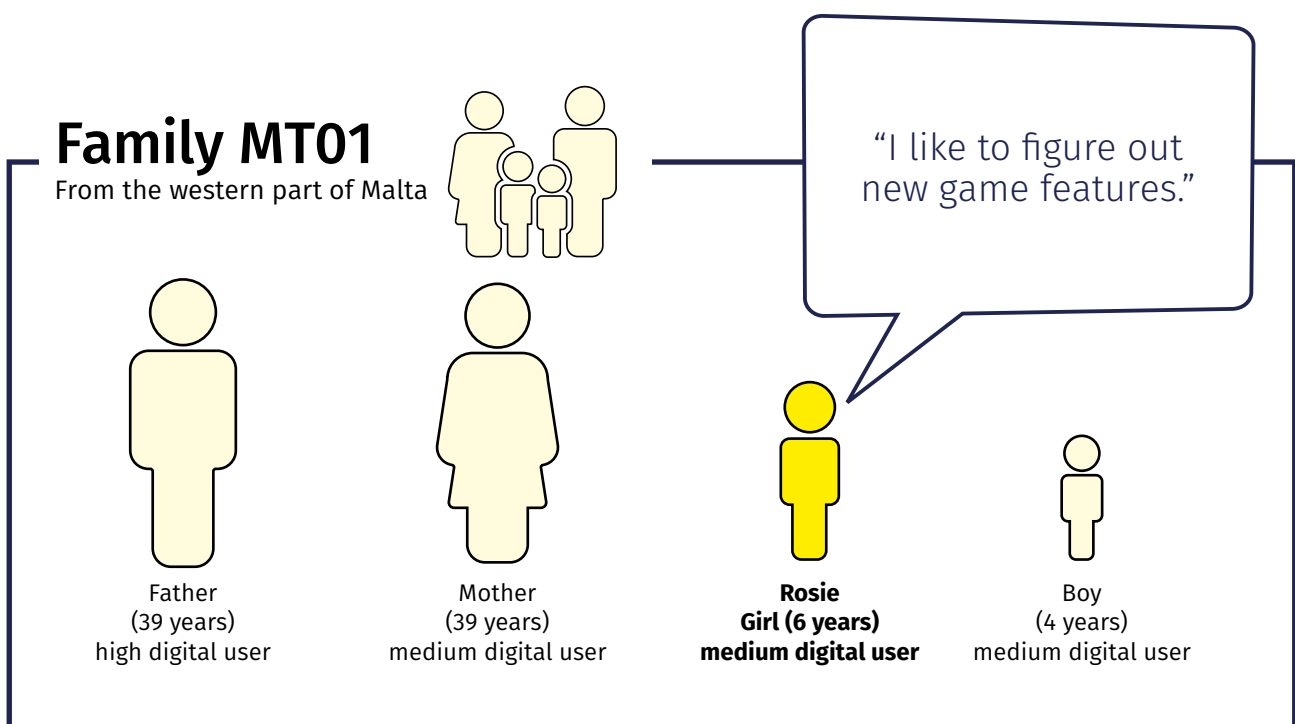
2.1.5. Implementation of the protocol of analysis

The relevant parts of the interviews with the parents which related directly to the research questions were transcribed in the language in which they were held, either in Maltese or in English. Eventually for the purpose of the analysis and the report which was drawn up in English, all the Maltese transcripts were translated back-to-back into English. Some parts of the discussion, unrelated to the research questions, were not fully transcribed but only summarised in writing (Flick, 2009). All the interviews with the children were conducted in English. Again transcription was provided only for those parts which related directly to the research questions. During the analysis stage the recordings were reviewed again and relevant information was added from the researchers' extensive notes which might have been missed during the first stage of the transcription.

Thematic analysis was used to analyse the findings. All notes and interview transcripts were coded according to the research questions. Most of the questions in the interview schedule covered the topic children engagement with technology. In some cases, the answers of the questions given by the parents and the children were slightly contradictory, which is also reflected in the analysis of the replies.

3. Family Portrait Gallery

This section presents short narratives of the ten families involved in the study in order to contextualise the findings and to provide a window on their specific circumstances.



Narrative

The family lived in a big, bright flat in the Western part of Malta. The research team was invited into a big, combined living and dining room. In the living room part there were a sofa, a flat screen TV and many toys. The whole family was present during the interview: the father, an accountant; the mother, a primary school teacher; and their two children, a 6-year-old girl Rosie who attended a Church school and her 4-year-old brother, who attended an independent school. The family was expecting the researchers and seemed very excited about the interview. The boy was very quiet at first, but later on showed an interest in the researchers and tried to get their attention. He spent about 10 minutes talking to one of them about his action figure toys.

After completing the family game, the parents and the boy remained in the same room. Rosie accompanied by the researcher went to another room in the house. In this room there were books, toys and a small radio set. The girl told the researchers that she knew how to operate the radio and showed them some of her

CDs. She liked children's songs and classical music, namely Mozart. She explained how her mother and their housemaid liked to listen to music while cleaning the rooms and making the beds. Her mother's favourite singer was Bruno Mars. Five minutes into the interview, Rosie's brother came running into the room so that he could *"answer the questions like his sister"*.

The children were energetic, intelligent and respectful towards their parents. Digital devices were part of the family life, but so were print books, paints and drawing materials, building blocks and extracurricular activities, like drama and ballet. Rosie liked to imitate famous singers while watching music shows on TV. The children did not know how to operate the TV set by themselves and required the permission and assistance of their parents to be able to watch TV. They usually watched cartoons or other programmes on the BBC Entertainment channel. Sometimes, with the permission of their parents, the children made use of the family iPad and their mother's smartphone.

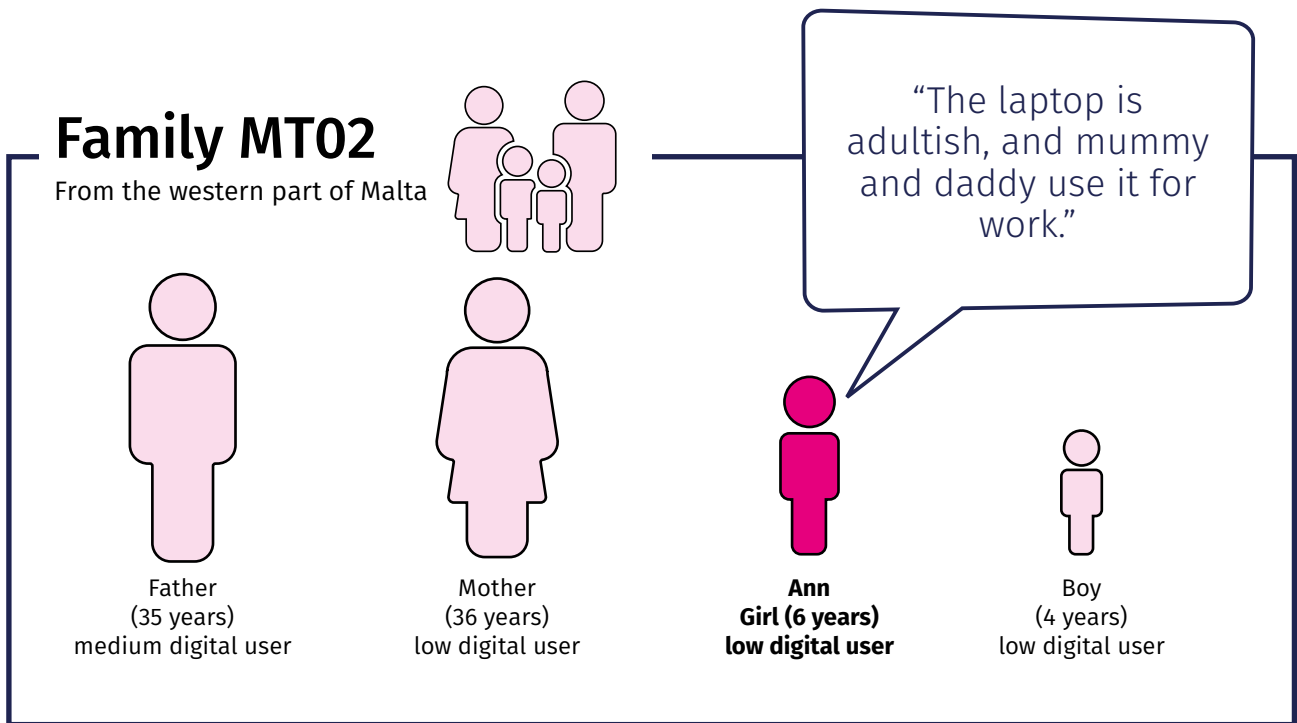
Rosie started using the iPad when she was four years-old. She learnt how to use it through observing her parents and on her own. She had also IT lessons at her school. Rosie played games, watched YouTube videos on the tablet, and took photos with it. There were no games on her mother's smartphone. Rosie watched YouTube videos on it and took photos with it. All internet related activities of the children were performed under the supervision of the parents. The father downloaded games and apps on the iPad for the children. Sometimes they asked him for specific games (e.g. Rosie told us that she had recently asked for Ariel and Star Wars games). Sometimes she looked for the games with her father on the iPad.

The girl's new favourite digital game on the tablet was Winx (a dress up game with fairies). She found it a bit difficult, but she liked *"to figure out new stuff"*. She knew about her brother's favourite games and she liked to help him to use the iPad. The girl was allowed to use her mother's laptop and the family computer. She did not like very much the family computer as it was slow.



The parents regulated how and when the children used technology. They were allowed more time as they grew older. The parents decided together the boundaries for their children's use of technology. The rules were the same for both children. They had to obtain permission from their parents to use the devices, to share them and to take turns.

All the members of the family had a positive attitude towards technology. They understood the importance and benefits of technology. However, the parents were concerned that their children may come across objectionable materials or persons with bad intentions on the Internet. They worried that someday they would not be able to guide their children and to supervise their use of the Internet and mobile devices. The mother aspired to inculcate in her children a love for books so that they could enjoy them, and not focus too much on the Internet.

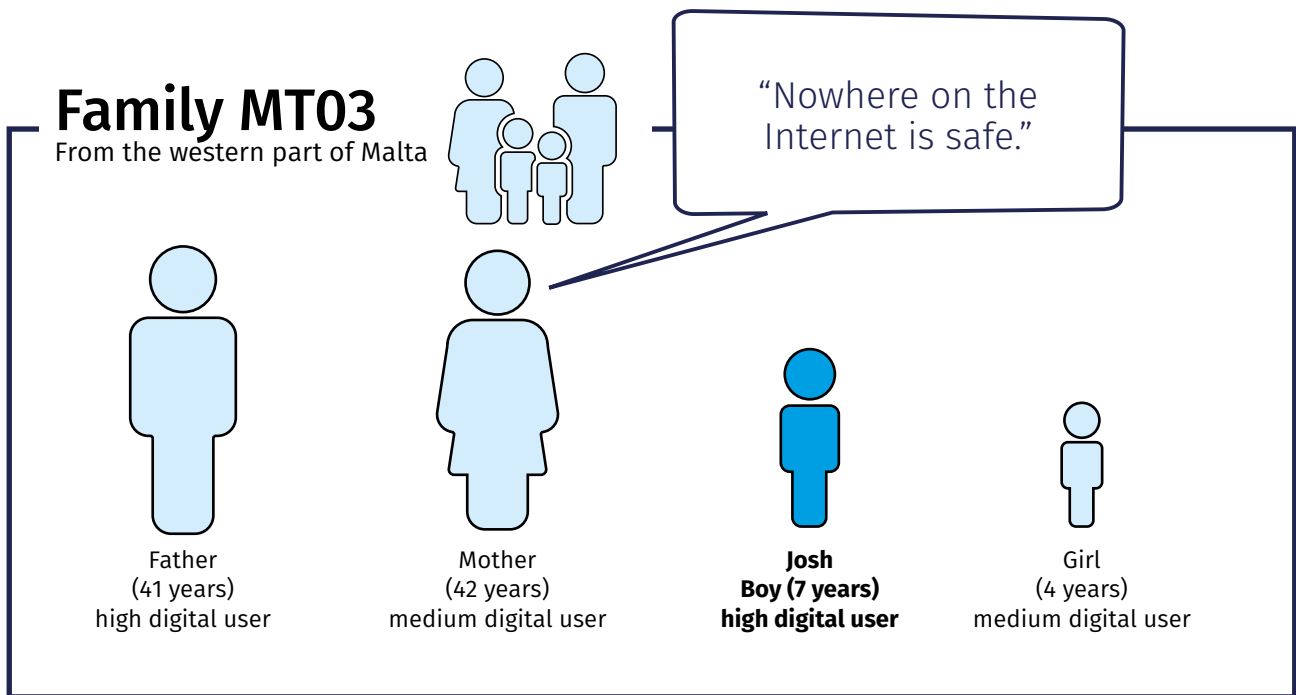


Narrative

The researchers met the family just after they had finished their dinner. The children were still wearing their school uniforms. They were invited into the combined living and dining room. The first family activity took place around the dining table. Only the mother, a financial consultant, was present. The father, a chief financial officer at a private local bank, was still at work. The mother preferred that everyone stayed in the same room during the individual interviews. Therefore, the interview, with the children, was held at the far end of the living room. The set up was not ideal as the children could hear their mother speaking nearby, and they seemed to be a bit distracted most of the time.

When playing the family game, Ann confused some of the stickers. She talked about her school day and used the stickers with the mobile phone and the computer to describe her mother’s day at work.

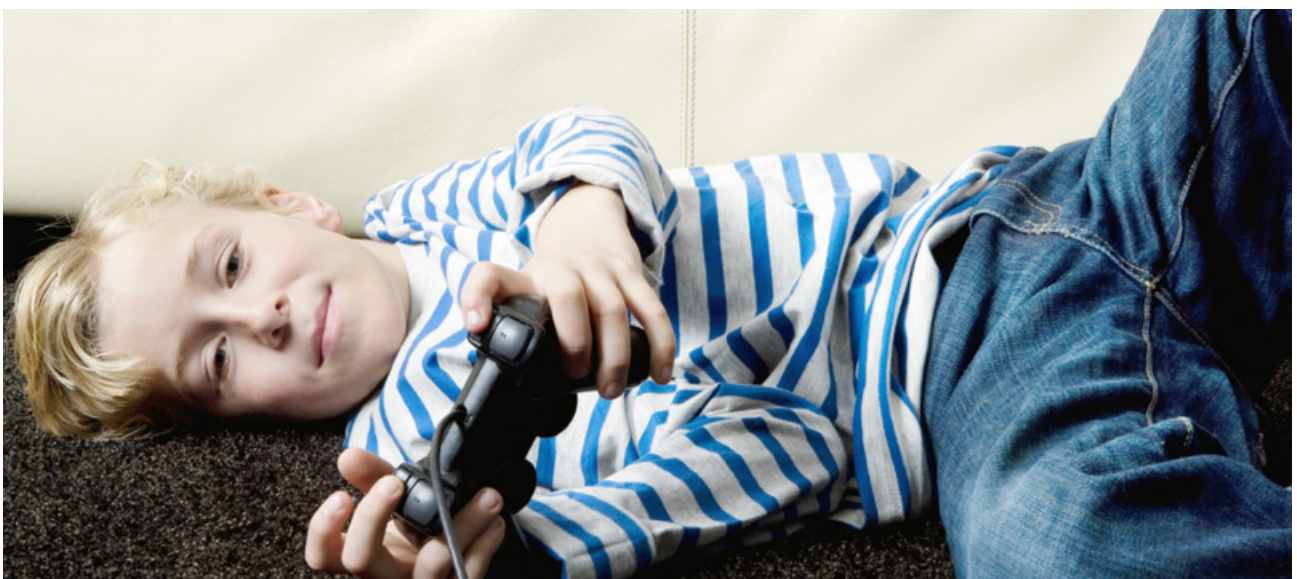
During the interview Ann was quiet and did not have much to say about digital technologies. It became apparent that she was not that familiar with digital devices and was not using them very often. On the other hand, she enthusiastically showed her dolls and other toys like building blocks and Playmobil. During the card game she indicated that she liked digital devices such as the smartphone, tablet, iPod, television, stereo, LeapPad and LeapReader. She was not very forthcoming about how she used them and about her online activities. She referred to some games that she liked to play on her father’s tablet, which she was allowed to use only a couple of times per week. Sometimes she played games also on her mother’s smartphone when they were out shopping. She did not like the laptop much as she considered it to be something for adults as her parents used it mainly for work.



Narrative

The research team visited the family in the morning on a public holiday. Both children and their mother, a financial administrator, were present. The father, a journalist, was not at home. The family preferred not to be video-recorded.

When the researchers visited the family, Josh was doing his homework and his younger sister was still having breakfast. The children were shy at the beginning of the family game, so the mother took the lead. The only digital activity that Josh chose to describe during the sticker game was about himself playing with his PlayStation.



Josh recounted how when he woke up on that day, he had listened to some music on YouTube and played on his PlayStation. Then he had breakfast with his mother and started his homework.

He enjoyed playing with building blocks, toy cars, animals etc. He engaged in a lot of imaginary play on his own, with his sister and friends.

Josh seemed to be knowledgeable about the use of digital technologies. Some of his favourite devices were the PlayStation, Play Station Portable (PSP), tablet, and the smartphone. He preferred his laptop to his tablet, as it was easier to write on. He wrote stories for school and played games on his laptop. At times he used to it to speak to his relatives abroad on Skype. His sister had an old smartphone which she played some games on. It had belonged to Josh before he had got the tablet. Josh watched TV for about an hour every day, when he was allowed to do so by his parents. He liked to watch cartoons, football and snooker.



Josh used a tablet, which used to belong to his mother, almost every day, especially before he went to sleep. He used it mainly for playing games and for watching YouTube videos about the Ninjas. At times he read or listened to stories on it. His favourite games were Clumsy Ninja and World of Warriors. He knew how to download applications, but always needed to ask for permission first. His mother supervised him when he used Internet, for example to look up information related to his school work.

Both children showed the researchers their favourite games and apps on the tablet. They were relaxed, took some funny photos of the researcher and recorded their voices using an app. The children also demonstrated some of the crafts they had done with their parents: a doll house and a cardboard fireplace they were building for Santa Claus to leave the Christmas presents in.

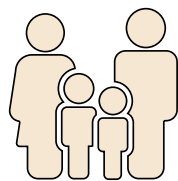
The family seemed to have found a healthy balance between using digital technologies and other activities. The parents considered digital technologies to be a positive thing, however they were worried about the level of safety of the websites Josh was using (Google, YouTube). The boy had been using technologies (TV, PlayStation, and smartphone) for two years already.

Josh was a confident user of technology and was fascinated by the opportunities provided by the technological devices. Notwithstanding, he enjoyed reading print books, playing football, and with action toy figures and building blocks. He liked also to make crafts with his mother and sister.

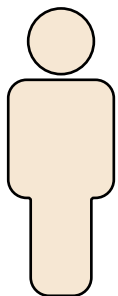


Family MT04

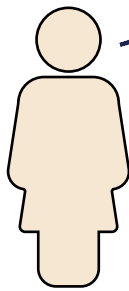
From the outer harbour area of Malta



"I have no fears about the technology as I supervise my children well."



Father
(41 years)
high digital user



Mother
(40 years)
medium digital user



Carl
Boy (6 years)
high digital user



Girl
(10 years)
medium digital user

Narrative

The researchers visited the family in the evening. The mother, an early childhood educator, and both children were at home. The father, a carpenter, was still at work. In the home, they had TV sets, one of which in the children's bedroom, DVD, video recorder, video camera, digital camera, and android box, one computer and two laptops, as well as two tablets.

During the individual interview, Carl brought out some of his favourite toys; building blocks, action figures and a white board. On the board he drew a story which he co-created with his sister. Then they acted out the story. He had difficulties to understand both Maltese and English, and even though the interviewer was asking him questions in both languages, sometimes he seemed to be confused. His older sister was present throughout the interview and she helped him to answer some of the questions.

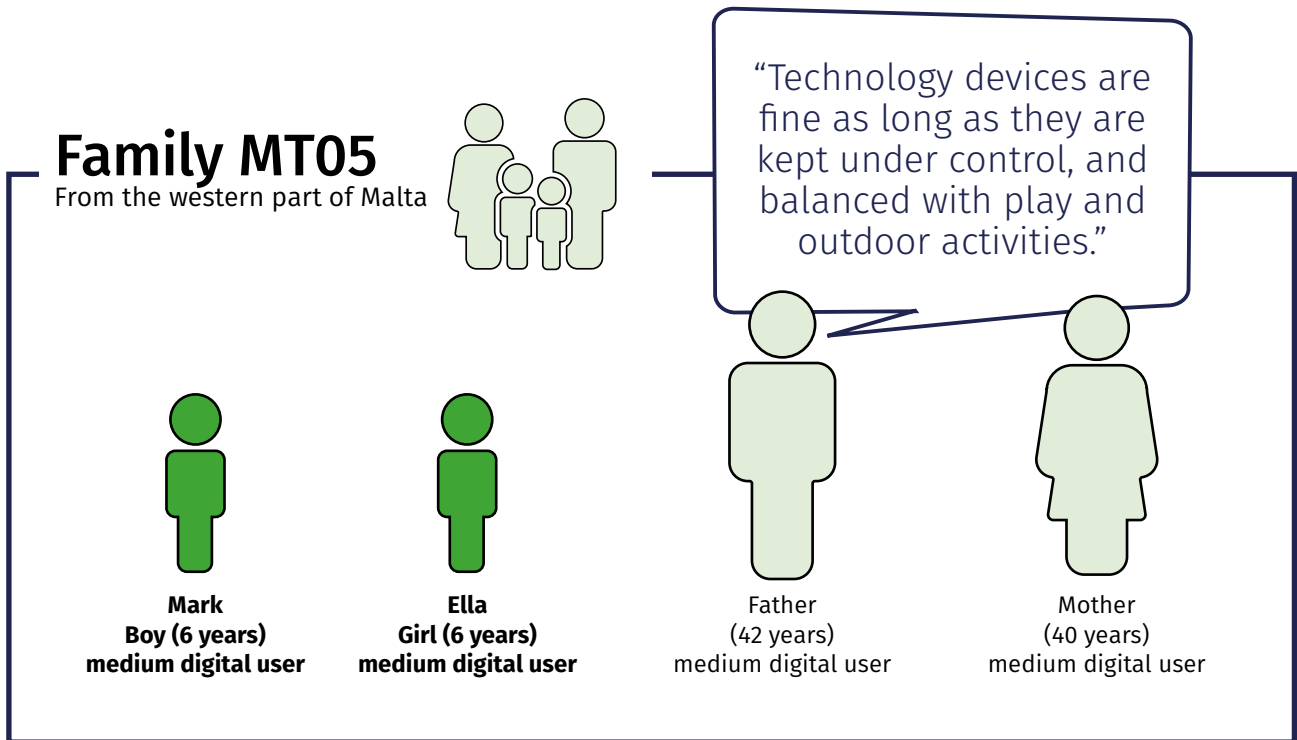
The children shared that they watched many TV programmes and movies on DVD, either on their own or with their parents. They watched mainly cartoons, but also some educational programmes. Carl was the only child in the study who enjoyed watching the 8pm news and discussed them with his grandparents. Carl had a TV set in his bedroom too.

Carl liked to play with his mother's smartphone and the tablet. He played games on the smartphone, which he downloaded himself. The mother had blocked some websites for him. She checked constantly her phone and deleted any games which she considered to be inappropriate or violent. Also, Carl took photos and recorded himself while singing. He liked to watch YouTube videos and sometimes saved them to watch again later on. Often he required help when looking for a video or an app as he had limited literacy skills.

The children had a tablet each. The mother had introduced very strict rules about using the tablets after the children started falling behind at school. Their time on the tablet was restricted heavily. They were obliged to read books with their mother for at least half an hour every day. The children shared one tablet as the mother felt that the boy was still too young to have his own. Carl showed the researchers some games on the tablet. At times he became so engrossed in the game that he stopped answering the questions.

The mother believed that the digital technologies were important for the children. She supervised closely their use of digital devices and was not worried about it. Her main concern was about peer influence from her children's friends and classmates.





Narrative

The whole family took part in the family game: the mother and the father – both teachers in secondary schools; and the twins, who had been adopted five years before. The parents did not wish the interview with the children to be video recorded.

The twins were shy at the beginning of the interview. During the family game the mother had to prompt them a lot to say something.

At the beginning of the interview, the children spoke about a TV programme which they had watched in the morning. Mark liked to play with building blocks, action figures, cars, and balls. He had also fish aquarium. Ella enjoyed playing with her Barbie dolls, building blocks and ball. She liked to read books too. They played also dressing up games and watched television together. They shared with the researchers, stories from some of the movies they had watched on TV. The children had a TV set in their bedroom. Their play was highly influenced by their favourite TV cartoon characters. The parents believed that by spending time playing and watching TV in their room, the children calmed down. Sometimes, the family went to the cinema together.

The interview was held in the beginning of December. The children were excited as they were expecting to receive a PlayStation for Christmas. They knew already how to play with it as their cousin had one and allowed them play with it, when they visited him. Mark's favourite PlayStation game was Batman.

Each child had a mini tablet for playing games, which they usually did before going to bed. The mother downloaded the games for them upon request. At times they went online on the tablet, under their parents' supervision, to complete school assignments. They liked also to read eBooks and to watch YouTube videos



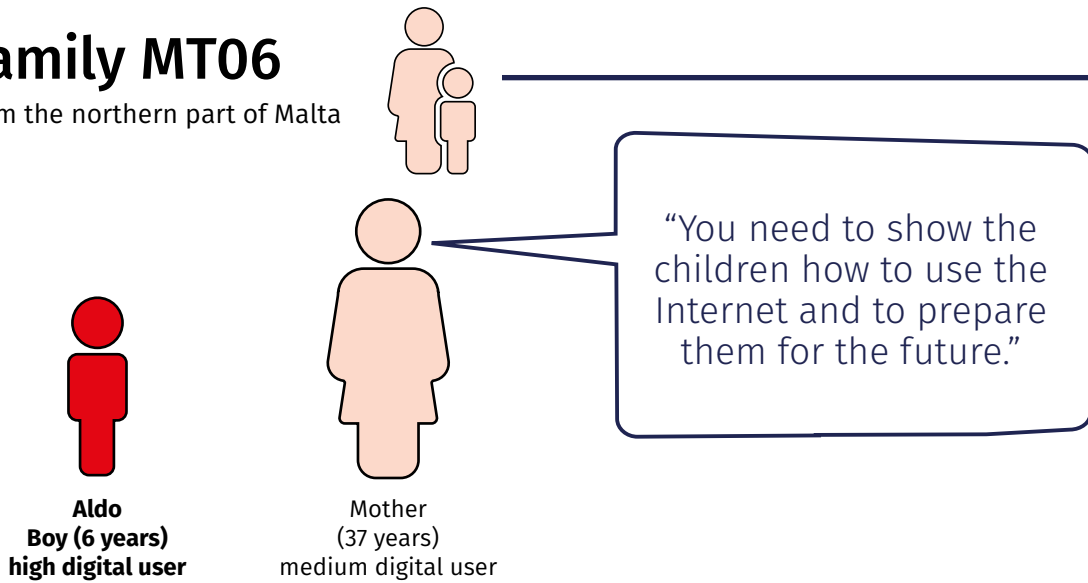
on the tablet, after having obtained their parents' permission. Ella played games, took photos and watched YouTube videos on her parent's smartphones. However, Mark did not like to use the smartphone and preferred to watch TV.

Ella liked the Internet and used it for school research and online shopping with her mother. Mark found the Internet a bit difficult to use and required help to use it for school research. The children were not allowed to take the tablets with them to school. They were allowed to play games on the tablets when going out to a restaurant with their parents.

Both parents were teachers and shared some stories from their schools. They expressed concern about the unsafe use of the internet by school children like cyberbullying, etc. They were very cautious about the use of the Internet by their children. They encouraged them to use the technology for learning purposes involving reading, spelling, and digital skills; and sometimes for entertainment. However, they were worried about the future and the time when the twins will grow up and start wanting to use the Internet more.

Family MT06

From the northern part of Malta



Narrative

Aldo lived with his mother, a journalist with a local broadcasting company, in a bright and airy apartment in the North of Malta. The parents were separated and the father, a bank clerk, lived close by. The boy spent time with his father after school. Sometimes he stayed also with his grandmother or his aunt.

When the researchers arrived at the house, the boy was in his room and was quite shy to come out and meet them. A big flat screen TV was on in the living room. When the boy came into the room, he did not pay any attention to the TV, but, sat on the sofa and started looking at a book.

During the family game, Aldo used a number of stickers featuring digital activities, such as playing on the computer and with the PlayStation, using a mobile phone and watching a movie. Aldo was quite shy, however during the interview he became more forthcoming. He told the researchers that he liked to play with the PlayStation and the LeapPad, although he did not play with them much now that



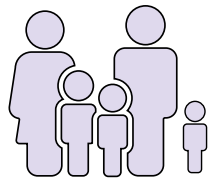
he had a tablet. He liked to watch TV. His mother set up the TV programmes for him as he did not know how to use the TV remote controller. He watched TV every day, mostly cartoons, after finishing his homework. He preferred to use the tablet instead of watching TV.

When Aldo was asked about whether he had a mobile phone he answered: *“Of course I don’t have one, I am only six years-old”*. He did not like the radio much, as according to him he did not like classical music. He had a tablet in each parent’s house loaded with different games. The parents had bought Aldo the tablets when he was 4 years-old, and had showed him how to use it. He played games on the tablet almost every day, and sometimes on his LeapPad. He eagerly explained the features of the tablet to the researchers. When he had a new game he tried to learn it by himself. At times he required his mother’s help to complete some of the more difficult levels. He also liked to play games on the tablet with his father and his friends. They discussed and recommended games to each other He did not take photos on his tablet. He did home work for school on the tablet, under the supervision of his parents. He never clicked on the advertisements which popped up while he was playing games. Sometimes he was confused as the parents set different rules for him, such as when he could use the tablets. He was not allowed to use Internet on his own, therefore his mother downloaded games and videos for him. There were sanctions by his parents if he did not follow their rules.

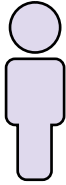
Aldo and his mother went to the cinema quite often and also watched movies at home. She was aware that her son liked to use the tablet a lot and tried to push him to engage in other non- technology related activities such as hiking, playing with toys etc. She deemed the Internet and digital technologies to be something positive to be used for work, shopping, entertainment, etc. She was worried about the future when Aldo would need more access to the Internet and start using social media.

Family MT07

From the outer harbour area of Malta



“Technology is positive, as long as it is controlled.”



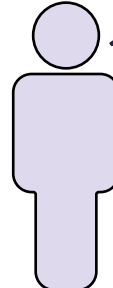
Girl
(9 years)
high digital user



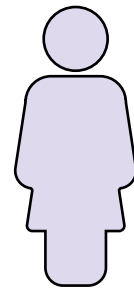
Lara
Girl (6 years)
low digital user



Boy
(4 years)
low digital user



Father
(44 years)
high digital user

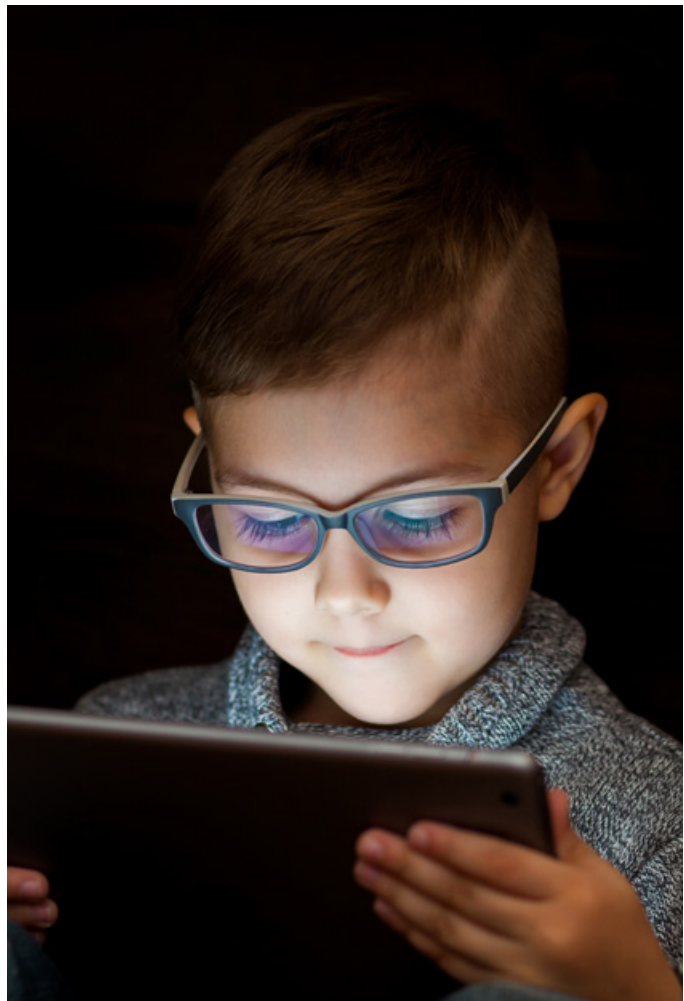


Mother
(44 years)
medium digital user

Narrative

The family welcomed the research team into their living room. Even though it was late in the evening, the children were still very energetic, although somewhat shy. There were family photos on the walls, some of which showed the parents graduating from university. In the room there were many toys, a computer and a big screen TV.

The parents showed a genuine interest in the study and asked many questions. A year before, they had discovered that the young boy had become addicted to technology as they had used it very much as a “babysitter”. He used to spend many hours watching TV and YouTube videos every day. He had learnt the alphabet, the numbers and the shapes from YouTube videos, but had difficulties in communicating with his parents and siblings. Therefore, they had decided to limit his use of digital technologies, and eventually barred him from using the devices in the house. They had referred the boy to a speech pathologist.





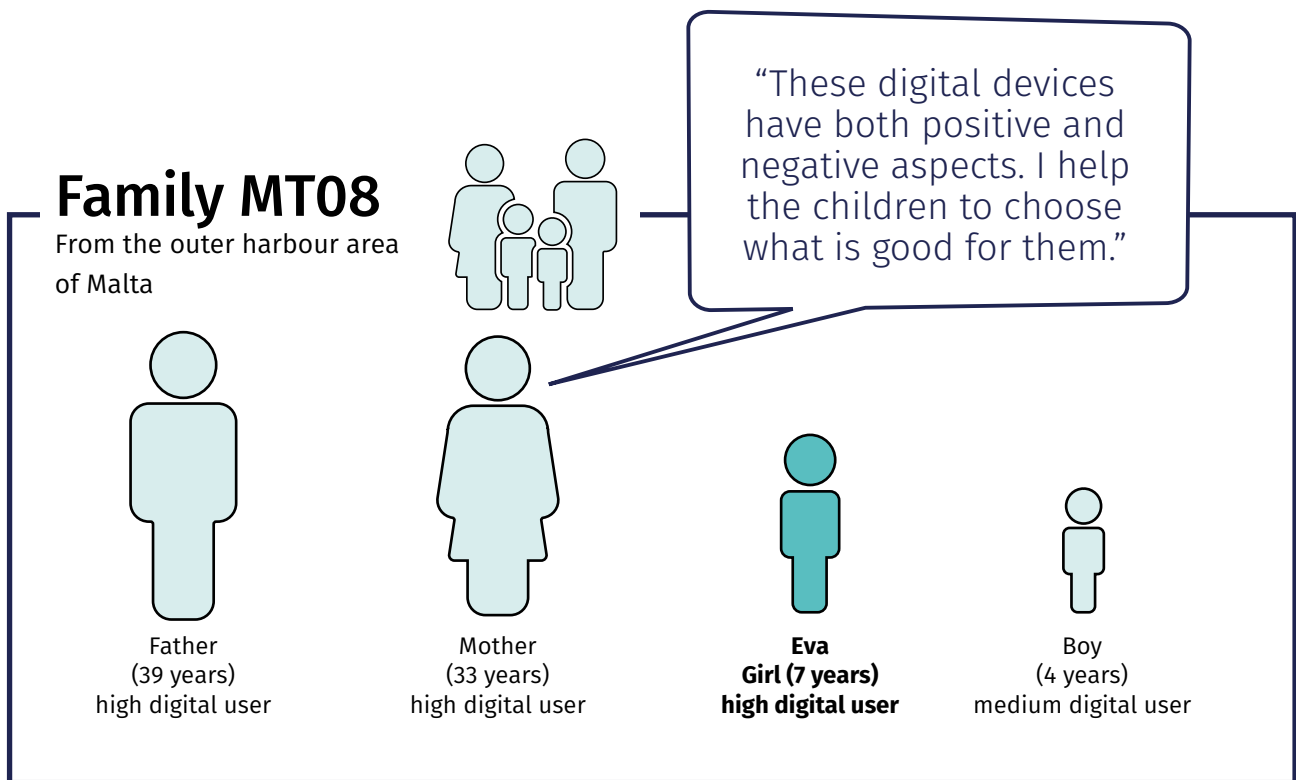
The parents explained how they would compare their son's progress to that of their daughters who had had hardly any access to digital technologies. The family tried not to refer to digital devices or to use them in front of the boy as he tended to become overexcited about them.

Lara did not like digital devices that much. She could not explain why this was the case. She preferred to play with her dolls, etc. rather than with the technologies. Notwithstanding this she still used the devices and seemed to be quite proficient in handling them. Sometimes she listened to music, took photos and played games on her parent's smartphones. She also watched TV on her own with her parents' permission, or after school with her older sister.

Lara had played games on the PC since the age of 3. She had started to use the tablet when she was almost 6 years old with the help of her parents and her older sister. She watched YouTube videos in Kids' mode and played colouring games on the tablet. She used the tablet mostly during the school holidays.

Lara played with her older sister who found games for her online. Lara's sister was more keen on digital technologies and liked to play Minecraft. They liked to play digital dress up games on the PC. They played games and accessed Google and educational websites on the PC at school or at home. Some of their games were influenced by their favourite cartoon, Monster High. They role-played with their Monster High dolls, and video-recorded the activity on the tablet or their parent's smartphones. The girls had a vivid imagination and shared with the researchers many stories about their imaginary play with their dolls.

The parents regulated the girls' use of technology and did not allow them to use it for a long time. However, their attitudes towards technology use were positive. The father, an avid user of technology himself, supported his daughters' use of devices. The mother was not too keen on technology.



Narrative

The family lived in a large, modern bungalow. The father repaired and made machines, and the mother, who used to be an accounts clerk at a local company, was now following a degree in Early Childhood Education at the university. Eva was very eager to take part in the study and was very forthcoming about her use of technology.

Eva liked books and read a lot. She enjoyed spending time in the reading areas both at school and at home. Sometimes she played games on her toy computer, but preferred the laptop.

She started listening to music on her mother’s laptop when she was 3 years old. Currently she kept an album of photos of her favourite toys and cartoon characters which she downloaded from the Internet. She wrote a few sentences about each photo. She used the laptop on her own most of the time, when her mother was not using it. She shared a story with the researchers about the time when she was so engrossed with sorting out the photos on her laptop, that she almost missed her dinner.

Eva had to finish her homework before she was allowed to use any of the digital devices. She watched TV with her brother, and they took turns to choose the programmes. The family did not have any tablets. However, the girl knew a lot about them as sometimes she played on her friend’s tablet. She wanted badly to have one but her mother was not too keen. She could differentiate between an Android tablet and an iPad. She was very impressed by the larger size and the better quality of the games on the tablet, when compared to the smartphone.

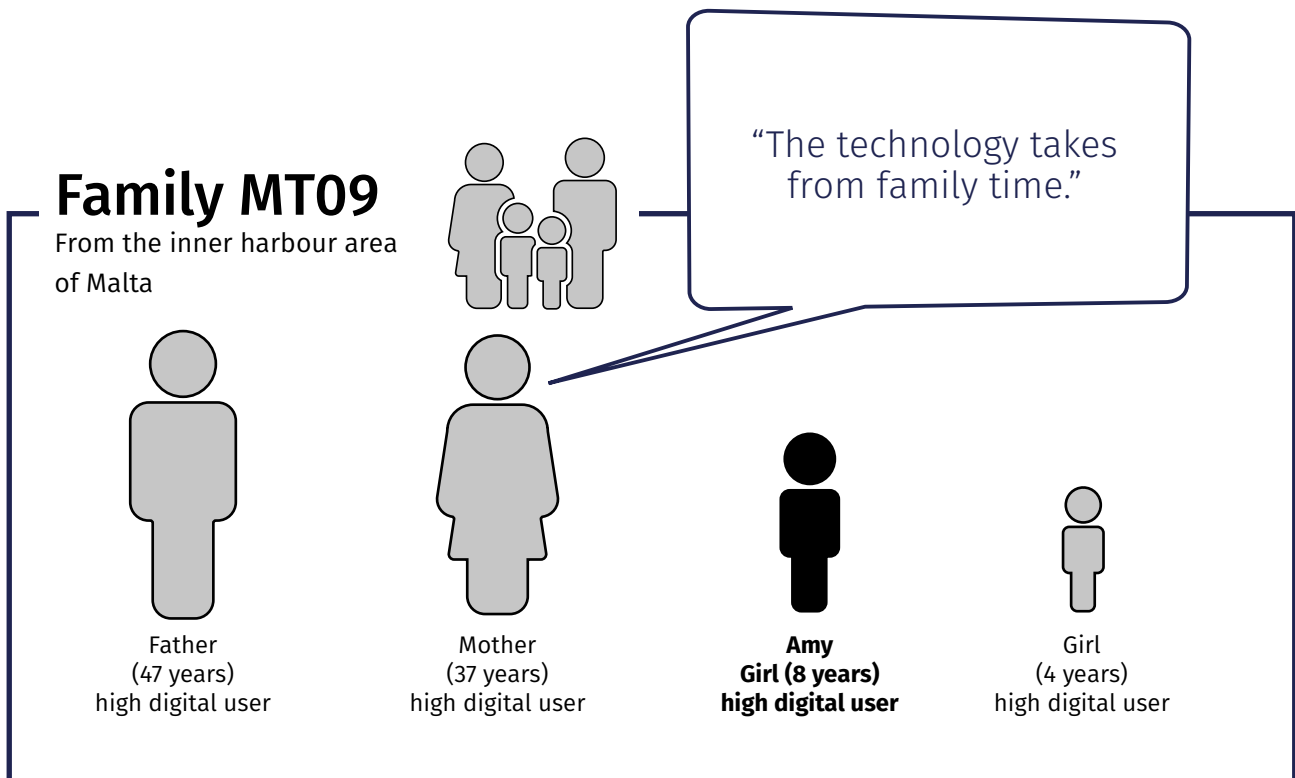
Eva’s favourite digital device was the smartphone, because she found it to be versatile. She had her own smartphone, but she liked to use also her parents’ phones. Sometimes when her parents watched TV she



asked them to use their mobile phones and she watched videos on YouTube. She took photos and recorded videos of the family. She could explain in detail how to operate each of her parents' phones. She downloaded free games from the Google Play Store. She found the mobile phone much easier to use than the laptop.

Eva was the only child we interviewed who referred to Facebook, WhatsApp and Pinterest. She did not have her own accounts for these apps, but sometimes she used them with her mother. For example, earlier on during the day they had called her aunt who lives abroad to wish her "Happy Birthday" using her mother's WhatsApp. She told the researchers that although she liked to play with her dolls, she preferred to play with the smartphone, as the *"phone talks by itself, but I have to say it for the dolls, and sometimes I don't know what to say!"*

There were not many restrictions for using the digital devices in this family. The main restrictions were about using the Facebook, Skype and video chat. Eva was very co-operative with and responsive to her parents. The parents had a positive attitude towards the Internet and digital devices. They used them for research, shopping and entertainment. They were not worried about their children's Internet use as long as this was controlled and supervised.



Narrative

The research team visited this family, where the parents were two medical doctors, on a Monday morning at the beginning of the school Christmas holidays. The family lived in a big, bright apartment on the seafront. There was a big flat screen TV in the living room, another TV in the dining room and a MacBook on the kitchen table. Amy was already awake and writing something at the kitchen table. The mother and the two girls took part in the family game. The girls kept arguing about which sticker to use. Amy was a perfectionist and tried to please everyone. She became more relaxed as the interview progressed.

Amy was very aware of digital technologies. She liked to use them and what she could do on them like choosing songs on the music player, playing games, watching movies, etc. The girls used their mother’s smartphone and tablet to play games and to take photos. However, they were not allowed to use their father’s smartphone and tablet as he needed them for work. Sometimes they started using the mother’s tablet right after waking up in the morning. Amy used the Internet on the tablet and on her mother’s laptop. She looked for information through Safari, watched YouTube music videos and watched movies on a movie app. She played games and knew how to download them. When Amy wanted to download something she had to check with her mother first about the cost of the app and the storage capacity of the iPad. She could use the iPad without permission, but had to share it with her sister. The children liked to watch movies on the iPad but were advised to be careful about the movies they watched. The mother wanted them to watch mainly educational videos. Amy found using the iPad relatively easy. She used the laptop only under her parents supervision after once she deleted some files by mistake. She could distinguish between different operating systems like iOS and Windows and their distinct features.

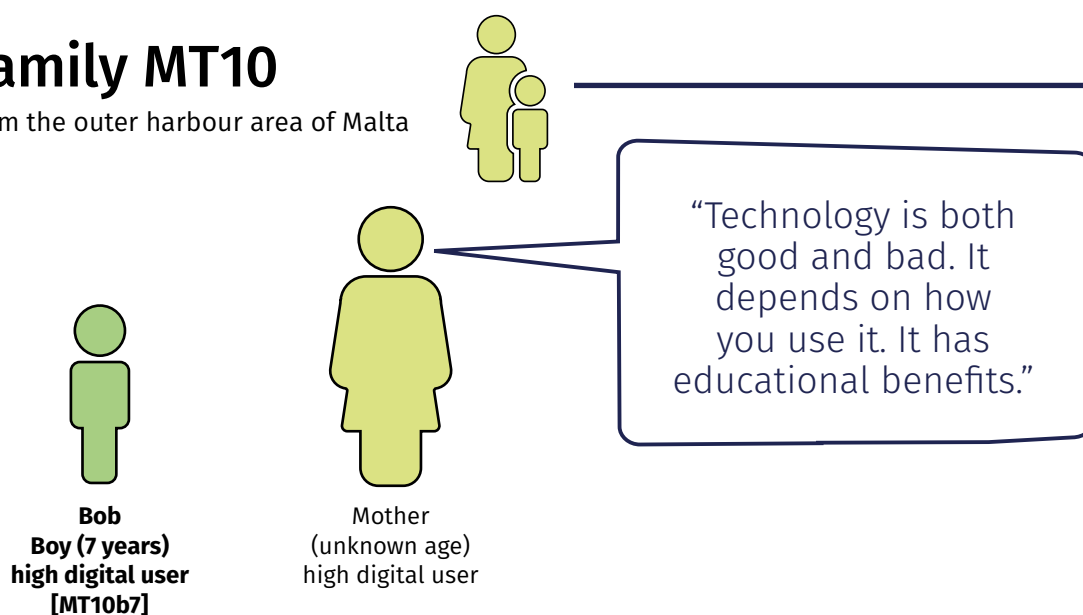


Amy watched TV for about thirty minutes every day, but she preferred the iPad because of its touch screen feature. She used the iPad for an hour almost every day, usually after dinner. She had some eBooks on the iPad, but preferred to read print books. She liked to draw, and to play with traditional toys as well.

The mother perceived the iPad as an educational tool which offered many advantages through the use of educational apps (research for school, spelling, maths, reading etc.). The girls learnt also useful computer skills when using the laptop. The technological devices were used also as a reward-punishment strategy, e.g. the girls were not allowed to use them if they did not do their homework. They always required permission before downloading something. The mother believed that the girls were using digital technologies, traditional toys and books in a balanced manner.

Family MT10

From the outer harbour area of Malta



Narrative

It was somewhat difficult to arrange the last family visit. The family was in the process of moving house. Despite this situation, both Bob and his mother were welcoming and eager to take part in the project. The mother, a childcare educator, had adopted Bob when he was three years old.

During the interview, Bob was impressed by the researcher's video camera and wanted to touch it and play with it. He was talkative and outgoing. He liked all the digital devices he discussed during the card game, except the radio. He did not like the radio as it distracted him when he was doing his homework.

Bob had a LeapPad, which he used occasionally during the school holidays. He listened to music, took photos and played games. He had learnt how to use it on his own and by watching a friend. He had eBooks on the LeapPad, but only listened to the stories as he did not like to read them. He complained that the LeapPad was limited and slow. He showed us some of his favourite songs, videos and games on the LeapPad.

Bob played games on his grandfather's computer but he always needed permission to do so. He watched YouTube videos and spoke on Skype with his friends abroad on his mother's laptop. He used the laptop with his mother or father. Sometimes he played video games with his father on a TV screen connected to the laptop.

Bob did not like to watch TV that much. His favourite device was his mother's smartphone. He played games and sometimes called his father on it. He was allowed to play two games every day. His mother downloaded the games for him on her mobile. He played on his Wii console almost every day. According to his mother, Bob divided his time between playing with digital and traditional toys. The parents were quite strict about the boy's use of technology, although they recognised its benefits.

His mother believed that everything has its good and bad aspects. She tried to make sure that Bob used digital technologies for educational purposes: to learn computer skills, access information for school, learn how to read improve his motor coordination and encouraged him to do physical movements (when using the Wii). The mother was always sitting next to him when he accessed the internet. She did not use the devices as a means of punishment and tried to discuss with the boy most of the rules before setting them.



4. Results and Discussion

This section presents and discusses the results for each research question.

4.1. How do children under the age of 8 engage with technologies?

The technologisation of childhood

The children used digital devices like smartphones, tablets, laptops and PCs. Most of them had access to these devices and used them since they were one-year old, and in some cases earlier. These devices, together with more traditional ones like TV and in some cases radio, pervaded the households that we observed. The ‘technologisation of childhood’, referred to by Plowman, Stephen and McPake, (2010) was a reality. The parents recognised the great importance of these technologies for modern-day living and that digital literacy was essential for their children to reach their life aspirations. Most of the parents used extensively digital technologies for work and entertainment purposes, and some of them for study too. The parents expressed concerns about the overuse of technology by their children, which may lead to addiction: their online security and access to objectionable materials.

TV

All the children watched TV, and three of them had a TV set in their bedroom. TV watching was regulated by the parents. They watched mainly cartoons, and some of them also educational documentaries and music programmes. Some parents believed that watching TV in their bedroom helped the children to calm down. Even in cases when children had restricted access to TV for different reasons, they still really liked it:

“Now we’re not using it a lot for mummy to not start yelling with us and we like the volume up... but we still love TV.” (Eva, 7 years)

Most of the children required permission from their parents to watch TV. On average they watched about an hour of TV every day. Over the weekend they were allowed to watch up to two or three hours of TV. Most of the families watched a movie on TV together over the weekend. They perceived watching a movie together on TV as a family bonding opportunity.

Smartphones

All the parents had smartphones. Most of them allowed their children to play games and to watch YouTube videos on their smartphones. Often the children were allowed to use the smartphones when their parents wanted to keep them occupied, like when visiting a doctor's clinic or going to a shop or a restaurant:

"I use mummy's [smartphone] when we go to a shop of adults, where things break." (Ann, 6 years)

Some of the parents allowed their children to make phone calls, send text messages, and take photos and videos. Most of the parents downloaded games for their children. Sometimes the children were allowed to download games themselves under the supervision of their parents. Two of the children had stopped using smartphones after they were given tablets.

Tablets

All the families, except one, had a tablet or more at home. Four children had their own tablet. The children did not use it very often and they were usually supervised by the parents when they did so.

The children used the tablets mainly for games and to watch YouTube videos. Some of them used it for homework and research work set by the school, and this was supervised by the parents. Four of the children used the tablet to listen to and read e-books. However, they admitted that they still preferred to read print books. One family watched movies on the iPad using an app. Two children had a LeapPad. They used it to play games, listen to music and to listen to and read e-books on the LeapReader.

Laptops

Only one child had his own laptop. Another child was not allowed to use her mother's laptop after deleting some of her files by mistake. Three of the children, and their parents, used Skype on the laptop to talk to friends or relatives who lived abroad. The children had mixed feelings about the laptops. Some of the children preferred the laptop because the screen was bigger and it was easier to find and download games:

"because there are lots of games.... It's easier to find and to download them on the computer [laptop] than on the tablet and the screen is a bit bigger". (Josh, 7 years)

Others did not like the fact that the laptop did not have a touch screen:

"On the computer [laptop] you cannot search everything....and if you want to touch the screen it won't workso with the iPad you can do much more". (Amy, 8 years)

Eva (7 years) reported using the laptop mainly to download images and to write stories about them.

Other devices

Two families had a PC on which they accessed the Internet, played online games, downloaded photos, and did research work for school. Two of the families had a PlayStation and another family had a Wii console. Some of the children shared their PlayStation with their friends and discussed the games they played. Two children expected to receive a PlayStation for Christmas. Amy (8 years) was very excited about it: *“I never played PlayStation but everyone likes them so I think I like it too.”*

Pass-Back Effect

It was common for the children to use their parents’ devices. This is referred to as the Pass-Back Effect (Chiong & Shuler, 2010) where a parent or an adult passes their own device to a child.

“My sister has a mobile phone. It used to be my mum’s, then I used it and now my sister has it. I have my mother’s tablet”. (Josh, 7 years)

Despite the fact that some children did not have their ‘own’ devices, they still had a sense of ownership:

“My mum’s [iPad] is ours, she does not really use it. That’s the one we have, my mum’s.” (Amy, 8 years)

Finding the right balance

The children’s preferences for digital devices and traditional toys were as follows. With regard to digital devices, they preferred most: tablets, smartphones, TV, PlayStation and laptops. With regard to traditional toys, they preferred most: Lego blocks, balls, books, toy cars and Playmobil toys. From the children’s responses it was clear that they liked both non-digital and digital devices and traditional toys. The portable digital devices, like smartphones and tablets, held a particular fascination for the children. They were attracted by the touch screen capabilities and portability of the devices in the style of ‘portable personhood’ described by Elliott & Urry (2010):

“On the phone all you need to do is with your fingers and on the computer you have to type...and sometimes I find it difficult. I find it difficult you have to always write, write, write and on the phone all that I need to do is do whatever I want”. (Eva, 7 years)

The children were versatile when it came to using the digital devices. They were particularly adept with the smartphones and the tablets. They used them to access the internet, take photos and upload them, watch videos on YouTube and shoot videos, download and use apps, and download and play games. Some of them could distinguish between Android and iOS mobile operating systems. One girl was familiar with Facebook, WhatsApp and Pinterest through her mother. She was not allowed to use them, however she did not seem to mind as she said that on Facebook one can find:

“some people and some naughty stuff and some of this stuff, makes me confused” (Eva, 7 years).

Their expertise and knowledge stemmed from handling the devices by themselves, and observing and being shown by their parents how to operate them, almost since they were born. Most of them had followed basic computer awareness and literacy courses at school. Some of the children went on to show their parents how to use the technology.

The children often sang or danced to music played on the TV and other digital devices:

“At first she just watches the TV and then she starts dancing. She is taken completely away. When she watches a film, she starts relating the film with her play. The most important in this field of influence are films. Her taste for toys and books varies according to popular things.” (Eva’s mother)

There was a lot of pretend play involving building blocks, action figures and dolls as an accompaniment to watching cartoons or a movie on the tablet or the TV. Most of their favourite action figures and dolls were popular figures from the cartoons they watched on a regular basis. What the children went on to play with more traditional toys was oftentimes inspired by what they would have been watching on the tablet or the TV. At times watching a video on the tablet or a programme on the TV and playing with toys became intermeshed. Two siblings from one family enjoyed making videos when role-playing with their dolls using their parents’ tablet.

4.2. How are technologies perceived by the different family members?

The children liked to play with both their traditional toys and digital devices. A few of the children preferred more their traditional toys. However, this attitude seemed to reflect that of their parents who would rather that their children spent more time playing with traditional toys. A few of the children associated some of the devices, like the laptop, with the adult domain as they observed their parents using them mainly for work:

“It is adultish and mummy and daddy use it for work”. (Ann, 6 years about the laptop)

In one family there were mixed attitudes towards digital devices. The younger boy, who was three years-old, had become addicted to digital devices when he had been one year and six months old. He had been prohibited from using any devices. The other members of the family avoided using or referring to the devices in front of him.

In some of the families, the children were at times more proficient in the use of technology than their parents. For example, when Rosie asked her father for a certain game and he could not find it:

“Or we tell him: ‘Can you find us more games of Ariel?’ Sometimes I ask him and he says, ‘I will find it for you.’ Sometimes he says, ‘I did not find it’ and sometimes I have to find it for him”.

Also Josh, when his mother needed help with the tablet: *“Sometimes I help my mum to go in the settings, because there won’t be enough space to download a game and now we need to do it for an update because there is not enough space to do the update”.*

Most of the parents believed that the digital technologies had a lot of potential for the educational and creative development of their children. They were able to read and learn new skills from them. However, they felt that their children needed to be directed and guided when using digital technologies.

4.3. What role do these technologies play in the children's and parents' lives?

The changing role of parents

Parents recognised that the digital technologies had become very significant in modern day living and it was inevitable that they featured prominently in their children's lives. Notwithstanding this, the parents sought to ensure that their children had print books to read and played with traditional toys, like balls and dolls. Some of the parents were concerned that although they ensured that their children used the digital technologies in a balanced manner in their presence, this may not be the case when they were at school or on their own with their friends.

The interactivity of the digital technologies was appealing for the children. One boy became very engrossed in a digital game on the tablet while showing it to the researchers. One girl remarked that she preferred the smartphone to her dolls. The phone talked back to her and at times she was at a loss about what to say to her dolls.

"Mostly phone because they say it, but the dolls I have to say it and sometimes I don't know what to say".
(Eva, 7 years)



The parents' general perception was that their children were using the digital technologies in a balanced way, with more traditional toys. This seemed to reflect more the perceptions of the parents, as our observations indicated that the children were in fact using the digital technologies more intensely and for a longer period of time than the parents would have liked to think. Even though children liked the digital devices and used them with their friends, for them the concepts of play and using digital devices were not always interrelated:

"Only play. We don't often go on YouTube. There will be my friends and I tell them 'Come and play at my house' and then it means play."(Eva, 7 years, when asked if she used digital devices when playing with her friends)

Digital technologies pervaded the lives of the parents too. All of them had smartphones and most of them had a laptop or a tablet too. They used the digital technologies, both for work and in their personal lives like for online shopping, but especially for entertainment and hobbies. The parents in one family shared with the researchers that they had met in an online chatroom when they were younger. Some of the parents expressed scepticism about the technologies, but still admitted to using them. There were some instances when the family members watched the TV together, listened to music or played a videogame. However, they recognised that using digital technologies was more of an individual activity. Skype was used occasionally to video chat with distant relatives in other countries, like the UK or Canada. Some of the families pointed out that although they were able to watch movies on TV or on the PC via internet, they still enjoyed going to the cinema as a family.

The parents were aware that the digital technologies were impacting strongly on their family lives, something they had to contend with on a daily basis:

"The lifestyle of the family is being challenged every day. These devices are not helping family unity. The members of the family have limited time available during week days." (Rosie's father)

Parenting and the way they were bringing up their children had changed from the time that the parents were children themselves, especially because of the digital technologies. There were increased pressures, and the parents felt constrained to impose more restrictions on their children. They felt that as long as there was a balanced use of the technologies, then the situation was manageable. They were aware that if they lost control of the situation, things would get out of hand and this could impact on their child's development. One family had experienced this when the younger boy in the family was spending an excessive time watching TV and videos on the PC. They had to take drastic measures to control this, as they felt that it was impeding his speech development and the boy had to be referred for speech therapy sessions. Most of the parents believed they had managed to regulate quite well their children's use of technology. However, they recognised that every day the pressure on them was increasing:

"There is no security in any of these innovations [digital technologies]. You must keep an eye on every move the child makes." (Rosie's mother)

There were times when they did not allow their children to use the digital technologies, especially during family activities. However, some of the children reported that they were sometimes allowed to play on the tablets, like when eating out or shopping with their parents. Despite the fact that all the parents claimed that they were strict about their children's use of technology, the children themselves did not feel that restricted:

"Sometimes I ask mum and sometimes I don't – it's still ok". (Josh, 7 years)

4.4. How do parents manage their younger children's use of technologies?

Many joint activities between the parents and their children involved the use of digital technologies. They took photos, downloaded videos and games and played together. Most of the parents appreciated the strong educational potential of the technologies. They shared e-books with their children. The children often looked for information on the Internet related to school assignments under the supervision of their parents. Some of the children (Amy 8 years, Eva, 7 years and Ella, 6 years) experienced some difficulties when searching for information online:

"Because I search on the wrong type of information, I would not know which one.... if I go on Safari I could search, but if I go on Safari to search for music, it does not come up, so it would be on the wrong thing to search. Sometimes it's hard for me to search." (Amy, 8 years when she is not sure what exactly to write on the search engine).

All the parents shared online activities with their children. It was mostly the mothers who shared the use of digital technologies with the children for educational purposes and for work related to school. In most of the cases, the fathers shared more entertainment activities with their children when using the digital technologies, like watching videos or playing games. This was seen to be positive:

"He learns when he is playing [videogames] with his father. This involves the skill of team work". (Josh's mother)

Parental concerns

A concern for some of the parents was that their children used the digital devices excessively at the expense of other activities, such as school work and other outdoor activities. A few of the parents were so concerned that they had taken drastic action and had confiscated the devices.

Some parents were worried that their children may become over-reliant on technologies, and even become addicted to them. They were afraid that their children may become socially isolated by spending too much time on the digital devices and not spend enough time playing outdoors or with the people around them:

"They [digital technologies] can be positive and negative. It depends on how one uses them. Children become addictive. Some children do not speak to anybody at home". (Ann's mother about digital technologies).

The parents were concerned also about when their children would want freer access to the Internet and social media, like Facebook as they grew up. They were afraid that their children might come across strangers or encounter 'unacceptable' or 'immoral' content on the social media. For example, Aldo's mother felt that her son was still too young to access social media and was trying to shelter him from it for as long as possible. Most of the other parents shared these concerns. Only two children showed that they were familiar with Facebook. The other children were not aware of social media.

Another recurring concern for the parents was online safety. Notwithstanding, only two of the families had installed parental controls on the devices used by the children. The rest of the parents claimed to supervise directly their children when they were online. They were afraid that when surfing the Internet their children would meet a stranger or stumble on something unacceptable. As Lara said:

“Sometimes there will be some naughty things and my mother does not want me to see them...even I don’t care about it”. (Lara, 6 years)

The parents refused to download any violent games for their children, although they asked for them. Some parents worried that their children would spend too much time playing video games and this would affect adversely their performance at school. In general, the children were not much aware of the concept of Internet safety and online risks. Some of them worried about becoming confused when surfing the Internet or that it would ‘affect badly their eyes’.

Setting of boundaries

Most of the time the children were supervised when they went online. Four families had installed parental control settings on all their devices, which sometimes allowed the barring of access to the Internet. This setting was sometimes switched off for the older children, but retained for their younger siblings. The apps and games, which the children were allowed to download, were selected or monitored by the parents.

The parents usually agreed between themselves about what boundaries they set for their children’s use of digital technologies. This was often a topic of discussion between the parents; like considering which apps and games they allowed their children to access. Some of the children referred to the price of the digital games: Carl and his sister downloaded only

“The free ones.... mum says it is not worth paying for games”. (Carl, 6 years)

“If I don’t ask and if it had cost something like 2 euros (a game) and I buy it, my mum would punish me.” (Amy, 8 years)

In some cases, one of the parents who was usually the mother, decided on the boundaries for digital use and the other parent supported their decision. In other cases, the parents explained the boundaries to their children and discussed with them. This depended also on the age of the children. Some of the children were aware of the age restrictions:

“Of course I don’t have one [smartphone], I am only 6 years old.” (Aldo, 6 years, when asked if he has a smartphone).

Parents were usually more willing to negotiate boundaries and choice of materials with their older children, but decided themselves for their younger ones. Some parents consulted other parents to see what may have worked or not for them. In most of the families this control was relaxed gradually as the children grew older and became more experienced users of the digital technologies.

In most cases the digital technologies were used by the parents as an incentive for the children. Some children were not allowed to use the tablet before they finished their dinner, school assignments, and their

daily routine of reading from print books. In some of the families, where the parents lived separately, the children spent time in two different households. Difficulties arose for the children when different, and sometimes conflicting, rules and procedures were imposed by the parents for the use of digital technologies. This was especially the case when the communication between the parents was not good and the children admitted to feeling confused by this:

“I am getting confused because my dad tells me one thing and my mum tells me another thing, so I cannot say because they are both telling me different things”. (Aldo, 6 years)

Misbehaviour by the children brought about sanctions by the parents. Most of the time this involved being barred from using the smartphone, or tablet, or going online for a short or extended period of time depending, on the perceived gravity of the misdemeanour.

In some cases, the parents and children in the family were sharing the same device. Rules were established for taking turns and negotiating with the sibling when using a device:

“I have to ask permission because maybe I am watching a movie and my sister wants to watch something else.” (Amy, 8 years)

“And you can share a TV. I can show you how you share a TV. Once you do what your sister likes, once you do what your brother likes and once your mummy or your daddy”. (Rosie’s brother, 4 years)

In most cases, as they grew older, the children were allowed more time to use the digital technologies and more freedom to make their own choices and decisions. Even when the children were allowed to spend more time on the devices, time management remained very important:

“If you do not control her, she keeps playing on the tablet”. (Ella’s father)

The parents seemed most concerned about when children went online as they feared they may access objectionable sites or even become addicted to social media. Most of the children accepted the boundaries set by the parents. However, in some cases the children were more reluctant to do so and pleaded for more online time and freedom to choose what they wanted to do.

5. Conclusion

The study showed that digital technology had an impact on the lives of all of the families involved. From the interviews, with the parents and their children, and our observations in the homes, it became clear that childhood and family life in Malta is technologised. The use of technology pervaded every day life. The parents shared their devices with their children from early on. In some cases the children were even more proficient in handling their devices than their parents. A constant challenge for the families was to find the right balance in the use of technology. Although some of the parents felt they had managed to achieve the right balance for their children, in actual fact most of the children reported using the devices more than their parents thought.

The parents recognised the immense influence that digital technology exerted on the lives of their families. The technology had changed how they related to their children. They saw many benefits in the use of technology for themselves and their children, for entertainment, educational and communication purposes. However, they expressed also deep concerns. The parents worried about their children's overuse of technology and their online safety and security. Therefore, they felt that they needed to supervise constantly their children's use of technology and online presence.

Parents need better guidance about how to ensure the online safety of their children and to achieve a better balance in the use of technology with their children. They need to be supported also in identifying appropriate technology and apps for educational purposes, in areas like literacy development. Home and school links with regard to the use of technology need to be strengthened as young children spend a considerable amount of time in both environments. Teacher preparation and school curricula need to strengthen such links and equip teachers with the necessary attitudes and skills. The community, especially spaces within the community, like libraries, can provide parents and children with appropriate sources of information and guidance about appropriate use of technology. There needs to be sensitivity to the use of technology in multilingual and multicultural settings. Clear policies to guide children, parents and teachers about digital technology use are to be drawn up based on research evidence. More research needs to be carried out. There is a need for increased public awareness of the extensive impact of the use of digital technology on every day living.

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