

# The experiences of irish parents in the mediation of their children's use of internet connected devices

## Abstract

The aim of this research was to explore the parental experience in the mediation of children's use of ICDs in Ireland. The research used a qualitative methodology and semi-structured interviews were used as a means to gather data from participants. There were five volunteering participating parents, who were recruited through social media forum advertisements. All of the participants had children between the ages of 9 and 16 years of age. Thematic analysis was used to interpret the interview data and five main themes were identified as follows: Parental mediation (parental control and experience), knowledge of interests, risk, trust and parental anxiety.

The results imply support for prior research in the area of parenting and parental mediation of technology. A number of conclusions were reached including, that the definitional understanding of parental mediation of ICDs used in prior research did not capture the dynamic parental experience of anxiety and trust. Definitional understanding of parental mediation of ICDs could be expanded to recognise that in addition to parental strategies, parents also utilise dynamic tactics that may be covert or overt in nature which may be triggered from being passive to active by child behaviour. Additionally, parental experiences of mediation were found to differ based on location (urban or rural) and that the range of risks identified by Livingston and Haddon<sup>1</sup> (content risk, contact risk, conduct risk and violation of privacy) should be extended to include health risks, social risks, the risk of parental anxiety and the risk of variation in parental mediation standards. The results and conclusions provide additional knowledge to psychologists, counsellors and psychotherapists, which may be of value to the therapeutic process.

**Keywords:** parental mediation, children on-line, risks and benefits, internet devices, Ireland

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Sean Meehan,<sup>1</sup> John Hickey<sup>1,2</sup>

<sup>1</sup>Irish College of Humanities and Applied Sciences, Ireland

<sup>2</sup>Clinical Supervision Services Ireland

**Correspondence:** Sean Meehan, Irish College of Humanities and Applied Sciences, Walton House, Lonsdale Road, Castletroy, Limerick, Ireland, Tel 35361216288, Email sean.meehan101@gmail.com

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**Abbreviations:** ICD's, internet connected devices; PI, participant identification code; CSO, central statistics office

## Introduction

The diversity of the parental experience of mediating children's use of internet connected devices (ICDs) can be illustrated by the sheer volume and prevalence of ICDs. Potential exists for pro-social, positive parental-child experience such as learning and the shared experience of enjoyment from watching an educational or humorous clip on YouTube. However, the potential for positives needs to be balanced with the risk to child safety from adverse effects of exposure to pornographic or violent content, online bullying or the risk associated with online predators.

Literature reviewed by Meehan and Hickey<sup>2</sup> established links between the experience of parents in the mediation of their children's use of ICDs and the general theories of psychology, counselling and psychotherapy approaches.<sup>3-5</sup> The literature reviewed built a chain of evidence that supports the importance of additional research being completed in the area of Irish parents experience of mediating children's use of ICD's.<sup>2</sup> The literature review identified gaps where the parental experience of mediation was understood primarily as binary responses to questionnaires or scores on a scale.<sup>1,6,7</sup> It was contended that the wealth, depth and data contained in the rich narrative of parental experience was not captured because of the methodology utilised in prior research. In this research, the research design was strategically chosen to reflect an understanding of the experience of parental mediation of children's use of ICDs as being a phenomenon that unfolds as part of normal parental activity in everyday life.

Strategically, it was deemed important to capture whatever the parental experience was, confident that the parental narrative would provide a rich source of data. Additionally, the research design was required to accommodate whatever was contained within the parental experience, as the intent of the research was to explore the nature of the parental experience of mediating children's use of ICDs. A naturalistic orientation for research design allows the study of real-world experience as they naturally unfold where the researchers are open to whatever may emerge from the research and where the research design is non-manipulative and non-controlling.<sup>8</sup> Adopting a naturalistic research orientation acts as a complementary balance to prior parental mediation research where quantitative methods were used. This research was strategically designed as naturalistic in orientation and ideographic in approach utilising qualitative methods.<sup>8-10</sup> The use of qualitative methods provides the research with a coherent and systemic capability to achieve the research aims and objectives as it enables the in-depth study of personal experience.<sup>8-10</sup> The choice of research design enables evidence to be obtained which relates specifically to exploring the nature of the parental experience of mediating children's use of ICDs and thus allows for that evidence to describe or assess the meanings contained within the parental experience.<sup>8</sup>

## Materials and methods

### Interview methodology

The research used a semi-structured, open-ended interview design as it provided the ability to access and capture the nature of parental experiences.<sup>8,9,11</sup> The development of the research interview questions

followed a process. A literature review was sequenced prior to any work on developing specific research interview questions. The sequencing of the literature review prior to the development of research interview questions was done with the intent of using the information generated in the literature review as a basis to inform what key information should be contained within interview questions. An analysis of the literature reviewed was completed and main themes were identified. The research interview questions were tested in the pilot interview and feedback from the participant in the pilot interview indicated that the questions were easily understood and that they captured all the necessary aspects of parental moderation of children's use of ICDs.

### Participants, sample size, inclusion criteria and recruitment

Participants volunteered for the research by contacting the researcher following recruitment advertisement. The approach to attracting participants was based upon a snowball sampling technique.<sup>9</sup> A sample size of five participants was used and was influenced by McLeod<sup>9</sup> and Sandelowski's<sup>12</sup> literature. Participants were screened to ensure that participants met inclusion criteria. Participants were required to be the legal guardians of the children that are users of ICDs. Participant children were required to be within the 9-16year-old age range as this age range has been used in prior research on parental mediation.<sup>13</sup> Participants were required to be resident in Ireland and the children have access to ICDs. Participants were excluded where either the parent or child belonged to a vulnerable group as specified in the research ethics. Each participant received an interview pack containing a plain language information sheet, an informed consent form and debriefing information. All participants signed informed consent prior to interviews commencing.

### Data collection, management, preparation and analysis

The research data collection consisted of audio, email and written scripts that were generated as part of the research interview process. Data was managed in line with best practice data management protocol as outlined by the Data Protection Commission's office.<sup>14</sup> Audio data was converted into typed transcripts and prepared for data analysis. Software was used during the transcription process to slowdown the audio script so as to increase transcription accuracy. Information that may identify participants was removed at the transcript stage (without interfering with the narrative or altering the content). Each participant was assigned a Participant Identification (PI) code that consisted of an alphanumeric format such as PI-01 to represent participant one.

### Research trustworthiness, reliability and validity

The intent of the concepts of research reliability and validity or trustworthiness were of concern to this research. Literature detailing methods for ensuring the qualitative research validity were reviewed which indicated that validity or trustworthiness could be established in a number of different ways.<sup>9,15</sup> A selection of methods identified by McLeod<sup>9</sup> for ensuring validity were built into the research process methodology including a comprehensive set of research procedures, contextualisation of the research, conceptualisation of data and systemic consideration of competing explanations or interpretations of the data.

### Resources

There were a number of resources utilised including access to a research texts and a researcher supervisor to seek advice on the technical aspects on the process and interpretation of data analysis.

Software packages were available such as Ethno, NVivo or NUD\*IST and were considered. However, given the volume of data it was decided that a manual method of data analysis was more appropriate. The researcher also utilised the participants in checking elements or whole transcripts for accuracy and validated themes with participants for correctness.

### Ethics

The research was designed to conform to the letter and spirit of both academic and professional research ethics requirements. A research ethics proposal was submitted to and reviewed by an ethics review board. Ethical approval was obtained before research commenced.

## Results

### Overview

The results section begins with descriptive results about the participants and ICDs. Each of the primary themes are then presented in sequential order. The five primary themes that emerged through the application of thematic analysis of extracted data were parental mediation (parental control and experience), knowledge of interests, risk, trust and parental anxiety.

### Describing the Participants

The five research participants consisted of four mothers and one father. All parents were married to a person of the opposite sex and cohabitating. Three parents were located in urban areas and two were located in rural areas. Parents all had access to and had used ICDs personally. The participants were parents of children that ranged from 9years-old to 16years-old, spanning a range of seven years and having a mean of 13years-old (Table 1). The frequency of parents having one child was one while the frequency of a parent having two or more children was four. The participants were parents to six boys, including one set of 13year-old twins and three girls, which fell within the research inclusion criteria (Table 1). Two parents had additional children, one boy and one girl, that were excluded from the research for not meeting inclusion criteria such as being within the 9-16year-old age range (Table 1). In total the participants were parents to nine children that met the research inclusion criteria where boys accounted for 67% (n=6) and girls accounted for 33% (n=3) of children's gender. One parent described mediation of their youngest child's interaction with ICDs while a different parent described the experience of mediating the oldest child's interaction with ICDs. Three parents described the experience of mediating the oldest and youngest child's interaction with ICDs.

### The range of ICDs

The range of ICDs the parents were required to mediate their children's interaction with included laptops, PlayStations, iPods, smart phones, tablets, smart televisions and access to the parents own smart phones. The highest frequency devices were tablets (n=6), laptops (n=5), iPods (n=5), smart phones (n=4) and online gaming systems such as PlayStation (n=3). In addition, parents were also required to mediate their children's access to ICDs in friends and relatives homes, friends devices outside of the home and space or back-up ICDs (some of which were hidden from parents).

### Theme 1: Parental mediation: parental control and experience of mediation

The theme of parental mediation emerged through thematic analysis. The elements were interpreted and aligned under two sub-

groupings: Parental control and parental experience of mediation. Parental controls comprises of elements such as strategy and tactics that could be covert or overt. Parental controls were found to be dynamic. Additionally parental controls could respond to cues or

triggers such as changes in child behaviour that could initiate changes in the type or nature of parental control. Parental experience of mediation includes experiences describing what mediation was like for the parent.

**Table 1** Results and Analysis of Demographic Question Set

	PI-01 <sup>1</sup>	PI-02 <sup>1</sup>	PI-04	PI-05	PI-06
<sup>2</sup> Gender	F	F	F	F	M
Age of Child	15	12	11,16	9,13,13	14,16
Gender of Child	F	M	M,F	F,M4,M4	M,M
<sup>3</sup> Place in Family	Y	O	Y,O	Y,O,O	Y,O

<sup>1</sup>Excludes participants' children that did not meet the inclusion criteria

<sup>2</sup>Gender: M denotes male, F denotes female

<sup>3</sup>O denotes oldest, Y denotes youngest

<sup>4</sup>Twins

**Table 2** Thematic Analysis of Risks Associated with Parental Mediation of Children's use of ICDs

Type of Risk	Sample Data
Content	Pornographic (straight and gay), violence, drug information, viewing risk behaviour, e.g. neck-nominations, pop-up advertisements, age-inappropriate game play, embedded racist content.
Conduct	Three direct experiences of bullying behaviours.
Contact	Chat-room contact with strangers, talking to strangers, meeting online 'friends' face-to-face, unsolicited contact by strangers, e.g. an unsolicited contact from a user called "Lovely man".
Privacy Concerns	Provision of information to strangers online via social forms, Skype and trading sites, e.g. DoneDeal.ie.
Parental Anxiety	Anxiety experience about child meeting a buyer face-to-face.
Health Risks	Child remaining inactive while engaging in ICD activity.
Social Risks	Child not engaging with peers face-to-face. Time spent isolated engaging in online contact only.
Parental Mediation Standards	Variations in parental mediation standards illustrated by absence of any mediation of content when child is at friend's house.

Parental mediation strategies were identified by the presence or absence of regulatory or restrictive practices.<sup>16,17</sup> In the interview with PI-01, when talking about the child meeting up with people who were online contacts, the participant stated:

"So I don't want to be, I don't want to be, I don't want to be curtailing her."

- i. The text was coded as being related to parental mediation, further coded as strategy and classified as a low/non-regulatory mediation strategy. Data also identified that parents allowed child self-regulation as an element of parental mediation. In an extract from the interview with PI-05 both elements of parental mediation strategy and tactics were identified: "But generally, as a general rule, it is controlled. Because down at, because everything, like everything is password protected. If you know what I mean, even the Wi-Fi".
- ii. In this case the data reflects an ICD mediation strategy that displays high levels of regulation/restrictions and the tactics employed to implement the strategy are the use of technical restrictions (passwords protected devices). Evidence of covert parental mediation strategies and tactics emerge within the text. PI-02 describes a tactic of visually checking for appropriate content as: "I suppose that's why I would walk into the room and always have a glance to see what he's at. And make it very quick, you wouldn't know I'm at the door until I'm in beside ya."
- iii. The covert tactic used by PI-02 is recognisable in additional data: "There's only so much, so many times you can stick your head in the door. 'Would ye like a Mi-Wadi boys?'"
- iv. Similarly, PI-06 stated:

"I mean I'll just walk into the room just to say 'Hi Guys'. 'All Ok?' and then I'll just watch for the reaction."

- v. Data was categorised as covert strategic where the parents actions were understood as being part of a longer-term approach designed to influence the way the child viewed elements of ICD interaction. PI-05 stated when children did not have a social media account but overheard the children talking about asking the parent for one: "And I keep saying that Facebook is full of crap and people are just nosy, they just want to look at whatever. You know, and any information you put on it the world can see, and you know, this kind of crap. So, I keep trying to throw that in when they're not using it so that it's not like I'm just saying it because they're using it. I'm throwing in the stuff now. When they're not using it so you're planting the seed. ... That's the plan."
- vi. Parental mediation strategy and tactics were identified as extending beyond the domain of ICDs as data indicated that four of the five parents used access to ICDs to regulate general child behaviour as illustrated by the data in PI-06's text:
- vii. "I do it to let them know that when it comes to it, you push me too far, I will take, I will switch it off."
- viii. The dynamic element of parental mediation strategies and tactics was observed in the data for example where parents adopted more than one set of strategies and tactics or a situation arose where the parent made a change in their mediation methods. Packets of data that were categorised as being dynamic include data from PI-04's interview where they described a situation where they had removed a smartphone from a child as part of a punishment:
 

"My daughter is very em, clever, so she always has a spare phone and she'd say let me turn off my phone first so she'd take out the

SIM card when I'd be occupied and put it into the other one. And I'd be wondering why it didn't seem to really bother her and then I'd remember there was another smartphone somewhere that would be, so when you cop on to that, then when you get everything and you make sure that you have the SIM card ..."

ix. The data (above) was coded as reflecting a dynamic change in parental mediation tactics and interpreted as containing evidence of child counter-strategies. In the two cases where parents had two children of different genders, both indicated that the experience of mediating boys and girls ICD activity differed. However, for one parent the boy was highlighted as being a much more difficult and challenging experience whereas it was the reverse for the other parent. Both parents referred to the different ways that boys and girls use ICDs and the different content they access. PI-04 was very specific about using different parental mediation styles within the same household, indicating a dynamic aspect to parental mediation: "... you would have to watch the access with him whereas she'd be very different. Am, I suppose you could give her a lot more autonomy than him."

x. The final element of the overarching theme of parental control is the aspect of a triggering both explicitly stated in the data set and implicit by reference to the change in parental behaviour. Every participant made reference to observations of child behaviours "triggering" a change in their parental mediation tactics. The change in parental response was visible in the data from PI-06's interview:

"So I can pretty much hear, even though I've a pretty good ability to blank out, but I can hear what's going on and ya know, I'd be quite conscious. So if I hear things suddenly go silent I go straight into the room."

xi. PI-04 describes how their mediation tactics change when they here laughter: "And he puts in the headphones because he said it will be annoying everybody else, which it would, but then you don't know when the headphones are in, exactly, and it's when I hear the laughing, I know there's something going on."

xii. PI-01 describes how child tiredness triggers them to remove access to the Wi-Fi connection for ICDs: "They love the bed and like their sleep and you know if they are not getting up then you know there is a problem. So you know to take them off it."

xiii. The overarching theme of parental control: strategy, tactics, dynamics, covert/overt classification and triggers, illustrated in Figure 1, was used to capture the main elements relevant to parental mediation of children's use of ICDs. The theme of parental experience of mediation was used to capture the experience of 'what it was like to mediate' children's use of ICDs. Data supporting this theme indicates that parents experienced degrees of effectiveness in their parental control approach ranging from "very effective" (PI-04) to ineffective "it didn't help in the slightest" (PI-02). Data captured pro-social and positive experiences including the use of "great" and "brilliant" in text packets, while all participants described positive shared parent-child experience. However, data indicates the range of parental experiences where parents describe elements of parental mediation as being "hellish" and "very difficult" with the presence of arguments, physical tussles, fighting and name-calling. Data identified that an urban or rural location plays a role in the parental experience as illustrated by the contrasting experience. An urban participant described:

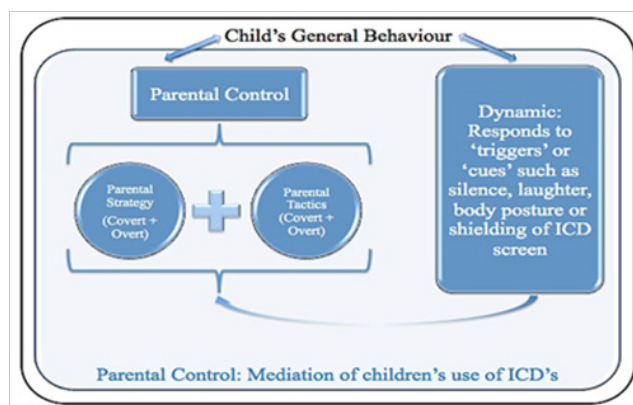


Figure 1 Parental Control as an element of Parental Mediation.

"... when they're outside I absolutely know that there will be somebody amongst the group who can get onto the internet"

xiv. However, the experience of the parent from a rural location was: "It's not as if I, say if the kids have a row with me 'Ugh, I'm going out to play on the green', hook up with a pal, and they're looking at whatever, and they show them on their phone ... I don't have that. ..."

## Theme 2: Knowledge of interests

The theme of "knowledge of interests" evolved through the thematic analysis process. The theme emerged from the narrative where participants went beyond identifying a benefit to rich descriptions that informed parental knowledge about the scope and depth of the child's regular ICD activities such as music, online gaming, social forums and digital art. As a theme, knowledge of interests contains information on parental knowledge of the benefits, learning's and implications from a child's ICD interaction combined with an understanding of a child's feelings or emotional attachment to or about ICD content. Specifically knowledge of interests contains a parental understanding of what the ICD interaction means to the child as illustrated by the data extracts:

- "His main interest in life is Minecraft, ah, and he's a complete addict of Minecraft." (PI-04 interview transcript).
- "But generally the stuff that they do, that they're interested in, is like racing, or whatever 'tis, or but music, they download music, they like music a lot." (PI-05 interview transcript).
- "...we just never had to worry about her in any kind of inappropriate stuff, she wouldn't be interested in it, not interested." (PI-04 interview transcript).
- "... there's a few apps and a few sites that he would use but they are all games ..." (PI-02 interview transcript).
- "... my daughter would be into Facebook, social media, social networking, am, that kind of thing. You know, what's happening. Whereas he'd be more interested in playing games.." (PI-04 interview transcript).

## Theme 3: Risk

Risk emerged as a prominent theme for each participant. Data analysis found that all participants had experience of mediating content risk, contact risk, conduct risk and privacy concerns. In addition, thematic analysis revealed additional risks that were grouped under the headings of parental anxiety, health risks, social risks and parental mediation standards (Table 2).

**Theme 4: Trust**

Trust emerged as a succinct theme with participants indicating that levels of trust informed, moulded and changed parental mediation strategies and tactics. Explicit data on trust included:

- "She's got her head screwed on, as far as I can gather, so, I mean a lot of it is trust you know." (PI-01 Interview transcript).
- "I spoke to him, it's like a thing of trust, isn't it?" (PI-02 interview transcript).
- "I would know implicitly that she would not get involved in anything on the internet that wasn't ok. With him, I'd have to watch." (PI-04 interview transcript).

Data indicated that levels of trust may vary dependent on situation, gender or child personality.

**Theme 5: Parental anxiety**

The theme of parental anxiety is being used as an umbrella term to capture the data set that referred to worry, concern, being scared or being frightened about issues related to children's activities on ICDs that have occurred or may occur in the future. Consideration was given to including parental anxiety as being an element of the experience of parental mediation. However, because of the prominence of parental anxiety as a theme within the data, it was decided to treat it as a separate, but related, theme. Data within PI-02's interview illustrates when describing accompanying the child to meet someone who had contacted the child about buying a phone:

- "Yeah. And that to me, I was actually really scared even though he was a very nice lad, but ... yeah, but that was like, imagine there's a stranger coming to meet us at this corner. We didn't go, we didn't let him come to our house."
- The data script (above) fails to communicate the intensity of the emotion expressed by the interviewee (PI-02). PI-06 when talking about contact risk with online predators stated:

"Obviously there are lots of people getting sucked in ... "

Data indicating future anxiety is visible in PI-04's data:

"Ya'd know with him. As he gets older, you know when they'd be tempted to answer these people."

**Discussion****The descriptive data**

The demographics of participants provides a platform to begin the discussion as it gives a broad view of personal attributes associated with each parent. All were heterosexual, cohabitating, married, had similar socio-economic circumstances and were relatively computer literate in that they described checking internet search histories and were aware of parental controls. Participants may be viewed as being from similar family unit make ups in that they conform to the traditional married, middle-income type. It could be argued that the participants represent the parental experiences of a large section (62% according to the CSO<sup>18</sup>) of the parental population however they do not cover all types of parental arrangements. An observation could be made that the results may have been different had a more diverse group of participants been involved such as younger or older parents, lone parents or parents who were not computer literate. The research should be recognised for including mothers and a father from a mix of urban and rural locations.

The participant group should be noted for being parents to children of different ages (9-16years-old) and different genders. Child age and gender, were identified by Livingstone and Haddon,<sup>1</sup> as being predictors for online risk exposure. Importantly the inclusion of urban and rural parents enabled data to emerge that illustrated a difference in the way that location may influence the experience of parental mediation of children's use of ICDs.

When parents were asked about the range of ICDs that their children had access to, the highest frequency devices were tablets (n=6), laptops (n=5), iPods (n=5), Smartphone's (n=4) and online gaming systems such as PlayStation (n=3). A number of interesting observations can be made when the data is looked at in context. The 20% of Irish children that O'Neill et al.,<sup>19</sup> showed as having access to ICDs while 'out and about' seems different to what parents reported in that the prevalence of Smartphone's in this research was four out of nine. This suggests that access while 'out and about' is more than double what O'Neill et al.,<sup>19</sup> contended. Critically, this research and O'Neill et al.'s<sup>19</sup> are not directly comparable because different methodologies were used and that access to ICDs while 'out and about' could well have increased in the intervening three years since O'Neill et al.'s<sup>19</sup> research was published. An additional observation comes from a participant's interview script (PI-02) where they state "every child in the class has one", referring to 12year-olds having Smartphone's. The prevalence of Smartphone's in this research was four out of nine children indicating that not every child has a smartphone.

An additional observation is that no parent, when asked about the ICDs that they were required to mediate, actually listed their children's access to ICDs in friends and relatives homes. Themes emerged from data analysis identifying significant issues and risks in mediating children's ICD use while 'out and about' or in other people's homes. The importance of recognising risk external to the home by parents may help to inform parental mediation strategies.

**Theme 1: Parental mediation (Parental control and experience of mediation)**

The literature review by Meehan and Hickey<sup>2</sup> highlighted Kirwil's<sup>17</sup> perspective that parental mediation contained "regulatory strategies that parents introduce to maximize benefits and minimize their children's risks from Internet use". Results identified parental control of ICDs may be segmented into strategy and tactics. Critically, the emergence of tactics would suggest that there is an additional layer below the regulatory strategies that Kirwil<sup>17</sup> identified. Data indicates that the strategies and tactics that parents use can be overt and/or covert in nature. The literature of Appel et al.,<sup>20</sup> Holtz and Appel,<sup>21</sup> and Lee and Chae<sup>22</sup> was unspecific in characterising parental mediations process as containing covert elements. However, the findings suggest that the covert/overt nature of parental monitoring referred to by Livingstone and Helsper<sup>1</sup> can be extended to include parental mediation strategies and tactics. Analysis of the literature reviewed indicates that the majority of the literature inferred that parental mediation strategies were not dynamic. However, the literature on parenting styles did allow for parents choosing a parental style that allowed for a mix of restrictive and instructive parental mediation practices.<sup>1,23</sup> The results of this research suggest that mediation strategies may be dynamic and are not rigid.

Thematic analysis identified that changes in parental actions in monitoring can be triggered by child behaviour. The narrative of the literature reviewed by Meehan and Hickey<sup>2</sup> however did not infer that parental reaction to child behaviour was a key element of parental

mediation strategy. Interestingly, this suggests a connection between the work of Bernstein<sup>24</sup> and Gamble and Gamble<sup>25</sup> in understanding cues or triggers of deception and the wider literature on parental mediation. Research indicates that distance, silence, and bodily cues (such as posture or facial expression) may trigger a form of parental mediation intervention.<sup>24,25</sup>

Results indicated that the use of parental mediation of ICDs is mainly, but not exclusively, used in line with Kirwil's<sup>17</sup> view that it is to "maximize benefits and minimize their children's risks from Internet use". Four of the five parents (80%) were found to have used access to ICDs as a strategy to moderate general behaviours. Here, the results suggest that parents may use access to ICDs as a way to moderate general behaviour. The parental experience of use of access to ICDs as a way to control general child behaviour was not considered in prior research such as that of Clark,<sup>16</sup> Kirwil<sup>17</sup> or O'Neill et al.,<sup>19</sup> and as such the results of this research differ from prior research.

The research of O'Neill et al.,<sup>19</sup> highlighted that 20% of Irish children had access to ICDs while 'out and about'. However, the results found that the nature of mediating that experience varies between urban and rural locations as children in urban areas were identified as having greater access to ICDs and Wi-Fi while 'out and about'.

An implication of the findings suggests that there may be limitations with the definitions of parental mediation of ICDs offered by Kirwil's<sup>17</sup> and Clark.<sup>16</sup> An additional implication is that view of parental mediation containing a mix of regulatory and non-regulatory strategies may need to be reconsidered. Results indicated that parental control swung between passive and active as a reaction to triggers in the child's interaction with ICDs. Further research will be needed to characterise the nature and extent of covert parental mediation strategies and tactics and the use of denial of access to ICDs as a way of moderating general behaviour. Furthermore research is also required on the characterisation of the triggers that may cause a change in parental controls. Understanding the different elements such as the use of ICDs to moderate general child behaviour or the presence of triggers would seem to be important. Any research in the area of parental mediation of technology would seem to be incomplete without considering those elements.

## Theme 2: Knowledge of Interests

The theme of knowledge of interests was identified as a benefit where knowledge of interests refers to the breadth and depth of a parents understanding of what their child is interested in, or engaging with, while interacting with ICDs.

Knowledge of interests was not specifically identified as a benefit in the literature reviewed on parental mediation strategies for ICDs. However, the concept of parental knowledge featured prominently in the work of Kerr et al.,<sup>26</sup> on the way that trust develops within the parent-child relationship. Additionally, the theme of knowledge of interests may be linked to improved parental experiences and pro-social activity. Parental exposure to the child's ICDs content can, according to Osit,<sup>27</sup> actually contribute to better parenting experiences and lead to better real life experiences for children as children develop social skills through online interaction while learning about boundaries under parental supervision.

The theme of knowledge of interests can be considered important as the concept compliments research to date but extends the understanding of knowledge as being a list of benefits to also include knowledge of what those benefits mean to both the child and parent.

## Theme 3: Risk

Livingston and Haddon<sup>1</sup> used four categories to capture the risk types that parents mediate: Content risk; contact risk; conduct risk; violation of privacy. Additionally, Livingston and Haddon<sup>1</sup> contended that child age and gender were predictors of online risk exposure. In general, the research findings support the risk categories and strong evidence of parental experience of those risks were found. Additional risks to those identified by Livingston and Haddon<sup>1</sup> emerged. The risk of parental anxiety identified in the results corresponds to the parental concerns about online activities that Nauer<sup>28</sup> had identified.

Critically, the research findings of additional risk categories, including health and social risks suggests that there are other identified risks to be considered in addition to those suggested by Nauer<sup>28</sup> and Livingston and Haddon.<sup>1</sup> The thematic analysis supports the consideration of a wider range of risks to also include those risks suggested by Ebeling et al.,<sup>29</sup> and Levy<sup>30</sup> such as health risks (physical and mental) and social risks. The identification of additional classes of risk may be of importance as they may add new dimensions to the way that parental mediation of ICDs is understood. A consequence of a possible broadening of the risks to include parental anxiety, variations in parental mediation standards, health risks and social risks is that the topic of parental mediation of children's use of ICDs may be of more interest to health promotion policy makers.

The literature reviewed by Meehan and Hickey<sup>2</sup> identified that Nauer<sup>28</sup> and Livingston and Haddon<sup>1</sup> should be acknowledged for how their work helps to create an understanding of parental mediation of online activities. However, the tone of both Nauer's<sup>1</sup> and Livingston and Haddon's<sup>1</sup> work seems to imply that risk should be associated with negative consequences. The results of the research identified positive possible outcomes from engaging in or occurring from risk associated with ICDs. The data identified pro-social outcomes. In one case, the parent of a 15-year-old girl was able to meet her online friends in person. That experience was positive because the girl formed new friendships with peers that shared similar interests such as online activity, meeting for coffee and going to the cinema. What the data failed to communicate was the happy sounding voice of the interviewee and their smiling face when they were talking about their child having gained friends. Previously their child experienced difficulties in forming friendships. Critically, the pro-social outcomes contained within the research data challenge the views that risk should be primarily connected with negative outcomes suggesting that risk should be considered as having a range of outcomes. Additionally, the research provides support for Appel et al.,<sup>20</sup> and Van der Eijnden et al.,<sup>31</sup> perspectives in that benefits may occur from the instructive and restrictive parent-child communication contained within the parental mediation experience.

The data provided a rich source for understanding the risk of parental anxiety and contact risk. The narrative of the data contained a parental experience of an 11-year-old boy wanting to sell a phone and placing an advertisement on a website while following detailed restrictive instructions provided by the parent. The data contains no expression of worry or concern by the child. However, what can be characterised as high levels of anxiety were experienced by the parent. This is illustrated by the use of the phrase "this is scary" twice and stating "I was actually really scared" and "I find that terrifying" in addition to using imagery to describe the meeting as "... imagine there's a stranger coming to meet us ... " (PI-02 interview transcript). The anxiety experienced by the parent would not have occurred had the child not been engaging in ICD activity and the data suggests that the anxiety was not shared by the child. The outcome of the

interaction can be viewed as being pro-social in that the both child and parent spent time talking about the risks which according to Osit's<sup>27</sup> can contribute to better parenting experiences. Additionally, Appel et al.,<sup>20</sup> contend that the successful parental mediation should benefit the parent-child relationship.

The value of both examples used should not however be limited to relating back to the literature, as it provides an illustration of how the risk of parental anxiety may relate to the broader field of psychological and psychotherapy services. In the case of the girl befriending online contacts, the parent expressed little concern and put in a restrictive parental mediation tactic in sending the girls 18-year-old-brother as a chaperone to mitigate the perceived risks. In the case of the parent of the 11-year-old selling a mobile phone, the parent seems to have experienced high levels of anxiety. The anxiety maybe understood through models of anxiety where there is a trigger stimulus that generates a worry or perceived threat leading to the experience of emotions leading to additional worries.<sup>4</sup> Both examples triggered a worry illustrated by the parent responding with increased parental control. However, one of the parents seemed to go on to experience a secondary worry. An inherent value of the data is that it may help to inform people in the counselling and psychotherapy profession how issues directly linked to the parental mediation of children's ICD activity may relate to individual behaviour patterns.

#### Theme 4: Trust

The understandings of how to define parental mediation of ICDs offered by Clark<sup>16</sup> and Kirwil<sup>17</sup> were identified in the literature review as being limited as they did not consider parents whose mediation strategies of ICDs were informed by trust or other factors. Thematic analysis identified trust as being a component in every participant's approach to the mediation of ICDs. The thematic analysis results indicate support for the work of Kerr, Stattin and Trost<sup>26</sup> and Meyers and Gilbert<sup>32</sup> indicating that trust is an element within the parent-child relationship. However, Kerr et al.,<sup>26</sup> and Meyers and Gilbert<sup>32</sup> did not place the parent-child relationship in the specific context of ICD mediation. A difference exists between the definitional understanding of parental mediation and the research results. Critically, it could be viewed that a finding that trust plays a role in parental mediation may add to the scope and understanding of parental mediation of ICDs. An implication of the thematic analysis findings suggests that trust should be considered as an element or a variable in parental mediation of ICDs. Perspectives not considering trust as an element may be incomplete.

Participants also identified that trust varied depending on situation, type of ICD use and between children. Data identified that situations, such as the child being in the house on their own, had different levels of trust implied than when a child was with a group of friends in a friend's house where parental monitoring of ICD activity was absent. Similarly, data identified that different genders had different levels of trust as illustrated in this data extract:

"I would know implicitly that she would not get involved in anything on the internet that wasn't ok. With him, I'd have to watch." (PI-04 interview transcript)

Interestingly, parental experiences in the results were shown to differ between child genders. The data showed that the parental experience indicated that boys and girls seem to use ICDs for different reasons and the type of content they access also differs. The results showed that boys engaged in online construction game activities (five of the six boys played Minecraft) and violent content games (e.g. Grand Theft Auto and Call of Duty) whereas this was not present

for girls. The data results seem to match Biddulph's<sup>33</sup> contention that the parents have different lived experiences of parenting boys and girls. In this case the parental experience seems to contain different levels of trust based on gender. It should be noted however that data also reflected that the different experiences in parenting different genders may be just the experience of parenting children with different personalities. It could be observed that the difference in child personalities does not explain the difference in ICD use and content difference that there seems to be between boys and girls. A balanced assessment suggests that the research data is not strong enough to distinguish the difference in levels of trust being down to gender or personalities. Critically, it may be observed that both Clark's<sup>16</sup> and Kirwil's<sup>17</sup> definitions of parental mediations may be strengthened by the consideration of trust, gender or variations in personality types, which are absent from the definitions currently.

An implication of the thematic analysis findings is that trust has not been considered as a salient element or variable in parental mediation of ICDs to date. An additional implication based on the findings is that trust seems to vary on situation and between different parent-child relationships suggesting that researchers may encounter difficulty in trying to characterise trust in the context of ICD mediation, or may also have difficulty in operationalising the concept for quantitative research. Regardless of the difficulties that researchers may encounter, there is an importance in the identification of trust as being an element of parental mediation. Trust connects research on parent-child relationships to parental mediation strategies, where trust was not considered as an element of the parental strategy. Research on parental experiences that may not consider trust may reach incomplete conclusions and therefore may make recommendations that are incomplete (due to the absent of understanding).

#### Theme 5: Parental Anxiety

Similar to trust, parental anxiety was not considered to be a factor in the understandings of how to define parental mediation of ICDs offered by Clark<sup>16</sup> and Kirwil.<sup>17</sup> Nauert's<sup>28</sup> research identified parental concerns as an issue without viewing those concerns as forms of parental anxiety. Data contained within the thematic analysis seems to support Nauert's<sup>28</sup> range of parental concerns as data packets included parental anxiety about on-line predators, privacy issues, pornography, online gaming and bullying activity. Critically, no participant expressed an anxiety about online gambling activity, which differs to Nauert<sup>28</sup> who identified gambling as a concern. The analysis of the literature highlighted that Nauert<sup>28</sup> did not capture the lived experience of what it is like to experience those concerns.

Parental anxiety evolved as a theme from the data analysis identified within the data by such words as worried, afraid, scared or concerned and through the expression of anxiety about future events or about potential ICD risk activity that the children could be engaged with. The expressions of parental anxiety were rich, powerful and, at times, were intense within the interviews. The data illustrated the risk of parental anxiety providing an indication of how the risk is experienced in that it related to the past (worry about the effects of children viewing pornography) and to the future (anxiety about future on-line contact with strangers). It could be observed that the issues of past anxiety related to parental mediation of children's use of ICDs are not really about the past. Using different anxiety-models the parental anxiety could be understood as a triggering event (child viewing age-inappropriate content pornography), leading to a worry (child will continue to view age-inappropriate content) and then an experienced emotion (parent experiencing forms of fear, being frightened).<sup>4</sup>

It should be highlighted that parents expressed different levels of anxiety leading to different types of parental behavioural responses that can be characterised by the volume and range of additional ICD mediation controls introduced by the parent. The parental mediation strategy of low-regulation (allowing child self-regulation, parent not having access to child's laptop, no internet search history monitoring) and parental expression of high levels of trust in a child's ability to self-regulate may be linked to lower levels of the experience of parental anxiety. However, an observation could be made that parents may also express an experience of low levels of anxiety due to having a strategy of high levels of restrictions and controls in place. This suggests that the experience of parental anxiety could be relatively low in differing types of parental strategies. Analytically, a connection should not be assumed between a parent experience of anxiety and the effectiveness of a given parental mediation strategy. It is not implied that just because a parent is not experiencing parental anxiety that the child might not be engaging in ICD activity that may be of concern to the parent or that the chosen parental strategy is actually effective.

The understanding that parents may experience levels of anxiety specifically about the consequences of children engaging in ICD activity would seem to be of relevance to the areas of counselling and psychotherapy. Feltham and Horton<sup>4</sup> recognise that different psychotherapeutic modalities understand and seek to resolve anxiety differently. Critically, the research identifies that a child's activity on an ICD could provide a triggering event for parental anxiety which may be of benefit to therapeutic approaches for both individual and family systems approaches.

### Research critique and opportunities for further research

It could be argued that a specific strength of the research was the methodology used in that there was little qualitative research in this area and that the results generally compliment and add to the quantitative research completed by others. The results of this research provide a range of opportunities for further research including the possibility to establish the strength of quantitative relationships between variables such as parental anxiety and the use of restrictive controls.

Critically, the research can also be considered to be incomplete. While it should be acknowledged that the research has captured parental experience of mediating children's use of ICDs, that may only account for half the understanding. The research did not collect or understand what the child's experience is of parental mediation. An exploration of the child's experience of parental mediation may provide results that could contribute to a wider understanding of parental mediation. However, practical constraints such as ethical and time considerations meant a limited scope for this research. An opportunity exists to research the children's experience of parental mediation and should be considered as a potential way to build on this research.

### Conclusion

A number of conclusions can be drawn from the research. The definitional understandings of the parental mediation of children's use of ICDs used in prior research does not capture the breath of the parental experience when mediating children's use of ICDs. The research, in general, provides support for prior research such as Livingston and Haddon<sup>1</sup> classification of risks, Nauert's<sup>28</sup> parental concerns and the contention by Osit<sup>27</sup> that parental mediation can positively influence the experience of the parent-child relationship.

However, the research found that additional risks such the health (physical and mental) and social risks such as those identified by Ebbeling et al.,<sup>29</sup> and Levy<sup>30</sup> should be included in the broader understanding of risks associated with ICD mediation. It is concluded that in addition to the risks identified and considered by Livingston and Haddon<sup>1</sup>, that additional risks, specifically health risks, social risks and the risk of parental anxiety, should be included in any consideration of parental mediation of ICDs. Additionally, it is concluded that parental mediation contains the elements of parental control and parental experience. Parental control consists of parental mediation strategy and tactics that can be covert or overt in nature. Parental experience contains parental anxiety, trust and knowledge of information. Risk should be considered as an element that overlaps between parental control and parental experience. It is contended that a dynamic relationship exists between parental controls and parental experiences where cues or triggers may activate a change in parental mediation from being a passive to active state. Finally, it is contended that the research is of value to the body of knowledge for psychology and the related professions of counselling and psychotherapy.

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### Conflicts of interest

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