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Advantages and Downsides of Children ICT Use in Spain: The Parent's Perspective*

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Abstract
This paper aims at understanding the expectations of a group of parents, about possibilities and problems Information and Communication Technologies (ICT) present for their children. The article consists in a qualitative study, through the in-depth interview technique. Participants were twenty fathers and mothers with children from 9 to 18 years of age, studying at private and state schools of Teruel (Spain). All of them are concerned about the subject, because have been selected after attending several discussions and classes about technologies and students organized by cultural and educational associations. Computer Assisted Qualitative Data Analysis Software (CAQDAS) was used, by means of Atlas.ti7 program. The findings show a similar amount of advantages lightly higher than the number of downsides. Parents appreciate ICT mainly as a way of communication and cooperation, in addition to entertainment. Regarding daily downsides, the fundamental ones are related to the deterioration of social and family environment, different levels of addiction –in a broad sense- and the uncertainty they notice to face with possible damages, because of the difficulty to foresee and control. In conclusion, due to the fact that nowadays ICT make impossible a strict monitoring of their potential risks, parents must improve their teaching and training skills to prevent unwanted effects, and empower their children with autonomy and self-control. The best way for it could be precisely the strong communicative components associated with parent-children relationship. The benefit for having interviewed only involved parents is at the same time its major limitation; even though further research will be necessary, these results shed light on one of the most interesting issues related to ICT: the key role of family.
Keywords: Education, Family role, Influence of technology, Student empowerment, Communication skills.

1. Introduction

The importance of a positive family relationship in the long term for children development is a common place showed in recent research (Preston et al., 2016; Calvo, 2011; Albertos et al. 2016) because reinforces cohesion enhancing social parent support, generates a positive self-concept of the child, improves their academic performance, and limits different conflicts and problems of behavior. In this sense, Information and Communication Technologies (ICT) appear to be ambivalent regarding family environment, because are able to increase communication among their members and deteriorate at the same time the traditional direct contact. And so we could expect that parents acquired a special role as mediators in a proper ICT use. In this sense, there are many authors that focus on the necessity of a critical learning, beyond the technical one. The main issue is to empower children to deal with risk (Pereira, 2016); an active parent supervision is required when they are younger (Plowman et al. 2012), and even when they grow as adolescents (Hernando, Oliva, & Pertegal, 2012; Lindqvist, Kostenius, & Gard, 2012), because, despite knowing what is good for them, not always do they act in a healthy manner. Recent research complaints about the lack of more studies related to the implication of parents (Lau & Yuen, 2016), family dynamics involved (Gomes-Franco & Sendín-Gutiérrez, 2014), the role of these technologies in families (Kalibová, 2016) or the specifically ICT use for family communication (Rudi, Dworkin, Walker, & Doty, 2015; Hernández-Prados, López-Vicent, & Sánchez-Esteban). And at the same time a paper written in 2012 (Baytak, Akbiyik, & Usak) already pointed out some features of the matter, such as neutral attitudes of parents, their deep concerns and worries about internet, waste of time and playing games, the necessity of some norms and conditions, and their doubts about ICT integration for a better instruction.

There is, however, more literature about the importance of educational style by parents. First of all, the digital context of our technological society entails a multiplicity of models (Bauman, 2012) and a tendency to get lost under an excessive quantity of information (Mínguez-Vallejos & Hernández-Prados, 2013) or being diverted by technological unleashing to a neoliberal perspective (Gordo, Parra & D'Antonio, 2013; Díaz-Mohedo & Vicente-Bújez, 2011). Parent's authority suffers from the superiority of new ways to be informed, and become useless only forbidding in the face of ICT risk for children. The proper attitude is now to give example, show prestige and a good balance between loving and demand (Rumayor, 2016; Tejedor & Pulido, 2012; Plaza-de-la-Hoz, in press). So, different researchers gather findings about the best educational style for parents to deal with ICT at home: joining fondness and control (Cerezo, Casanova, & de-la-Villa, 2011; Osoro & González-Camara, 2016), in a less hierarchical negotiation (Haddon, 2012), neither permissive, nor authoritarian, but in a democratic style. However quantitative investigations reveal a lack of training from parents of younger children (Manzano, 2016; Fraga & Duarte, 2015), possibly due to an absence of appropriated competence and little supervision and control (Expósito & Manzano, 2013; Berrios, Buxarrais, & Garcés, 2015; Muñoz- Miralles et al., 2014), or a state of

unconsciousness about the risks involved (Sureda-Negre, Comas- Forgas, & Morey-López, 2010; Chele, Lucinschi, & Stefanescu, 2014). Gentzler et al. (2011) even suggest a possible link between social-networking sites as a way of communication with parents and higher levels of isolation, distress and family argument. But, what about the main positive characteristics of these technologies? Indeed communication is considered in some articles as a mean of increase family connections and cohesion (Cortada, Badilla, & Riera, 2012; Walker & Rudi, 2014; Torrecillas-Lacave, Vázquez-Barrio, & Monteagudo-Barandalla, 2017); but on the other hand, as a manifestation of a socio-cultural gap (Garrido-Lora, Munté-Ramos, & Busquet, 2016) that needs digital literacy intergenerational (Aguilar-Ramos & Urbano, 2014) in order to provide children with the ability to face problems (Garmendia, Casado, Martínez, & Garitaonandia, 2013; Muñoz-Miralles et al, 2016), self-regulation and autonomy (Gairín et al, 2014; Gil, 2012). Regarding lights and shades ICT present in family context, this article focus on the parents perspective about pros and cons these technologies offer to their children today and in the future, and which measures could be the best way to empower them.

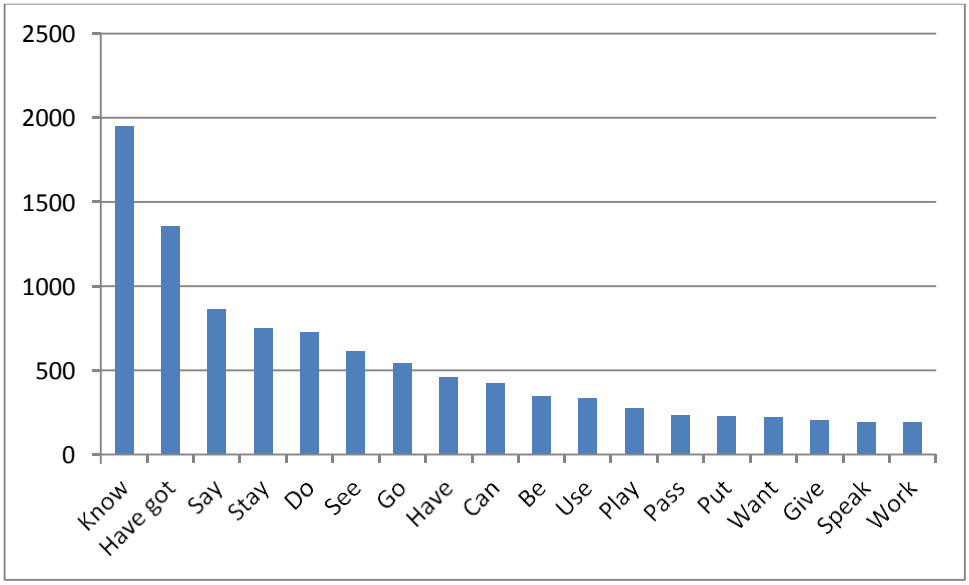
2. Method

The qualitative methodology used to deal with the aim of this paper takes into account the context of Grounded Theory, whose key point consists in obtaining theories and hypothesis from data in an inductive way, more than checking previous theories (Gibbs, 2013). The technique chosen was the interview with parents to produce data, and their further processing by means of Computer-assisted qualitative data analysis software (CAQDAS), with ATLAS.ti7-data management tool. The interest was centered in families having two or more children using technologies at home, and concerned about their consequences. The sample came from people attending conferences about ICT and their influence in children and adolescents, received in high schools or cultural associations. Twenty of them agreed to be interviewed, and the interviews ranged in duration from forty five minutes to an hour and a half. All participants gave fully informed consent for recording their talk. Statistical generalization is not the intention of qualitative method and the validity of its data is based on other basis, adding a sort of more comprehensive understanding that enlighten quantitative results from other studies (Corbetta, 2003, Yin, 2006). In this way, it is the singularity of situations and participants with their proper circumstances which enables a deeper meaning, and so can be useful and always available for the scientific community. Families of this sample have between 2 and 4 children, an average of 4.5 members, 0.7 points more than the average of families with children in the city (3.8) (Instituto Aragonés de Estadística [IAEST], 2016). The average age of parents is 52.6 for fathers and 48.7 for mothers. Parents selection have prioritized quality over quantity and so it is thought to be wide enough (Stake, 2007). Guidelines of interviews were prepared based on other researchers: Naval, Sádaba and Bringué (2003) about youth and ICT, and Hernández, López and Sánchez (2014) about communication, ICT and families. The main areas questioned were ICT use at home, expectations about ICT, influence of ICT (in social relations, family and learning), adverse effects, and training. According to its aim, this article focuses on the sort of advantages and fears ICT symbolize for parents. The data obtained from semi-structured dialogue was systematized in order to content analysis. The study of conversations transcribed follows this type of analysis, categorizing in the face of different areas of interest mentioned, as well as their connection in several levels of semantic relation (Gürtler & Huber, 2007). The use of ATLAS.ti7 program has been conducted to a previously word analysis, and then to the codification process, highlighting the frequency of categories, showing their importance, even though the main approach is qualitative not quantitative. The reliability of data is supported regarding the process of systematization and analysis of information through methodological work (Flores, 2003). The findings are showed classified by means of Figures and corresponding tables including verbatim examples from declarations of participants.

3. Findings

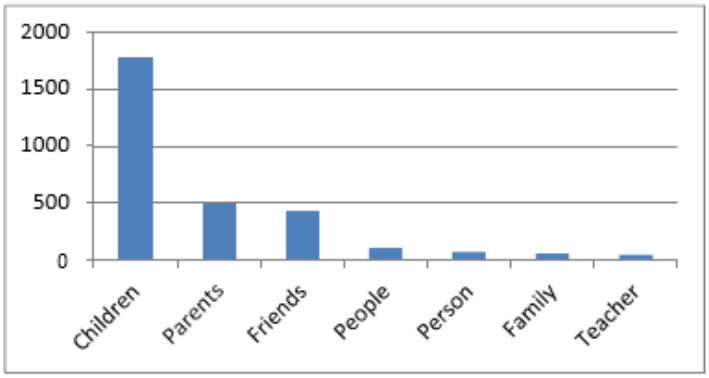
A first study about terminology has been performed through word cruncher by means of Atlas.ti7 program. So we realize which are the main interests of parents, generally speaking, related to what kind of people, and regarding the technological area. The full recount of words reveals 80653 terms; once the irrelevant ones are removed (adverbs, prepositions, etc.) those words semantically related can be brought together. For the sake of clarity three figures have been distinguished: verbal forms (Figure 1), groups of people (Figure 2) and technological words (Figure 3).

Figure 1. Frequency of verbal forms by parents (f >200)



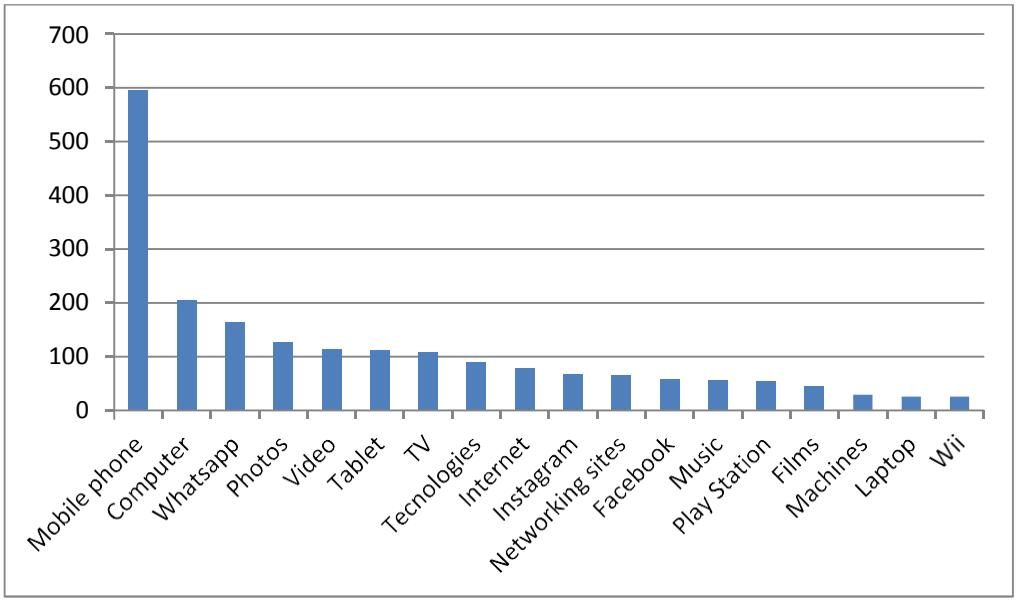
The analysis of frequencies indicates some interesting points such as the relevance of knowledge (1952 replays) and communication ("say" has 865 replays), among the most referenced verbal forms in discourses. ICT are useful devices to gather information about the world, and for staying in contact. Another detail is the more importance given to entertainment ("play", with 278 replays), compared to "work" (191), taking into account younger children of the sample and the centrality of home over school. In fact, parents find ICT for working most appropriate for older children.

Figure 2. Frequency of references to groups of people (f >45)



If different groups of people becomes the focus of our interest (Figure 2), we can observe the orientation to children (1783 allusions), especially the own sons and daughters (771). This could have been expected, as the main concerns of any parent are their children. But just after themselves (489 references) the relevance of peers ("friends", 428) is showed, whilst "teachers" only have 47 references. Dealing with ICT it seems to parents that young people are protagonists ahead of parents and, above all, of teachers. What fits with their perception that kids have a better knowledge of these tools.

Figure 3. Frequency of references to technological terms (f >25)



As for the technological area (Figure 3), we can observe the great relevance mobile phone has (595 references), the double than computer (205); some parents even comment that their sons barely use the family computer.

"…it's a fact that they use the computer less often" (Lourdes, P3-938);

"at the weekend…they don't turn on the computer at all, don't use it" (Ann, P4-049)

The first networking site mentioned is without discussion Whatsapp (165 allusions), and the two main uses are taking photos and watching videos (127/114 references, respectively). Therefore, children are using their smart phones as computers, mainly for sending messages through Whatsapp, and for entertainment. The following analysis will consider the process of coding and subsequent relations between codes. Establishing codes is a first step after reading the text to think about their interpretation (Gibbs, 2013). As deductive codes we have determined "advantages" and "drawbacks" ICT present to parents, and explained along the interviews. Besides these codes, the analysis reveals other ones, inductively, as manifested in Table 1. First of all, after counting of references the balance is slightly in favor of the positive aspects of technologies (53.8%) according to the negative ones (46.1%).

Table 1. Conceptual and *in vivo* codes

ICT advantages	ICT drawbacks
Communication/cooperation	Family and social deterioration
Entertainment	Abuse and dependency
Homework	Lack of control
Motivation	Thoughtlessness of repercussions
Information	Desactivation of effort
Working	Immaturity
Control	Bullying
Motivation	Waste of time
Technical ease	Cause confusion
Implication	Insecurity
	Scattering of attention
	Damaging contents
	Others (Sight harm, Lost of privacy, Technical issues)

Advantages pointed out by parents (Table 2)

More than 40% of references related to positive aspects deal with communication code. ICT open all kind of forms to spread contacts, keep them when people were already acquaintances, and cooperate in many ways. Less than a half of these references are the allusions to entertainment (19.4%), what tell us that parents perceive ICT as the new form their children find to spend their free time.

"they've always had many toys at home and barely have used them, however they have played a lot of Wii games… and all kind of technologies, despite so expensive it is, but they play with them" (Matilda, P1-028)

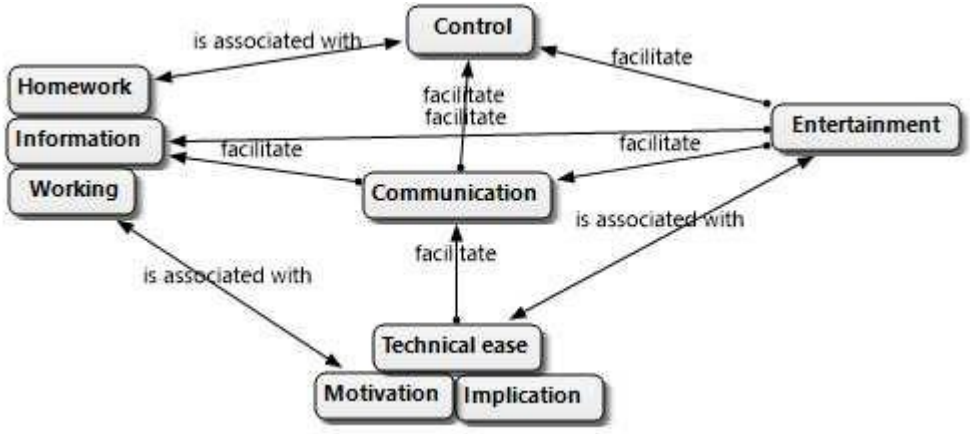
The same amount of references aims to do homework, get information and working (8.5%), though the influence of the parent's use is greater here, at least regarding their will of keeping up with the news and their job. The next level is depicted by control code (3.8%), including the parent's concern about what their children do or where they are, and as a way of being informed in case of problems. By contrast the less important codes are those of motivation, implication and technical ease (up to 2%).

Table 2: Advantages parents notice due to ICT use: 598 (53.8%)

Code "Advantages" Subcategory (level 2)	Rate	Sample text
Communication/cooperation	255 42,6%	"Right now Jesus is connected with George, with Jack, and with I don't know who… and they are playing with those games of…" (Pilar3, P8-102)
Entertainment	116 19,4%	"She likes to see cooking videos, videos about making hairdos, or choreographed dancing… videos for girls" (Lorraine, P7-108)
Homework	51 8,5%	"Perhaps she sends a message to her friends saying 'I don't understand that, and so on…' and then they start explaining the exercise each other…" (Pilar2, P6-096)
Information	51 8,5%	"and it is what we say: 'what it's not on the Internet, doesn't exists', and basically it's true; right now you want to look for whatever… you go on to the Internet, and you find a lot of things…" (Pilar, P5-193)
Working	49 8,2%	"those who don't know how to handle a computer are not going to find a job anywhere" (Jack, P4-104)
Control	23 3,8%	"It's very useful to have her more controlled… and I know whom she phones, at what time she makes a phone call, which messages she sends… her expenses… I have her controlled" (Gerhard, P3-031)
Motivation	12 2%	"I think it's more entertaining, if you want to search something, I think it is, and look at this, if you have to study something, or see something, you watch it on screen, and so you learn it better than seeing it on paper…" (Mary, P2-235)
Technical ease	8 1,3%	"The ease to access to whatever knowledge, i.e., you can enter webs of History, Science, Geography, everything… it's like an encyclopedia" (Allen, P1-172)
Implication	2 0,3%	"They (her daughters) were who learnt how to record, to select, to search…" (Matilda, P1-021)

If we put together all this codes through semantic relations (Figure 4), communication gets the central place, due to its character of facilitation for homework and control; at the same time, it increases with entertainment –online games-, and the attractiveness ICT add through motivation and technical ease. In the end, all these codes tend to produce or improve communication or are implemented through a better use of communication skills.

Figure 4. Semantic network related to positive codes.



Drawbacks pointed out by parents (Table 3)

When it comes to speaking about fears parents show about ICT regarding their domestic environment,

the main worry is the deterioration of family and social relations (21.5%). We have put together both aspects because reveal a similar pattern: the online contact prevails over direct contact (having dinner, staying with friends, attending a social meeting, etc.), though parents focus on the family side. As a consequence of this issue the following code is abuse and dependency (16.4%); parents speak of obsession, excessive concentration, forgetting the passing of time, the need to answer immediately all messages, being hooked, even addiction; all those circumstances facilitate cases of bullying.

"What I've noted sometimes is that anxiety, or frustration of saying 'I want to play and I can't'; how is it called? anger, frustration, anxiety? I don't know" (Paul, P9-296)

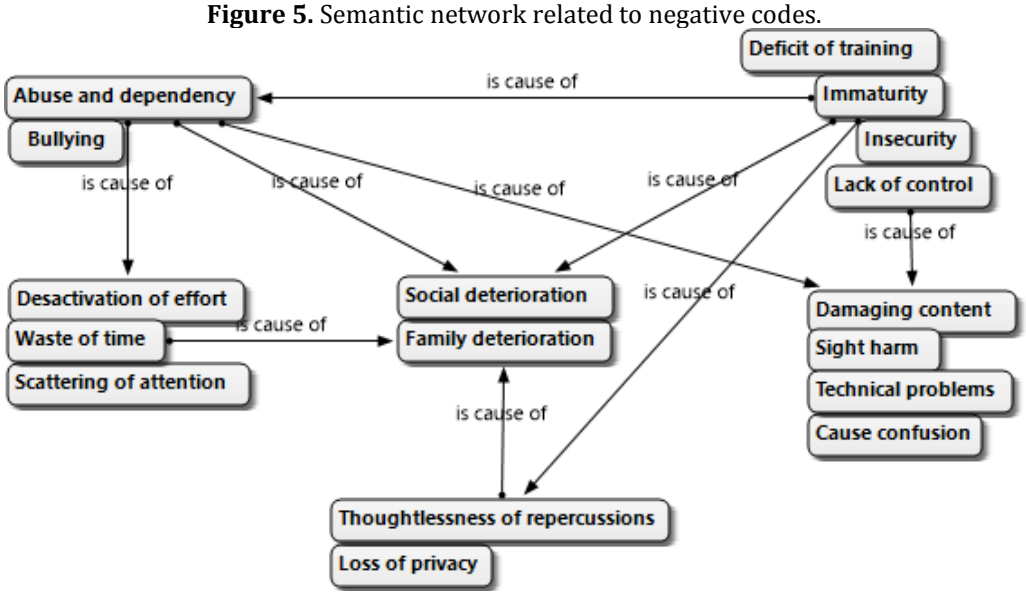
Another downside reflected in discourses is the difficult to control (13.5%) facing the openness of the Internet and the variety of ways children can access to everything the web hosts, behind the parent's backs. In this same group we can include the deficit of training parents recognize, the immaturity of children and the insecurity they experiment. If we put together the tendency to an excessive use and the lack of control, the result can be damaging contents, sight harm, and misunderstandings, fears that parents refer to. Another group of negative aspects are related to working, mainly the demotivation of effort (6.7%), along with wasting time and scattering of attention. Finally, unconsciousness (8.2%) of repercussions and loss of privacy are semantically related to immaturity and can entail problems for both, peers and family.

Table 3: Difficulties parents notice due to ICT use: 512 (46.1%)

Code "Downsides" Subcategory (level 2)	Rate	Sample text
Family and social deterioration	110 21,5%	"you have to fight…'get the mobile phone out of here, switch it off, leave it'… and have to say it twenty times" (Pilar2, P6-098)
Abuse and dependency	84 16,4%	"In fact, when their smart phone has broken they get desperate, totally crazy, because their mobile phone has broken" (Jack, P4-224)
Lack of control	69 13,5%	"It's a constant tug-of-war, in which parents have everything to lose, because when you get home tired from work, you don't feel like fighting with your kids" (Allen, P1-159)
Thoughtlessness of repercussions	42 8,2%	"They are unconscious about the transcendence what you write has, because it's never deleted" (Lorraine, P7-138)
Desactivation of effort	34 6,7%	"If you ask him later… he hasn't got a clue, because he only wrote it down and nothing else… simply to get out of homework" (Pilar4, P10- 195)
Deficit of training	26 5%	"The problem is that parents don't know clearly what a mobile phone is, it's not a toy, that's the problem, and for young people is an icon, something forbidden" (Paul, P9-358)
Immaturity	20 3,9%	"It's a problem of the lack of personality, education or training the person managing that device has" (John, P5-094)
Bullying	20 3,9%	"It's a fact that they always bully the weakest kids" (Victoria, P8-158)
Waste of time	19 3,7%	"nowadays they are all in Instagram, so many photos and so on… to me is a great waste of time, and so I don't like networking sites at all" (Frederick, P2-080)
Cause confusion	18 3,5%	"I have a bad experience with Whatsapp and I really realize that it cannot be used for… telling certain things… that way" (Pilar2, P6-069)
Insecurity	14 2,7%	"There are some people that show themselves as they are, and you notice right away, and other people don't" (Pilar3, P7-123)
Scattering of attention	13 2,5%	"If you surf on the Internet and go from page to page, at the end you don't do what should have…" (Matilda, P1-180)
Damaging contents	10 1,9%	"They can go on the Internet, where some networking sites and other things can be dangerous" (Pilar, P5-195)
Sight harm	4 0,8%	"I fight with them… saying that they are nearsighted, because I've risked my sight due to computers…, but they ignored me" (Manuel, P6-103)
Loss of privacy	4 0,8%	"I don't get any sense that people upload photos for everybody and see you and what you are doing" (Mary, P2-086)

These semantic relations are showed in Figure 5. Social and family relations are placed in a central position being affected by an excessive use of ICT, unconsciousness and immaturity of children. Abuse and dependency seems to be also the main origin of others issues such as deficit of attention and effort along with wasting time. So, any measures that may be adopted must take into account both, the primary cause and the ultimate consequence.

Figure 5. Semantic network related to negative codes.



4. Conclusions and Recommendations

As an exploratory study about the parent's perspective of children ICT use, the first conclusion is that communication is in the centre of both, advantages and downsides. It is the need of keeping in contact with their peers what forces parents to give them access to ICT.

> "…the motive?… they are constantly demanding it (mobile phone), a lot of times, because all their friends already have it…" (Joachim, P8-038);
> "it's a fact that if they haven't got a mobile phone, they don't feel 'cool'" (Constance, P9-223).

It is the possibility of being in contact what makes parents feel secure about their children; and it is the improvement of communication what challenges them to educate kids about these new technologies, facing the declining of the quality of communication itself that ICT use entails. Parents recognize their lack of training, even the failure to control every chance for youngsters to misuses ICT and get harmed. At the same time, it is clear they notice the irreversibility of our network society and its demand for technological skills. An active supervision not always is possible to implement, and much less when adolescents. So they grab every possible opportunity for fruitful teaching, when children enjoy playing online games, get together through networking sites, complain about more time to play, misbehave in family meetings, etc.

> "Sometimes they have taught us things, and other times we have taught them" (Paul, P9-206);
> "…with her I'm always worried, saying over and over… 'watch out for what you upload, what kind of photos…, this one out!'… and insisting her that everything remains…" (Pilar2, P6-053)

So, their educational task is, as always, tiring, demanding, even exhausting. On the one hand, they feel that cannot resign to their duty as the main reference for their children, establishing (at least, verbally) norms and limits they reckon as reasonable and healthy, above all taking into account the immaturity of preteens; but on the other hand regarding the potentiality of these tools, their accessibility and range, it is very difficult to avoid all risks or secure a full control. So, communication emerges as an excellent, if not the only, way to orientate children in managing ICT, time, spaces, contents, and so on.

> "You cannot avoid it, and besides they are very boring… but it must cost him something, and so, what am I getting? that he has to read, to read quite a lot (before using the tablet)" (Paul, P9-075).

It is interesting to observe that parents develop in this sense a democratic style as previous researchers have pointed out, dealing with norms, problems and different situations, but always facing good results from homework and school reports of their children. Many of them assure not to imagine how they acted in case their kids were bad students. Therefore, the question is if the possible supervision and above all, the constant training, even the fight to delay the purchase of devices, have been the better conditions for good results, confidence, and absence of great problems, related to ICT; or perhaps these are lucky parents

whose children are naturally predisposed to a good use of ICT, despite all the available risks. What seems to be clear is that committed parents often talk with their children, insist on basic norms to be performed by kids themselves, are conscious about a necessary autonomy for the young together with their evident lack of experience, and are able to generate confidence in case of serious problems.

> "I don't know how many things remains of all that I usually say to her, and I say to her a lot…" (Lorraine, P7- 392);
> "It's a problem of education… because you cannot be in front of her every time she writes something in Whatsapp, it's impossible… it cannot be avoided" (Gerhard, P3-229);
> "…in the end, it is they who have to do, to realize… to know what is good or bad" (Manuel, P6-060);
> "it's never sounded an alert because they´ve tried to enter such a website… we speak sincerely with them and so far it works" (Jack, P4-118)

To sum up, the key role of parents is proven, by means of a good use of the main characteristic of ICT: communication skills developed from the very beginning, not in a technical sense, nor a critical one only, but in order to build properly their own character. Because every child is different needs different measures to be implemented by intense dialogue.

> "about my daughters, more than the age is the character… they are quite different, in every respect, how to dress and behave…, in their relations…" (Gerhard, P3-117)
> "Nancy has always been more prudent, from the beginning, I think that it's the way of being each one" (Pilar2, P6-075)
> "girls are different, the problem is… they don't want to play, are more sociable, and so, my daughter doesn't have a mobile phone, and when she has, I don't know what are we going to do" (Paul, P7-147)
> "Carla use it more for works, George for watching and enjoing… videos about how can you do…" (Jack, P4-144)

But this issue, the training of children's character through ICT use at home could be the aim of another article.

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