DEVELOPING CHILD PROTECTION STRATEGIES:

A Critical Study of Offenders' Use of Information Technology for the Sexual Exploitation of Children

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Abstract

The overall aim of this thesis is to critically explore offenders' use of information technology for the sexual exploitation of children, focusing upon child abusive material and grooming, in relation to the societal response, i.e. legal and technological regulation models. The following aspects are highlighted (i) How can offenders' use of information technology for child abusive material and grooming be understood in relation to current regulation models? (i) What alternative models for regulation of child abusive material and grooming could be proposed? (iii) What are the implications of applying a critical approach? The motivation for conducting this research has been to contribute, with empirically based research, to the development of effective child protection strategies in relation to child abusive material and grooming. The empirical material used in this thesis consists of court and police records and interviews with offenders. The result shows that offenders' use of information technology for child abusive material and grooming is more complex and multifaceted than current regulation models have managed to envisage. It has been recognized that the offenders are aware of the illegality in their activities and thus the risk of being observed by law enforcement and have therefore developed different technological and social strategies to be able to continue with their criminal activities. Therefore, this thesis suggests that existing regulation models such as law and the use of technology for filtering should be re-evaluated and that further dimensions such as norms and markets should be considered.

Keywords: critical IS research, sexual exploitation of children, child abusive material, grooming, information technology, offender, regulation, informatics

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Introduction

Modern technological innovations, such as information technology, have without doubt brought significant social, educational and economical benefits for individuals, organizations and societies. The use of information technology enables easy and rapid access to large volumes of information and can be used to allow people to socially interact with each other despite geographical distances (Gillespie, 2008). All these positive effects of the diffusion of technology have been well researched within the field of information systems. Modern technology can however be described as a double-edged sword, since the same technology also can be misused for criminal activities (Wall, 2007). This thesis deals with offenders' use of information technology to sexual exploit children, and focuses upon child abusive material and grooming and the societal response to such exploitation. Child abusive material, sometimes referred to as child pornography, refers to material depicting the sexual exploitation of children ranging from images of children posing (usually naked) to material portraying physical sexual abuse. Grooming refers to the process where an adult seeks to establish contact with a child for sexual purposes. It could be argued that the positive features provided by information technology, such as for example accessibility and anonymity, become negative ones in the hands of individuals with a sexual interest in children (Sheldon and Howitt, 2007). Besides being an example of how modern technology can be 'misused' a number of actions surrounding child abusive material and grooming are at the same time the subject of criminal offences in many Western countries. Wall (2007) argues that the relationship between crime and technology is by no means new and that the technological 'cat-and-mouse game' between offender and law enforcement remains much the same as in the past where offenders still act as a driving force in the development of new technologies while law enforcement agencies tend to be behind in the use of technology for investigation, apprehension and prevention. The increase in personal computing power and easy access to worldwide communication networks has had significant effects upon criminal behaviour and gives rise to a number of important challenges for law enforcement. The dualistic nature of modern technology should be emphasized, i.e. that the characteristics of information technology used for criminal behaviour also can act as useful 'disciplinary tools'

by law enforcement to regulate, police and prevent such behaviour. Lessig (2006) challenges the common belief that 'Cyberspace' cannot be controlled and argues that this environment is becoming more regulated than the 'real space'.

It should be noted that neither child abusive material nor grooming are new phenomena created by information technology. The technology has however changed the circumstances for individuals with a sexual interest in children to produce, distribute and access child abusive material. In addition, the technology facilitates interaction with other like-minded individuals sharing the sexual interest of children and for adults to seek contact with potential victims to abuse (Sheldon and Howitt, 2007; Gillespie, 2008). As recognized by Taylor and Quayle (2003) and Gillespie (2008) information technology has become the primary medium for the distribution of child abusive material. Furthermore it has also been recognized that child abusive material available through modern technology is increasing and that the average of age of the children being portrayed in the abusive material is decreasing (Taylor and Quayle, 2003; Quayle et al, 2008).

Child abusive material and grooming could be seen as topical examples of one of the most problematic areas of misuse of information technology. These two phenomena touch upon deeply held moral convictions, where subjective opinion and moral position tend to dominate the debate rather than rational arguments. Child abusive material and grooming in relation to modern technology have lately been subjected to increasing media attention. The media construction of these phenomena tend however in some cases to cause moral panic (Cohen, 2002) instead of making a useful contribution to the area. This simplified description could partly be explained by the tendency of media to report modern technology in a 'technological deterministic' way, as though technology was a determining force (MacKenzie and Wajcman, 2002) and also partly by inadequate understanding of what child abusive material and grooming entails. An obvious risk with this simplified construction is the risk of implementing ineffective regulatory models as an immediate response to the public anxiety. The main way to counter the effects of such erroneous media constructions is by presenting alternative insights based upon empirical guided research (Cohen, 2002; Wall, 2007). Such alternative insights would be useful to develop more effective regulatory models as one of several strategies for protecting children from sexual exploitation.

Even though that information technology has become a central component for producing, disseminating and accessing child abusive material and grooming little academic research exists that seek to question the involved technology within the field of information systems (IS). Research disciplines such as law (Gillespie, 2006, 2008; Akdeniz, 2008) and psychology (Taylor and Quayle, 2003; Sheldon and Howitt, 2007) have begun to explore the connection between modern technology and child abusive material. Even if neither address issues specifically related to technology, the results of legal studies on child abusive material and grooming will provide valuable insights about the legal definitions and legislations and psychological studies will provide useful insights about the cognitive processes explaining why offending behaviour occur and its implications for treatment, but neither specifically focus upon the technology, its use and effects. This thesis will adopt a critical perspective when studying the use of information technology in the context of child abusive material and grooming and its societal response. As described above many actions surrounding these two phenomena are subject of criminal offences which means that regulation is an important dimension of the empirical domain. This study will therefore to some extent discuss results from the legal field regarding regulation of offenders technology use and less go into the psychological research of the offending behaviour. The meaning of adopting a critical perspective within this empirical context will be explained in the following section where the research aim and the research questions are presented.

Research aim, questions and motivation

The overall aim of this thesis is to critically explore offenders' use of information for the sexual exploitation of children specifically focusing upon child abusive material and grooming and the societal response. In this context, 'societal responses' refer to current regulation models (both legal and technological) aiming to control and prevent child abusive material and grooming.

The motivation for conducting research within this field is to contribute with alternative insights and 'counter pictures' (Alvesson and Willmott, 1999) that could contribute to the development of effective child protection strategies, e.g. increase the protection for potential victims. This requires an understanding of the offenders practice in order to gain insights and formulate critiques and question the status quo, i.e. the existing social reality. The term 'offender' in this thesis refers to an individual convicted of the production and/or distribution and/or

possession of 'child pornography' according to Swedish law. It should be noted that although children as victims, and potential victims, have a central role in a societal response, they are not studied explicitly.

This thesis addresses the individual offenders' use of information technology in relation to child abusive material and grooming. This group of offenders could be characterized as being a marginalized and highly stigmatized group in society that has been involved in criminal activities that are considered morally wrong by society. It should however once again be noted that the motivation to study the offenders practice is based on the critical intention to contribute to the protection of children. Consequently, this means that my approach is somewhat different than common critical research where the researcher seeks to understand the marginalized group to gain insights and formulate critique that could lead to the emancipation of the studied group (Alvesson and Deetz, 2000). Here, it could be argued that I am doing the opposite since I have a clear idea what difference I want to make and why (Walsham, 2005).

The critical perspective used in this study is based on the emerging research field within information systems, i.e. critical information systems research (CISR). CISR is commonly described as an alternative to positivist and interpretive research (Howcroft and Trauth, 2005). CISR questions and deconstructs assumptions about the development, use and effects of technology by taking into account a wider social, political, historical, economic and ideological context. The most important characteristic of CISR is its critical intention, e.g. the intention to change the status quo and promote emancipation. The use of information technology for child abusive material and grooming constitute illustrative examples of how well-established technology usage could be 'misused' (Cecez-Kecmanovic, 2005). The critical approach has been chosen since it seeks to question 'technological imperative', rather than only justify them as something natural and unavoidable in society (Howcroft, 2009).

The overall aim of this thesis was presented above and seeks to critically explore offenders' use of information technology for the sexual exploitation of children, specifically focusing upon child abusive material and grooming and the societal response including a discussion of alternative regulation models in relation to those mostly practiced in today's society. Thus, the overall aim has been divided into the following three sub-questions:

1. *How can offenders' use of information technology for child abusive material and grooming be understood in relation to current regulation models?*

2. *What alternative models for regulation of child abusive material and grooming could be proposed?*

3. *What are the implications of applying a critical approach?*

This thesis contributes to the theoretical field of CISR and furthermore to the societal debate of these topical issues and thereby support policy developments regarding the development of child protection strategies on national and international level with alternative insights.

Thesis structure

This thesis consists of a cover paper and a collection consisting of six individual papers. The intention within the cover paper is to provide a more general theoretical framework, a discussion of the individual papers and to present further knowledge that has emerged during the research but have not been included within the papers. The cover paper is structured as follows: following this introduction, the next section presents the research context followed by a description of the theoretical framework of CISR in section three. Section four presents the research approach. This is followed by section five that presents the results and a summarized discussion and highlights future research areas and then section seven closes the cover paper with a conclusion. Following the cover paper is the collection of the six individuals papers. These papers are listed in the order they appear in the thesis and are referred to in the cover paper. In the collection, there are two published international journal papers (paper III and VI), one working paper (paper II), one published book chapter (paper I), one published international peer reviewed conference paper (IV) and one accepted international peer reviewed conference paper (paper V). Two of the papers are co-authored with my research colleagues Alisdair A. Gillespie and Bernd C. Stahl and of the remaining four I am the sole author. The six papers are listed below:

Paper I   Eneman, M. (2005). The New Face of Child Pornography, In Klang & Murray (Eds) Human Rights in the Digital Age, Cavendish Publishing.

Paper II   Eneman, M. (To be submitted). Critical Review of Offenders' Technology Use for Child Abusive Material: An Analysis of Swedish Court and Police Records.

Paper III   Eneman, M. (2009). Counter-Surveillance Strategies Adopted by Child Pornographers, In the International Journal of Technology and Human Interaction, Volume 3, pp 1-18.

Paper IV   Eneman, M., Gillespie, A. and Stahl, B. (2009). Criminalising Fantasies: The Regulation of Virtual Child Pornography, In the Proceedings of the 17th European Conference on Information Systems, June 8-10, 2009, Verona, Italy.

Paper V   Eneman, M., Gillespie, A. and Stahl, B. (2010). Technology and Sexual Abuse: A Critical Review of an Internet Grooming Case, Accepted to the International Conference on Information Systems, December 12 - 15, 2010, Saint Louis, Missouri, USA.

Paper VI   Eneman, M. (2010). ISPs filtering of child abusive material: A critical reflection of its effectiveness, In the Journal of Sexual Aggression – Special Issue on Child Sexual Abuse & the Internet: Offenders, Victims and Managing the Risk, Volume 16, pp 223-235.

Research context

This section outlines the research context. It uses related research to define 'child abusive material' and 'grooming', illustrating some of the impact of information technology for these phenomena. The use of the term 'offender' in this study is also discussed here. The section concludes with a description of the current regulatory responses with a focus on the Swedish responses against 'child pornography', grooming, the legal definition of age and the wider debate of regulation of digital environments.

What is child abusive material and grooming?

As mentioned in the introduction child abusive material and grooming should not be seen as products of the information society, technology has however led to significant changes to these issues. Both phenomena existed long before the proliferation of information technology in society with historical evidence indicating that adults' sexual interest in children dates back to ancient times (Taylor and Quayle, 2003; Wall, 2007). Historically, the distribution and consumption of child abusive material was achieved through magazines, photographs and videos and were therefore limited by economic, physical and logistical difficulties. Child abusive material has been produced in different forms, using whatever media was available at the time (Gillespie, 2008).

Child abusive material

The term 'child pornography' has been, and unfortunately sometimes still is, used to refer to sexually explicit material of children. Gillespie (2008) notes that experts view 'child pornography' as 'an extremely controversial label', as it reduces the gravity of what the material portrays and invites comparisons with adult pornography. Furthermore, there is no single accepted definition of the term 'child pornography', which can be problematic. Interpol defines child pornography thus: 'Child pornography is created as a consequence of the sexual exploitation or abuse of a child. It can be defined as any means of depicting or promoting the sexual exploitation of a child, including written or audio material, which focuses on the child's sexual behaviour or genitals' (Sheldon & Howitt, 2007).

This definition is useful since it highlights the fact that the material can exist in different forms: for example, visual, audio and textual depictions (Gillespie, 2008). Quayle et al. (2008) recognize that there has been a significant change in the discourse when referring to sexually explicit material of children. They note that professionals have started to use the terms 'abusive images' and 'abusive material'. As shown above, with Interpol's definition, not all sexual depictions of children are visual, therefore the latter term 'child abusive material' is perhaps more appropriate as it also captures non-visual material such as audio and text (Sheldon & Howitt, 2007). Definitions and discourses of phenomena are social constructions created within a historical, political and social context. This thesis cover will use the term 'child abusive material' since it more appropriately describes the content of the material. There will however be an exception to the use of this term and that is when referring directly to the legal definition and actual law text where the term 'child pornography' will be used to reduce any confusion since the term is used in the legislation itself. It should however be noted that the term child pornography has been used in some of the earlier papers included in this thesis, whereas the more recent have used the term child abusive material. This change in the terminology can be seen as part of my research journey within this field.

Accessing child abusive material prior to the widespread use of digital technology during the mid 1990s was more difficult, often involving a personal visit to a specialist shop or contacting a mail-order company (Quayle and Taylor, 2003), which involved physical exposure that increased the risk for the individuals that their behavior would be detected. According to Wall (2007) modern technology provides new conduit for criminal behaviour. The transformative impacts of modern technology have changed 'the traditional spatial and temporal relationship between offender, victim and the state by creating entirely new' ways of conducting criminal activities. As mentioned in the introduction it is well known that information technology has become the primary medium for the distribution of child abusive material (Gillespie, 2008). A unique and serious consequence with the use of modern technology as a medium is that even in cases where the offender is caught, the victim identified and the criminal case successfully prosecuted, the harm to the child involved continues since the material are circulating and remains accessible. Additionally, research indicates that the amount of child abusive material is increasing and additionally shows that the average of age of the children being portrayed in the abusive material is getting younger (Taylor and Quayle, 2003).

The following sections will describe how information technology has affected (i) production, (ii) access and distribution of child abusive material and (iii) networking with other like-minded individuals sharing the sexual interest in children and (iiii) the grooming process where adults seek and establish contact with potential victims.

First, modern technology has facilitated the production of child abusive material and enables it to be created at low cost (Taylor and Quayle, 2003). By using digital technology, images and films can now easily and quickly be produced and stored. A digital camera, which today is inevitably built into the design of most mobile telephones, can be used to document sexual abuse and by connecting it to, for example, the Internet the material could be distributed and made accessible for a large number of people (Gillespie, 2008). The development of interactive products, including systems, is often guided by the usability principles (Sharp et al., 2007). This means that even non-technically skilled users are able to use modern technology to record their abuse of children and thereafter easily distribute the material. Furthermore, information technology can be used to produce virtual child abusive material (e.g. entirely computer generated images where no real children are involved) or morphed images (these are also called pseudo-photograph and entail the use of graphics software to combine two or more images into a single image, or distort or manipulate pictures).

Another significant difference between 'old' and 'new' mediums is the issue of quantity. Modern technology offers features to access and distribute large amounts of material easily, rapidly, and at low cost. Before the use of modern technology it was relatively rare for an offender to have a substantial collection, not least because of the difficulties of accessing and storing the material. Today it is not unusual for an offender to have a collection of several thousands images and films (Gillespie, 2008). One of the features of modern technology is that digital copies do not deteriorate and can be reproduced constantly without any loss of definition or other qualities. Initially the images found available via information technology were electronic scans from magazines but as the demand for material increased, new material was created and disseminated by using modern technology (Taylor and Quayle, 2003; Quayle et al., 2008).

Arguments have been brought forward that 'Internet behaviors' such as accessing and downloading child abusive material could be defined as an addiction, e.g. 'Internet addiction' (Griffiths, 1998). The notion of Internet addiction is controversial, not least because it is unclear what exactly it is that the individual

could be seen to be addicted to. Sheldon and Howitt (2007) discuss whether it is the computer, the typing, the information gained, the anonymity or the types of activity that the individual is engaged in. They draw certain parallels with Internet gambling when discussing the notion of Internet addiction in relation to offenders' access of child abusive material.

Wall (2007) claims that one of the most profound effects that information technology has had on criminal behaviour is that it facilitates collaboration between offenders. The ability to use technology to communicate and create networks of likeminded individuals sharing a sexual interest in children is considered to be an important development by offenders (Sheldon and Howitt, 2007). Within these networks they establish contacts, share and trade information and material (including images and films). Furthermore the ability to interact with likeminded people can have a legitimizing effect for offenders where they feel that the people around them share and accept their sexual interest in children.

Grooming

Information technology has also created new ways for adults who have a sexual interest in children to contact children. There is no single definition of the term 'grooming', but a commonly agreed definition can be said to be the solicitation of a child for the purposes of sexual gratification, something that is neither new nor particularly hi-tech (Gillespie, 2006). The term grooming refers to the process where a child is befriended by an adult in an attempt to gain the child's confidence and trust in order to lower the child's inhibitions in preparation of sexual exploitation. During the grooming process, the offender attempts to get 'emotional control' over the child (Gillespie, 2008). Grooming a child for abuse has been a common tactic for facilitating the abuse of children for a long time (Ost, 2009). It can take different forms as the adult, will employ different strategies to induce the child to take part in sexual conversations, send sexual images, pose in front of a web cam and/or carry out sexual activities in front of a web cam (O'Connell et al, 2004; Gillespie, 2008; Davidson and Gottschalk, 2010). The media suggest that grooming is a new phenomenon that arises because of the Internet even though we know that it is not the case; grooming a child for abuse has existed for a long time (Gillespie, 2008) but technological innovations have created new methods of grooming children by affecting the individual grooming strategies. By using information technology the user can conceal their real identity and adopt a persona that better fits their purpose. The technology provides

the opportunity to post detailed personal information that can be accessed by other users, for example by adults when looking for potential victims. In addition the technology facilitates fast and anonymous communication with a large number of persons despite the geographical distance.

There are many different approaches that offenders can adopt when sexually abusing a child, but it has been argued by a number of researchers that the offenders seem to adhere to a 'cycle of abuse' (Howitt, 1995; Terry and Tallon, 2004) and that grooming forms part of this cycle. In some instances it will not be the child that is groomed but rather the parent, whereby the offender will seek to establish the parent's trust, eventually being placed in a position where he has access to the child to abuse it (Craven et al, 2006) or there may be situational grooming where the physical environment is shaped to allow the surreptitious abuse of a child. However the form of grooming that has attracted the most recent attention involves a child and it can be summarized as the process of befriending a child so as to persuade them to acquiesce to sexual contact (Gillespie, 2001; Craven et al, 2006). The offender seeks to create a position whereby the victim believes that he/she is in a relationship with the offender and sexual contact becomes a natural extension of this. It has been argued that online grooming does not differ from this traditional approach and the anonymity that is brought about by modern technology simply allows the cycle to progress quicker (O'Connell, 2003; Davidson and Gottschalk, 2010) as it provides a simple manner in which adults and children can have sexualised discussions (Quayle and Taylor, 2001). There is some evidence (Alisdair, 2008) that online grooming is beginning to change its dynamics, with less emphasis on an adult persuading a child to meet for direct sexual contact, and instead the focus is on grooming the child to produce child abusive material. The use of information technology has transformed the ways that abusive material is collected and traded (Taylor and Quayle, 2003). Some offenders are persuading children to send sexually-explicit pictures of themselves or to sit in front of a webcam and either strip or, in some cases, perform sex acts in front of the webcam (Gillespie, 2006). The offender can then record these images and use them for the purposes of sexual gratification or distribute them to others. In some instances they will also use the indecent photographs of the child as blackmail to persuade a child to perform more sexually-explicit conduct, including contact abuse. The consequences for a child who sends sexually-explicit photographs of themselves can be quite serious since it is known that once child abusive material finds its way into cyberspace, it is impossible for it to be recovered (Taylor and Quayle, 2003) and the child has to live with the consequences

of such exposure for the rest of its life (Palmer, 2005).

The offenders

In the previous sections child abusive material and grooming were described. Many actions surrounding these phenomena constitute criminal offences in most Western countries and involve two categories of actors, namely the offender and the victim. As described in the introduction, the motivation for conducting this research is to contribute to the development of effective child protection strategies, e.g. increase the protection for potential victims. The approach employed within this thesis is to study the offenders' practice and identifying relevant critical aspects that could lead to changes. In this thesis the term 'offender' refers to an individual that has been convicted of the production, distribution or possession of 'child pornography'. Existing research about individuals' behaviour in relation to sexual abuse of children and child abusive material is mostly based on those who have been convicted, something that is perhaps explained by the obvious complexity and ethical difficulties involved in conducting research on non-convicted individuals within these areas (Brantsaeter, 2001, Tidefors Andersson, 2002; Sheldon and Howitt, 2007).

It should be noted that the term 'offender' should not be seen as a homogenous group. Sheldon and Howitt (2007) argue that even though 'Internet child pornography offenders' seem to have strong sexual interest in children and download images not all have an interest in physical sexual contact with children. This supports the earlier research of Taylor and Quayle (2003) who differentiate between production and viewing in their study of offenders' behaviour. However, as Sheldon and Howitt (2007) note, it is important to also consider viewing as a serious criminal activity and that it is covered by legislation. The viewing of child abusive material requires a child to have been abused and a picture taken of that abuse. It could therefore be argued that the viewer is guilty of creating a demand for these kinds of images, which in a wider sense mean that those who produce and those who view are both guilty of the abuse (Sheldon and Howitt, 2007). It has been highlighted that the concepts of offender and victim have been challenged by modern technology in certain contexts (Wall, 2007). Virtual child abusive material is an illustrative example how the technology challenges both the concepts of offender and victim, due to the lack of a real child/victim and consequently it could be questioned if there exist an offender at all in such a case.

The Swedish legal regulation models

The legal responses to child abusive material and grooming vary greatly between different jurisdictions (Ost, 2009; Gillespie, 2010). The serious problems and challenges regarding legal and societal response towards child abusive material and grooming in relation to information technology have however been recognized and placed upon the political agenda in many countries. The European Union, Council of Europe and United Nations have created international instruments that attempt to achieve a legal harmonization of national laws to more effectively reduce the availability and dissemination of child abusive material on the Internet (Gillespie, 2008; Akdeniz, 2008).

Swedish legal response to child abusive material

The production and distribution of 'child pornography' was made an offence in 1980. When discussing regulation of 'child pornography' one should be aware of the longer ongoing debate concerning whether of the debate of regulation of digital environments and the regulation of 'child pornography' impacts upon other concepts such as the freedom of expression or censorship. An example of this debate can be found in the Swedish debate that took place in the beginning of 1990s about the criminalisation of the possession of 'child pornography'. This debate was dominated by the argument concerning the tension between rights of the child and the limitations on constitutional rights of freedom of expression. A similar tension can be found in the current societal debate regarding Internet Service Provider's (ISPs) use of filtering technology to regulate distribution and consumption of 'child pornography'. The possession of 'child pornography' was criminalised in 1999 in Sweden. Sweden has recently (1 July 2010) extended the possession offence to also now cover the act of viewing 'child pornography' online even when the files are not deliberately downloaded. The jurisdiction of England and Wales avoided the distinction between possession and deliberately viewing 'child pornography' by inserting the verb "to make" into the legislation. The purpose of this change was to ensure that the legislation was capable of operating even after modern advanced technology was introduced, and this included covering the issue of viewing 'child pornography' online (Gillespie, 2005, 2008).

The current Swedish legislation criminalises the production, distribution and possession of child pornography, including fictitious 'child pornography' through its formulation 'anybody that depicts a child in a pornographic image', 'distribute such image' or 'possess such image'. The prohibition of such depiction does

not include drawings or paintings produced for artistic merit (see the Swedish Code of Statutes, the Penal Code, Chapter 16, Crime against public order, 10 a §). Swedish legislation has, compared with for example England and Wales, been slow to tackle contemporary technological challenges. A serious flaw with the Swedish legislation regarding child abusive material refers to its location in the Swedish Code of Statutes, the Penal Code, Chapter 16, 10 a §, which governs crimes against public order, Law (2010:399). This thesis argues that the legal definition should be changed to replace the term 'child pornography' with 'child abusive material' and that the offence should be moved from 'Crime against public order' to the section with 'Sexual offences'.

Swedish legal response of grooming

In July 2009, Sweden introduced a new legislation entitled 'Contact with children for sexual purposes' ('Kontakt med barn i sexuellt syfte'). For further information see the Swedish Code of Statutes, the Penal Code, Chapter 6, 10 a §, which governs sexual crimes, Law (2009:343). Whereas the English model primarily focuses upon criminalising the physical meeting between an offender and the child, the Swedish model focuses upon contact between the adult and the child, and can include, for example, contact through information technology with the aim of enabling the later sexual abuse of the child. The purpose of this new offence is to enhance the protection of the child by reducing the risk of being sexually abused during a following physical meeting. The design of the Swedish offence requires (i) that an arrangement, between the adult and the child, has been made regarding a physical meeting and (ii) that action has been taken that support the meeting. The text of the law suggests that actions that could constitute useful evidence are for example booking transport tickets or a hotel room. The wording of the law suggests that this offence could be used pre-emptively, which could be questioned since the Swedish police are not allowed to carry out sting operations in the same way as in England. The new Swedish offence was strongly criticized when it was circulated for consultation because it was suggested the number of convictions were expected to be very few considering the obvious difficulties involved in proving that the contact has been made for a sexual purposes. Furthermore, critical voices claimed that the offence could not be expected to prevent grooming due to its low penalty. The penalty for this offence is a fine or imprisonment for one year. Questions were also raised as to whether the law should criminalise the contact stage since the communication of a potential meeting does not necessarily mean that there will necessarily be a meeting. The critics argued that this could be viewed as a thought crime. The

legislation was enacted on 1 July 2009 and by 31 December 2009 there were approximately 140 reported cases under investigation, but as of the date of writing (November 2010) not a single case has been brought to court.

Swedish legal definition of the age of a child

According to Swedish legislation a child is defined as 'a person whose puberty development is incomplete, or when it can be discerned from the image or from the circumstances around it, is under 18 years old'. Therefore, the primary rule for deciding whether a person is a child is the development of puberty, not their chronological age. This was intended to provide a greater level of protection for children. However, as has been showed in a court case from 2005 significant problems with this definition have arisen. In this case, the defendant paid two 16-year-old girls to take part in pornographic films. The girls informed him of their age before the filming took place. The courts interpreted the law to mean that if the age of the girls could not be discerned by the images the man could not be guilty of producing or distributing child abusive material despite the fact that he was aware of their age. The court found that the girls had passed through puberty and therefore it was not possible to understand from the images that they were under age. Therefore, the present position of Swedish law is that if the child appears to be 18 or older it is, despite knowledge to the contrary, not possible to gain a conviction on the basis of production or distribution of images involving children.

Regulation in a wider societal context

As we have seen many actions surrounding child abusive material and grooming constitute criminal offences and therefore regulation is an important dimension in this thesis. The following section will therefore describe the main perspective that modern technology has caused upon the debate of regulation of digital environments. As described earlier information technology offers major challenges to the law regarding effective regulation. These challenges have given rise to debates with different perspectives ranging from whether it is possible to regulate the actions of individuals in the digital environment at all to which laws could be applied in the digital environment (Reed, 2004). One perspective is known as the cyberlibertarian (Johnson and Post, 1996) which believe that Cyberspace is a separate state where traditional legal rules cannot be enforced due to that the incorporeal and borderless nature of the digital environment would weaken traditional legal rules and make them ineffective and consequently there would be

a need for laws designed to the specific environment of Cyberspace. The absence of physicality in digital environment is one of the main arguments in the cyberlibertarian perspective (Murray, 2007). The cyberlibertarian arguments led to the belief that traditional lawmakers could not enforce their legal rules effectively in Cyberspace. One effect of the cyberlibertarian perspective was that the debate changed its focus for a period of time from discussing which laws that should be applied in the digital environment to whether it was possible at all to regulate the actions of individuals in the digital environment.

Murray (2010) emphasizes the weakness in the cyberlibertarian understanding of regulation in Cyberspace by pointing out that when an individual visits Cyberspace he or she does not travel to that place. Cyberspace is not somewhere to which individuals are physically transported. This means that if an individual was to engage in illegal behaviour online such as the distribution of child abusive material their corporeal body remains at all time subject to the direct regulation of the state in which he or she is a resident in at that time. As Murray's example demonstrates there is nothing about the nature of the digital environment that naturally protects individuals from the controls of laws in the physical world. This argument stands in contrast to the cyberlibertarian perspective claiming that traditional legislation could not be enforced to regulate individuals' actions in Cyberspace. One of the strongest early critics of the cyberlibertarian perspective was Joel Reidenberg (1998) who suggested a new way of looking at control and regulation in the digital environment by using the network architecture as a model for regulatory architecture. His theories led to the development of the cyberpaternalistic perspective. This perspective considered legal controls as merely part of the network of effective regulatory controls in the digital environment and suggested that lawmakers seeking to control individuals activities in this environment would seek to indirectly control these activities by supporting changes to the network architecture. The cyberpaternalistic perspective did not believe Cyberspace was immune from regulatory intervention by real world regulators. These perspectives have most famously been further developed by Lawrence Lessig, who we will return to later in the discussion section.

Theoretical framework

This section describes the theoretical framework that has informed this thesis. The section starts with a presentation of critical information system research, followed by a section discussing how a critical epistemology could be achieved followed by a description of the application of CISR in different empirical contexts.

Critical information system research

This thesis takes its departure in critical information systems research (CISR), which is an emerging research field within the IS discipline (Howcroft and Trauth, 2005). CISR is opposed to technological determinism and seeks to critically question rather than confirm 'technological imperatives as natural and/or unavoidable' (Howcroft, 2009). McGrath (2005) describes CISR as a reaction to the mainstream IS research which tends to assume that technological innovation is 'inherently desirable' and beneficial to all and based on solely economic rationalities. In the field of IS, the call to engage in critical research has been explicitly voiced by a numbers of researchers (Lyytinen, 1992; Mingers, 2001, Brooke, 2002a; McGrath, 2005; Howcroft and Trauth, 2005; Walsham, 2005, Stahl, 2008) and can be seen as a response to alienation, domination and asymmetries of power in our contemporary world (Walsham, 2005). In accordance with the widespread dissemination of information technology in society comes the challenge to consider the dualistic nature of technology, i.e. both the positive and negative effects. The use of modern technology in relation to child abusive material and grooming constitute illustrative examples of how technology can be misused (Cecez-Kecmanovic, 2005) for harmful purposes and raises challenges for society.

Critical research could be defined as 'research that is characterized by an intention to change the status quo, overcome injustice and alienation, and promote emancipation' (Stahl, 2008). This definition is useful since it includes the central elements that should be considered when conducting critical research. The term critical has many different meanings and its history can be traced back to the ancient Greeks (Harvey, 1990). It should not be understood as being negative or unconstructive but as constructive and optimistic with the intention to improve

the social reality (Alvesson and Deetz, 2000; Walsham, 2005).

CISR is based on critical theory (Klein and Huynh, 2004; Howcroft and Trauth, 2005) and was initially guided by the critical ideas and theories developed by the researchers active within the Frankfurt School, for example Horkheimer, Adorno, Marcuse, Lowenthal and Pollock. (Held, 1980; Howcroft, 2009). Historically there has been a focus upon Habermas' and especially his theory of communicative action within CISR (Lyytinnen, 1992; Klein and Hirsheim, 1993; Ngwenyama, 1991, Cecez-Kecmanovic, 2001), but today it is possible to discern a greater diversity in the perspectives used by critical IS researchers to question established assumptions about the technology, its use and implications (Cecez-Kecmanovic, 2005). In addition to the Frankfurt school of thought, the work of Michel Foucault has now become well established within CISR (Willcocks, 2006; Stahl, 2008) which could be explained by the strength of his work in analysis of power structures, discourses and surveillance (Foucault, 1971). In addition, Mingers (2004) have suggested that 'critical realism' could be a relevant approach for IS researchers. It should be noted that critical theory is not a unified theory 'but rather a set of loosely linked principles' (Klecun, 2005), with a commonality to change the status quo and promote emancipation (Alvesson and Deetz, 2000; Stahl, 2008).

Orlikowski and Baroudi (1991) argue that critical research should be seen as a third way, next to positivist and interpretive research, due to its intention to change social reality and promote emancipation. Both positivist and interpretative approach can be purely descriptive, whereas critical research always aspires to change the social reality. This central features sets it apart from other research approaches and traditions and can explain most of the characteristics of CISR studies. Walsham (2005) further develops Orlikowski and Baroudi's view of critical research by adding the concept of 'critical engagement', which can be described as undertaking a commitment within the wider society and involves both the question of status quo and a moral duty or commitment to engage in the specific research.

Furthermore, the engagement in CISR entails the study of the research object with the aid of concepts relevant to critical theory, for example emancipation, power, control, domination and ideology (Cecez-Kecmanovic, 2005). In addition to using critical concepts, the research object should also be placed in its wider historical, political, social and economic context (Alvesson and Deetz, 2000). By critically questioning social realities and providing alternative insights how these

realities are historically, politically and socially constructed and strongly shaped by asymmetries of power in society, we are able to move beyond established definitions and assumptions and can achieve emancipation from traditional existing structures (Cecez-Kecmanovic, 2005; Alvesson and Deetz, 2000).

Achieving a critical epistemology

It has been suggested that critical researchers need to focus upon certain themes when conducting critical research to shape a critical epistemology (Alvesson and Deetz, 2000; Howcroft and Trauth, 2005). This section will present three suggestions that could be seen as framework highlighting what should be included and focused when conducting critical research. The first presented framework relates to critical research in general within social science whereas the other two are more specifically concerned with critical IS research. It could however be argued that the first framework underlies the basis for conducting critical IS research although complemented with certain themes significant for IS research.

The first framework, which is formulated by Alvesson and Deetz (2000) highlighting that the following three elements as central when conducting critical research: insight, critique and transformative re-definition. Insight refers to the process where the research subject is investigated and interpreted. Insight is achieved by questioning and challenging established assumptions and definitions and by interpreting even the non-obvious aspects of the research subject. The second element is critique which involves the critical analysis of the insights gained in the previous stage and integrating this with the wider historical, social, political and economic context into the analysis. The last element, transformative re-definition, is described as the natural complement to insight and critique, and is the most difficult stage that aims to enable emancipation and social change.

The second framework, presented by Howcroft and Trauth (2005), originates from the critical management literature that includes Alvesson and Deetz among others.

Howcroft and Trauth (2005) propose the following five themes that could be used to shape a specific critical epistemology for critical IS researchers: emancipation, critique of tradition, non-performative intent, critique of technological determinism and reflexivity. The first theme, emancipation is considered to be the central aim of critical IS research (Alvesson and Deetz, 2000; Howcroft and Trauth, 2005; Stahl, 2008). Emancipation can be seen as the researcher's inten-

tion of 'freeing individuals from power relations around which social and organizational life are woven' (Fournier and Grey, 2000). Emancipation is one of the most frequently cited topics of critical IS research which can be explained by the fact that it is considered to be the central aim of CISR (Howcroft and Trauth, 2005; Cecez-Kecmanovic, 2001, 2005; Klein & Myers, 1999; Stahl; 2008). The second theme, critique of tradition, seeks to disrupt rather than reproduce status quo to enable social change as opposed to mainstream IS research that tends to confirm technological imperatives as natural and/or unavoidable (Howcroft, 2009). This theme refers to deconstructing the taken-for granted assumptions in relation to the use of information technology and its effects by relating it to a wider social, political, historical, economic and ideological context (Doolin, 1998). An adequate understanding of the research subject is a pre-requisite to critiquing the status quo. The intention to change social realities is based on the perception that certain problems exist that are caused by the status quo, of 'structural contradictions and existing restrictions, oppressions, and domination' (Orlikowski & Baroudi, 1991). The third theme, non-performative intent, could be seen as a rejection of the idea that decisions and actions within organizations and/or at societal levels should be based on solely economic efficiency and neglect the social aspects involved. This theme constitutes a contrast to 'non-critical research which aims to develop knowledge that contributes to the production of maximum output for minimum input' (Howcroft, 2009). The fourth theme, critique of technological determinism, challenges the notion that assumes that technology is neutral and that technological development is autonomous and that societal development is determined by the technology (Bijker, 1995; McKenzie and Wajcman, 2002). As pointed out by Winner (2002), technology is inherently political. As mentioned above, critical researchers are not primarily concerned with the effectiveness of modern technology and do not view technological development in society as something natural or unavoidable (Walsham, 2005). The final theme, reflexivity, refers to a central methodological distinction between critical and more mainstream IS research (Stahl, 2008). Reflexivity means that critical researchers question and reflect upon their own assumptions, beliefs and ideologies and is explicit with these perspectives. This means for example that critical researchers need to consider how the research topics are selected, how the research is conducted and the consequences of how the research was conducted since this is not a neutral process (Alvesson and Deetz, 2000; Kvasny, 2004).

Critical intention, topics and theories

According to Stahl (2008) critical IS research is characterized by the following three cornerstones: critical intention, critical topics and critical theories. Critical intention is the most important characteristic of critical IS research, which refers to the researchers aim to enable social change (Cecez-Kecmanovic, 2005). The critical intention could be seen as 'the heart of critical research (Stahl, 2008) that involves the intention to change status and promote emancipation. Furthermore, it is strongly linked to and influences the characteristics of critical topics and critical theories. Critical topics refer to the areas that are the subject for the critical researchers' attention to question the status quo and facilitate the formulated critical intention. Power and emancipation is commonly claimed to be the most common topics cited within critical IS research (Brooke, 2002a; Howcroft and Trauth, 2005). Other topics found within CISR are: gender and discrimination (Adam, 2005; Howcroft and Trauth, 2008), cyberstalking and pornography (Adam, 2005), race, gender and class (Kvasny, 2004; Kvasny and Trauth, 2003), global problems related to developing countries (Walsham, 2004), domestication of information technology in households (Richardson, 2005) and power and politics in the adoption and implementation of information systems (Silva, 2005). The sexual exploitation of children in relation to modern technology has so far not been the main topic for studies within CISR. The final characteristic, critical theories, refers to the interest and application of certain critical theories to realize the critical intent. CISR is without doubt a theory driven research field where the question and choice of theory is central and also to a large extent defines research as critical (Stahl, 2008).

Growing number of CISR studies

There has been a significant change within the IS research field, since the pioneering paper by Orlikowski and Baroudi (1991) which illustrated the lack of critical IS research. Recently it has been possible to discern a growth of critical IS research studies (Richardson and Robertson, 2007). It should however be noted that even that critical IS research is increasing it is still limited within the IS field (Howcroft, 2009). Critical IS researchers have been criticized for their preoccupation of pure theoretical studies and the research has been accused as being elitist and esoteric (Richardson et al., 2006). The landscape within CISR has however changed and there are a number of empirically grounded studies beginning to emerge within the field of critical IS research (Stahl, 2008). Next section

will give examples of critical IS research studies in different empirical contexts.

The application of CISR in different contexts

One of the criticisms of critical IS research and empirical studies is that critical theoretical ideas often seem to fail when being applied in empirical settings (Howcroft and Trauth, 2005). Despite this critique, there are a growing number of empirical studies within the field of CISR. Here follows some examples of empirical studies informed by a critical IS research agenda: Kvasny (2002, 2005, 2006) has used feminist theory and social stratification perspectives to explore digital divide and black women's discourses about information technology. Theoretical concepts of Bourdieu have been used to explore gender and technology (Adam et al., 2004), the domestication of information technology in households (Richardson, 2006) and cultures of consumption and technology usage in call centers (Richardson and Howcroft, 2006). Klecun (2005) used the critical concept of rationality in her studies of telehealth in the UK and McGrath (2003) used the two concepts emotion and rationality to explore IS implementation in the London Ambulance Service. Foucault's concept of panopticon and power has been applied in analysis of workplaces (Zuboff, 1988; Doolin, 1998; Jonsson, 2006) and Adam (2005) has applied a similar surveillance and control perspective in her studies of cyberstalking and Internet pornography.

Research approach

This section describes the critical research approach that has informed this thesis and the specific research methods that have been applied

It has been argued that one of the difficulties with engaging in critical IS research is that the guidelines for how to conduct critical IS research are scarce and sketchy (Brooke, 2002b). Critical IS researchers have been criticised for their preoccupation on defining what it means to be critical and failed to explicitly define how criticality can be achieved in IS research (McGrath, 2005). A response to this can be found in the ongoing debate discussing whether critical IS researchers need to develop a distinct critical research methodology. This debate is mainly based on following two perspectives (McGrath, 2005; Cecez-Kecmanovic, 2005). The first perspective advocates the idea that a distinct critical research approach needs to be guided by distinct critical research methods, it has for example been suggested that methods such as critical discourse analysis (Fairclough, 2003), critical ethnography (Myers, 1997; Schultze, 2001) and participatory action research (Baskerville, 1999; Mumford, 2001) could be seen as distinctly critical (Stahl, 2008). The second perspective stresses that critical IS researchers is, and should continue to be, explicitly concerned with the relation between critical theories, research question(s) and research method(s) in any specific research context and therefore distinct critical research methods are not needed (Avgerou, 2005; Walsham, 2005). However, one of the most important and unique issues that should permeate the critical IS research approach is the issue of reflexivity. Reflexivity means that the critical researcher explicitly questions his or her own assumptions and foundations (Stahl, 2008).

It has been highlighted by several researchers (Howcroft and Trauth, 2005; Brooke, 2002a) that critical IS research would benefit if its researchers made an effort to be more explicit with their research approach, especially when carrying out empirical studies. This section will therefore give a detailed description how this thesis has combined different research methods. The research methods that have been used in this thesis are document studies and interviews. Several researchers (Alvesson and Deetz, 2000; Mingers, 2001, Stahl, 2008) have emphasized the advantages involved when conducting a research approach that involves a combination of several research methods. Firstly, such an approach is considered

to be especially useful for exploratory studies within new fields where the existing research and knowledge is limited and thus such approach could be suitable since it allow for a wider and more comprehensive understanding of the studied area (Silverman, 2005). This thesis could be classified as an exploratory study since it focuses upon an area where little knowledge currently exists (Esaiasson et al, 2003), i.e. this study specifically focuses upon the involvement of technology in relation to child abusive material and grooming. Secondly, another argument advocating the combination of research methods refers to the belief that such approach may reduce the risk of gaining 'only a limited view of a particular research situation […] for example attending only to that which may be measured or quantified or only to individuals' subjective meanings and thus ignoring the wider social and political context' (Mingers, 2001) which could be a risk when only one method is employed. While the use of different research methods may enable the researcher to focus on different aspects of the studied phenomenon, it could be expected that a richer understanding will be obtained by combining different methods (Silverman, 2005). As described above this research have used an exploratory approach due to that existing knowledge is limited and therefore one of the challenges has been to obtain as rich and broad understanding of the phenomenon as possible. Specifically this means that the thesis combines different methods with the aim of covering different aspects regarding the use of information technology in the context of child abusive material and grooming. A further argument refers to the issues of validity and triangulation. Silverman (2005) emphasizes the value of combining different research methods to gain richer and more reliable research results, which could be seen as an important aspect of triangulation (Noaks and Wincup, 2005). Jupp (2001) argues that a combination of methods can be used to examine different aspects or dimensions of the same problem and that such approach could be useful when conducting sensitive research related to criminal behaviours. Jupp deliberately avoids using the term triangulation and replaces it with 'methodological pluralism'. Finally, it should be noted that the combination of different research methods also is subject for certain critique, that mainly refers to the risk of combining methods that are bound to different research paradigms inconsistent with each other and the simplified view that such combination automatically would increase the issues of validity and reliability (Mingers, 2001; Silverman, 2005).

Research methods

This section describes (i) how access of empirical material was gained and how the material was collected, (ii) what kind of material that was received and (iii) how the material was analysed.

One of the key issues that researchers confronts with as soon as they begin to consider collecting material for the study is access (Silverman, 2005). Depending on the topic selected, researchers may need to negotiate to get access to specific empirical material. The question of accessing material is even more complicated when the research topic relates to criminal offences, criminal behaviour and involves material that is restricted. This also increases the demands of the researcher to be well informed of appropriate ethical procedures to be able to gain access to such material.

The table below (table 1) gives an overview of the different research techniques that have been used, e.g. document studies and interviews: the different types of material that has been collected, e.g. court and police records, other legal documents such as legal proposals, acts and cases. Semi-structured interviews have also been conducted with fifteen offenders and one police (the total numbers of interviews with offenders was nineteen since some were interviewed more than once; the police was interviewed at two occasions). The table also describes when each material was collected, what critical concepts that have been used for each type of material, the analytic strategy for each material and in which paper the material was used in. As described in previous section there is an ongoing debate discussing whether critical IS researcher need distinct critical methods, even though there are certain methods that are suggested to be distinct critical (critical ethnography, critical discourse analysis etc). It could however be argued that it is not the methods by themselves that are important when conducting critical IS research but how the researcher uses the methods.

Type of Material	Time of Collection	Critical Concepts and Intentions	Analytic Strategy	Paper
Documents:				
Court & Police Records	2004-2010	Critique of Tradition, Ideology, Hegemony, Boundary Critique	Quantitative and Qualitative Content Analysis	Paper II Paper V
Legal Proposals, Acts, Reports, Cases	2004-2010	Emancipation, Ideology, Hegemony, Boundary Critique	Qualitative Content Analysis	Paper I Paper IV Paper V
Interviews:				
Offenders (19)	2004-2008	Panopticon, Critique of Tradition	Qualitative Content Analysis	Paper III Paper VI
Police (2)	2009-2010	Ideology, Hegemony, Boundary Critique, Critique of Tradition	Qualitative Content Analysis	Paper V Paper VI

Table 1. Overview of the research approach

Document studies of court and police records

The collected documents consists of court and police records of all Swedish cases of 'child pornography' leading to conviction during the period 1993-2008, Swedish legal documents regarding 'child pornography' and the new Swedish so-called grooming legislation, includes legal proposals and legal acts. In addition an English legal proposal, called a 'consultation paper', produced by the Home Office in UK regarding the criminalisation of 'virtual child pornography' was examined. The value of using documents for research from a critical perspective is well documented (Alvesson and Deetz, 2000; Prior, 2006). Court and police records are commonly used as empirical material, both for qualitative and quantitative studies, within the criminological field to study criminal behaviour (Noaks and Wincup, 2005).

Access to the court and police records

The English and Swedish legal documents such as legal proposals, acts and cases regarding 'child pornography', grooming and 'virtual child pornography' were publicly available and was accessed online through the websites of the Government Offices of Sweden and the Home Office in UK.

Access to court and police records was difficult. Even though Swedish court records are public documents it is not a simple act to get hold of a specific court record without having some identifying information about the case. It should be noted that I, in the capacity of a researcher, have been able to access more than the public parts of the court records, e.g. also the parts that are restricted. In several cases I have been inflicted with a 'divulgation prohibition', which means that I had to sign a code of conduct regarding this issue and return to the individual court house. In Sweden, all cases where an individual is convicted of a crime are registered in a national database through a number connected to the conviction (conviction identification). To be able to collect the court and police records for this thesis the case numbers of the convictions were obtained by the Swedish Council for Crime Prevention (BRÅ), which is the authority responsible for this database. A condition before receiving the requested information from BRÅ was that the study was approved by the Ethics Committee of the University of Gothenburg since this approach involved the transmission of information that was confidential between two authorities (BRÅ and University of Gothenburg). It should be noted that this research project has been ethically approved twice (2004, 2009) due to measures of tightening the rules and regulations regarding access of information that is classified as secret from BRÅ.

The following criteria were used, when BRÅ conducted the information search in their database: all cases in which an individual has been convicted of production and/or distribution and/or possession of 'child pornography' between 1993-2008 (Chapter 16, 10 a §, Crime against public order of the Swedish penal Code). Once the material was received from BRÅ, which the first time consisted of a CD with a Excel file containing different variables in relation to all Swedish 'child pornography' crimes between 1993-2003 and the second time with another CD with a SPSS file containing same variables for the period of 2004-2008, the work began by contacting the individual district courts with a letter that requested a copy of the respective court records. When the first court records arrived it became obvious that the information included in the court records was too limited for my research, i.e. to analyse the activities in relation to informa-

tion technology. Therefore the decision was made to collect all the police records as complementary material to the court records. This material was collected in a similar way by sending a letter to the individual police stations with a request for a copy of the police records for each offender. Additionally a copy of the ethical approval was enclosed. That document contained information about the purpose of the study, who was going to have access to the material, how it was going to be used and stored, how the confidentiality would be ensured. A significant number of the police records include information that is restricted, including information that relates to other types of criminal behavior, including the sexual abuse of a child.

Negotiating access can often be time-consuming, especially when trying to get access to sensitive or confidential information . The process of accessing court and police records involved negotiation with different actors on different levels at BRÅ, the individual courthouses and the individual police stations and has overall been a time-consuming aspect within this project.

The characteristics of court and police records

Whereas court records contain text with certain personal information about the offender and a description of the criminal behaviour in relation to the crime and the penalty, police records contain more diverse and detailed information. The police records contain more detailed descriptions of the crime, inquiries with the offender and in some cases also the victims. Sometimes it also contains interviews with relatives, i.e. when a man has been reported for the production of 'child pornography' then the wife, partner etc may also have been interviewed. Furthermore the police records may also contain images, films and transcripts of chat conversations. One of the most interesting parts of the police records for this thesis has been the so called 'IT forensic report' which is an analysis of the technology involved in the case. In many cases, it has been prepared by the staff at the IT-crime section at the Swedish National Criminal police, but in other cases the local police have created this report. As mentioned above, the decision to collect the police records as well was due to that the technology was more detailed described in those documents compared to the court records. Which could be explained by the obvious fact that court records are focused upon the crime and the legal process and not technology involved even though that has been used to commit the crime.

Analysis of the court and police records

The collected documents have been analysed by using quantitative and qualitative content analysis. The court and police records regarding 'child pornography' have been the subject of quantitative content analysis (see paper II). This approach consists of two key components namely content analysis that refers to the examination of the content in a specific written, verbal or picture based description, while quantitative refers to the quantification of certain specified analytic units or categories. It has been emphasized that quantitative content analysis is a useful approach to examine the occurrence of different categories in a specific material (Esaiasson et al, 2003). The issue of occurrence is considered to be the main criterion of quantitative content analysis. Since one important aspect for this thesis was to examine the use of different types of information technology for child abusive material and grooming and also the different activities that the technology has been used for, quantitative content analysis was chosen as analytic tool. Additionally it was used to examine certain demographics about the users.

An important and central aspect of the analysis of the court and police records was to define the specific categories that should be used in the analysis. Since one of the motivations for this approach was to obtain a more balanced picture of the different technologies involved when, for example, accessing and distributing child abusive material, the choice was made to define certain technology categories mainly based on their respective protocol characteristics (for example the World Wide Web, Peer-to-Peer file sharing, Internet Relay Chat, Instant Messaging, E-mail and File Transfer Protocol). The definitions of the categories related to the different activities are influenced both by related research and the legal definitions which criminalises for example production, distribution and possession. Additionally 'offenders networking' and 'grooming' were defined and included as variables in the analysis due to that the material contained interesting information about these issues. One of the critical intention with this study was to question established assumptions of the technology used in the context of child abusive material and grooming to be able to move beyond vague public discourses of technology in society. It should be noted that grooming was not criminalised in Sweden when the categories were defined.

The court and police records amount to approximately 15 000 pages. During the analysis the court and police records were read and re-read and manually coded into different categories by using marking pens in different colours. At a later stage the categories were filled into a matrix by using Excel. Excel has been used

for analyzing and comparing the results. The objective with this quantitative approach has been to obtain descriptive and comparable data about the involved technologies, activities and certain demographics.

The other documents that have been subject for qualitative content analysis were the court and police records of one specific case, the wording of the law and the consultation report. In addition to the court and police record concerning 'child pornography' crimes that have been analysed quantitatively, one specific case including both court and police records was collected and analysed qualitatively, more specifically by using qualitative content analysis (see paper V). The principal material used in this study consists mainly of chat conversations via MSN between the offender and a number of young girls. The court and police record of this case is extensive and comprises approximately 2000 pages (Paper V). Noaks and Wincup (2004) argue that court records can be useful in providing important information on criminal justice issues for qualitative researchers despite that the material historically mostly have been used for large scale quantitative studies. The material was read, re-read and manually coded with marker pens. The objective was to identify the involved technologies and the behaviour related to grooming that occurred in the specific context.

The other legal documents regarding the Swedish legal act of 'child pornography' and the legal proposal of the so called new 'grooming legislation' was analysed in a similar way by reading it several times and coding it into different sub themes with the aim to identify the different content of current legislation and assess whether it could be regarded as effective to regulate the studied phenomena (Paper V). Finally, the same approach was used in the analysis of the legal proposal, e.g. the 'consultation report' with the objective to identify the expressed arguments used for and against the criminalization of 'virtual child pornography' (see paper IV).

Semi-structured interviews

This thesis also includes semi-structured interviews with fifteen offenders and additionally with a detective inspector from the Swedish National Criminal Police.

Access to the offenders

Access to the offenders was gained through prison psychologists at the Prison and Probation Service. I was asked to send an information letter to them describing the research project including the interview guide illustrating the themes and questions I wanted to focus on during the interviews with the offenders. The letter was then distributed within their organization to a prison psychologist working with the kind of offenders that I wanted to interview. The prison psychologist then contacted me for a further discussion about the project and criteria for selecting offenders to the interviews. Furthermore the information letter contained a description of the ethical research guidelines that have been applied in this study. The criteria for the selection of offenders were that they should have been (i) convicted for 'child pornography', e.g. its production, distribution or possession, and (ii) that information technology should have been used in relation to these activities. Based on these criteria the prison psychologist made a selection of offenders that were individually asked to participate in the study. The prison psychologist verbally asked them and handed over the information letter described above, excluding the interview guide.

Noaks and Wincup (2004) emphasize the importance of researchers addressing the responsibilities they have to their respondents. This includes ensuring that the relationship between the researcher, who conduct the interview, and the respondent, who provides the material, is clear and professional. One measure that was taken to achieve this was that all the respondents were provided, prior to the interviews, with the information letter about the study and the principle of informed consent (Brantsater, 2001; Noaks & Wincup, 2004). The letter contained information about (i) the purpose of the study and the interviews, (ii) how the material would be used and stored, (iii) the issue of confidentiality, (iv) that participation was voluntary and that respondents could withdraw at any time and if so none of the data would be used; and finally (v) information on how to contact the researcher during the project if the respondent wished to comment and/or ask anything in relation to the study.

It should be emphasized that the selection of offenders to interview was not made by me as a researcher but by the prison psychologist that besides taking into account my formulated criteria also considered two other aspects, namely whether the individual offender was in an appropriate phase in their therapy treatment and if the offender was considered to be a suitable respondent for me as a researcher to interview in the light of ensuring my safety. Furthermore, it

should be noted that the offenders that have been interviewed are also included in the court and police records. I was however not aware of whom I was going to interview before the meeting with each individual offender. The prison psychologist only referred to them as clients in our contacts prior to the interviews. All of the offenders did however present themselves with full names and in some cases where I recognized the name and/or detailed descriptions of their behaviour I could during the interview relate them to their court and police records. There has however not been any specific analysis made that compared the result from a specific interview with the information in the same individuals court and police records.

Conducting the interviews with the offenders

Despite that potential participants may have good reasons for not wanting to take part in a research study, especially when they have been involved in criminal activities (Sarnecki, 2003), 15 offenders agreed to take part in the study. Some of the offenders were interviewed on more than one occasion. The objective with the interviews was to obtain the individual offenders' story of their use of information technology for activities related to child abusive material and grooming. Qualitative interview is a useful approach when the researcher wants to get hold of valuable information related to 'meaning and not frequency' (Alvesson and Deetz, 2000). Since the offenders, prior their conviction, have been involved in different activities within the domain of child abusive material they were expected to be able to tell their individual stories about their activities and behaviour within this domain. These stories should not be regarded as 'true' or 'false', but a way of obtaining their stories about their doings (Esaiasson et al, 2003; Silverman, 2005). Semi-structured interviews with 15 male offenders, aged between 19 and 55 years, were conducted. They have all been convicted of production and/or distribution and/or possession of 'child pornography' in Sweden. Furthermore, all the 15 offenders have used information technology for their 'child pornography' crimes. The offenders came from a variety of demographic backgrounds regarding marital status, children, education and profession. Among these 15 offenders, 11 were also convicted for other sexual offences, mainly sexual abuse against children and in a few cases also for sexual offences against women. These other crimes do not feature expressly in this thesis, but nevertheless the knowledge of them has had certain impacts on the interviews for examples in relation to the location of the interviews.

The location of the interview can be a significant factor and something that the researchers need to think about in relation to their own safety and peace of mind (Noaks and Wincup, 2005. In criminological research the location can be something that is outside of the control of the researcher, this is commonly the case when access has been gained to interview offenders in criminal justice institutions such as within a prison (Sarnecki, 2003). All the interviews took place in prison environment. The procedure of entering the prison included identifying myself, leaving my mobile phone with the guards during my visit in the prison and passing through a security system. The first interviews was conducted in a visiting room, a so-called family room, equipped with a sofa, table and chairs and furthermore there were boxes with toys such as Lego and cuddly toys. The visiting room was set aside from the prison psychologists' offices. When conducting the interviews I was alone in the room with the offender and the door was closed to the room. I did conduct three interviews in this visiting room, but the rest were conducted at a prison psychologist's offices or in the group room connected to their offices. The reason for this change in location was that during my third interview the offender answered my question regarding his conviction by telling me that he had been previously convicted of the rape of an adult woman. This experience made me start thinking about my own safety and whether the location of the interview could be seen as appropriate and therefore I explicitly asked the prison psychologist after that interview if I could conduct the remaining interviews in another location within the prison. The rest of the interviews were thus conducted either in a prison psychologist's office or in their group room.

Making people to talk about sensitive aspects of their criminal or socially unacceptable behaviour can be a difficult (Lee, 1993; Tidefors Andersson, 2002). Noaks and Wincup (2004) suggest certain question strategies which could be used when interviewing offenders about sensitive topics. Firstly, it is important that the researcher takes a neutral stance when interviewing offenders, especially when they have been convicted for crimes that are emotive and involves a high degree of social condemnation. Secondly, the researcher should emphasize in the beginning of the interview that the participation is voluntarily and clearly explain the principle with informed consent. Within this study this was done in two ways (i) with the information letter described above that was sent out in advance and which described the overall objective with the research project including aspects such as confidentiality, use and storage of material and by (ii) starting every interview with explaining the principle with informed consent with the letter as a background. Achieving informed consent is commonly promoted as the

fundamental guiding principle for an ethically informed approach and an issue related to this was to ask whether the individual respondents approved that the interview was recorded. Furthermore it was made clear that the respondent had the right to refuse to answer any question or even break off the whole interview if they wanted.

Thirdly, the literature recommends beginning by asking less emotive issues and therefore this study started with questions regarding demographic aspects and continued with questions of the conviction what the individual offender had been convicted for and how the technology has been involved in the different activities. In those cases where the offender had used information technology for producing child abusive material that issue was brought up later during the interview due to its sensitive characteristics and relation to physical sexual abuse of a child. The interview guide consisted of broader themes (such as technologies, strategies, surveillance, networks, grooming etc) and follow-up questions (Silverman, 2005). To avoid 'one-word answers' (Hollway & Jefferson, 2000) open-ended questions were designed, such as 'tell me about your experiences when using information technology to download 'child pornography' (se paper III). Follow-up questions were used to develop further the respondents' stories such as 'tell me why you used that particular technology when downloading child pornography'.

Finally, careful attention should also be given to how to conclude the interview. One suggestion is that interviews with offenders about sensitive topics should be concluded less emotive and with a more neutral topic compared to the rest of the interview. The interviews in this study have been concluded by discussing the respondents' view of current legal and technological regulation of 'child pornography' (Paper VI) and grooming and by asking whether the respondents had any further questions and/or comments.

Since the researchers responsibilities to the respondents extend beyond the completion of the interviews, the letter that was provided prior the interview contained contact information for the researcher at work if the respondents had any questions related to the interview and wanted to get in contact with the researcher.

The interviews, each lasting between one-and-a-half and two hours, were tape-recorded in 11 cases and transcribed later. In four cases, where the respondents did not want the interview to be tape-recorded, fieldnotes were taken and written

out carefully immediately after the interview (Sarnecki, 2003; Silverman, 2005). The same researcher interviewed the respondents and transcribed the data.

It should be noted that research undertaken in relation to criminal behaviour can sometimes mean that respondents are disclosing potentially illegal issues or other forms of sensitive material and it is therefore important that the researcher is prepared for this and has a strategy to deal with such information (Lee, 1993). During one of the interviews the respondent told me that he had on his last temporary leave been in contact with young girls through Instant Messaging and that he planned to physically meet one of them during his next temporary leave. After the interview I disclosed this information to the prison psychologist due to the low age of the girl.

Interviews with the Police

Additionally a detective inspector at the Swedish National Criminal Police was interviewed on two different occasions. The first interview focused upon issues related to the police collaboration with ISPs regarding the use of filtering systems (see paper VI). The second interview was focused upon issues related to the phenomenon of grooming and the new Swedish offence regarding grooming (see paper V). Both interviews lasted between 1,5 - 2 hours and was recorded and transcribed. The purpose to interview a police was to obtain their view regarding the use of filtering systems to regulate child abusive material and the practical implications by the new grooming legislation for their work.

Analysis of the interviews

Qualitative content analysis was used for the material obtained from the interviews both with offenders (see papers III and VI) and the police (see papers V and VI). The process of analysis should not be seen as a distinct stage, but as an ongoing process that permeates every stage in the research study (Noaks & Wincup, 2004). Content analysis was used as an analytic tool of the material obtained from the interviews. The process of transcription offered the opportunity for initial reflection on the data. Once the data was transcribed, it was first read and re-read and initially notes were taken to comment the material. In the next stage the material was structured and coded in relation to the different research questions formulated in the individual papers and the data was sorted into emerging categories (Taylor & Quayle, 2003; Noaks & Wincup, 2004). During

the last stage subjective meanings were searched and differences and similarities were identified (Taylor & Quayle, 2003; Silverman, 2005).

Critical reflection of the research approach

Critical research is characterized by the reflective element which means that the weaknesses and biases of, and alternatives to, the research strategy should be the subject of critical reflection (Stahl, 2008). The limitations of the used empirical material in this thesis should be acknowledged. The court and police records and the interviews with offenders represent only individuals that have been arrested and convicted of 'child pornography'. It should be highlighted that arrested and convicted offenders represent only a fraction of all offenders engaged in these activities, and that 'child pornography' and other sexual crimes have a very low reporting rate (Noaks & Wincup 2004; Quayle et al, 2006).

In addition it is important to be critically aware of the characteristics of the documents that have been used as material. All the documents have been created in a social and political context with different objectives. The legal proposals aim to promote the suggested legislation and could therefore risk being biased by those who are in favour of enacting the specific piece of legislation. The police records have been created before the court records and are also created within a social and political context. The court and police records are created by lawyers and police men and women for a specific purpose, namely to prove (or, in the context of defence lawyers, disprove) that a crime has been committed during a trial. Consequently this means that my understanding of the involved technology in these documents is based upon the lawyers and police men and womens' understanding of the technology that have been involved in the process of examining the technology and writing the documents. Noaks and Wincup (2005) argue that working with documents such as court and police records is not without its methodological challenges and researchers need therefore to be reflexive about the use of such material. The law enforcement's primary aim has not been to explore the involved technology in detail but to focus upon the crime involved. In spite of the limitations with the used documents I would state that this material is valuable and provide insights of a domain that would have been extremely difficult to research in other ways. The relative ease by which it is possible to obtain court and police records in Sweden is rather unique compared to many other countries. In for example UK it would have been more difficult for a researcher to get hold of court and police records and very expensive.

This raises important questions related to the issues of validity and reliability (Silverman, 2005; Esaiasson et al, 2003). The thesis examines the offenders' technology use at it is expressed within the court and police records and through the interviews. It should be noted that the court and police records also reflect the police resources when investigating and revealing these crimes which also includes a reflection of the characteristics of the used technology, e.g. that certain technologies are more insecure and make the offenders more visible for the police.

When continuing the critical reflection of the used material one could question the value of interviewing offenders convicted for 'child pornography', and in many cases they were also convicted for other sexual offences (see paper II). Besides being a criminal offence, 'child pornography' could also be described as being socially unacceptable and stigmatized. As described in the method section it was the prison psychologist that made the selection of respondents that have been part of this study. One of the criteria when the psychologist did the selection was to ask offenders that she considered being appropriate for the study and that included among other things to be motivated to talk about their behaviour. The interviews have provided interesting and valuable information and I know through the prison psychologist that none of the respondents have been negative affected of my questions. The prison psychologist informed me that one of the reasons that she helped me to get access to offenders in prison was that I was clear in my consideration of ethical issues in relation to interview offenders about sensitive issues.

The consideration of alternative research methods is an important aspect for the researcher to reflect upon. Researching the domains of child abusive material and grooming involves both certain practical and ethical considerations. This includes, for example, how to gain access to people who have experience from this domain, as they can be characterized as a "hard-to-reach" group for people outside this world (Taylor & Quayle, 2003; Wilson & Jones, 2008). Due to the fact that the production, distribution and possession of child abusive material is a criminal offence in many western countries, it is most unlikely that people involved in this these activities would be willing to discuss their activities prior to conviction. It would also be an extremely difficult and complex issue, practically, ethically and legally, for a researcher to try to gain access to non-convicted people who have experience activities related to child abusive material, such as for example producing and/or downloading and/or distributing the material. It was never a realistic option for me to try and study non-convicted individuals.

When reflecting on potential biases it should be noted that my personal motivation to conduct research within this area, e.g. is to increase the protection for children by contributing to effective child protection strategies. One possible critique of this could be that I have not made any effort so far on exploring what it actually would have meant to emancipate the offenders within this specific context. That could have been an interesting theoretical contribution to CISR.

This thesis has been approved by the Ethics Committee of the University of Gothenburg on two occasions (2004;2009). A number of precautions were taken in order to protect the integrity of those involved in this study. All documents, including the transcriptions of the interviews, have been stored under certain conditions defined by the Ethics Committee. As described above in the method section, prior to their involvement in the study all the respondents were provided with information about the objective of the study and how the material would be used and stored. All the respondents gave their consent to participate in the study. Another important consideration for this study has been to ensure confidentiality for those who are included in the documents and the respondents. All identifying information that could be referred to individuals or specific situations has been removed before presenting the data. Furthermore this thesis has also followed the ethical rules and guidelines for research formulated by the Swedish Research Council.

Results

In this section the six individual papers are summarized and followed by a discussion structured around the three research questions presented in the Introduction section.

The individual papers

Paper I: The New Face of Child Pornography

Sexual abuse is one of the most heinous acts to which a child can be subjected. Child abusive material, which is the documentation of such an act, is an extension of this abuse causing continuing harm to the victim. Even in cases where the offender is caught, the victim identified and the criminal case successfully prosecuted the harm of the child involved continues as the documentary material remains accessible and distributable. Information technology has allowed the production, distribution and downloading of child abusive material to evolve from a concealed and often expensive activity into something that which can be accessed, easily, rapidly, anonymously and in many cases at no cost. Even though, sexual abuse of children and child abusive material are considered serious social and legal issues in almost every state, the international community's efforts to protect the rights of children in relation to this problem have not moved ahead in the manner that is needed to increase the protection of the child. *This chapter critically discuss the conflicts of different civil liberties focusing upon the right of the child not to be sexually abused versus privacy and freedom of expression that occur when discussing regulation of child abusive material.* The chapter concludes by arguing that the availability of child abusive material via information technology poses a serious setback to children's rights and if states are to fulfill their moral and legal obligations to protect children, this trend in the growth of child abusive material must be stopped. To enable this we must raise the question whether we need to accept certain limitations in other civil liberties to be able to increase the protection of the child. Privacy and freedom of expression have received a dominated position in relation to certain other rights as for example the right of the child not to be abused. The rights of privacy and freedom of expression should continue to be defended but they must be better balanced in relation to other important rights.

Paper II: Critical Review of Offenders' Technology Use for Child Abusive Material: An Analysis of Swedish Court and Police Records

Information technology is today used to sexually exploit children in different ways.

The public discourses of information technology in relation to sexual exploitation of children tend to be one-sided and focus only upon Internet. This paper critically examines the different types of information technology that has been used for child abusive material and grooming and the different types of activities that the technology has been used for in relation to these two issues. Additionally the paper also describes certain demographics of the convicted offenders. The empirical material used in this paper consists of court and police records for all cases of 'child pornography' leading to conviction in Swedish criminal district courts between 1993-2008. The preliminary result from this working paper shows that the offenders' technology is more varied and complex than commonly expressed in the public discourses. As recognized several types of information technology have been used such as the World Wide the following technologies have been used World Wide Web, Peer-to-Peer file sharing, Internet Relay Chat, Instant Messaging, E-mail and File Transfer Protocol in some cases combined with encryption technology and anonymizing services. Furthermore the result sows that the technologies have been used for following activities such as production, distribution and accessing of child abusive material, networking with like-minded and grooming.

Paper III: Counter-Surveillance Strategies Adopted by Child Pornographers

Modern technology facilitates individuals with a sexual interest in children the ability to produce, download and distribute child abusive material. Another characteristic of the technology is that it easily can be used to create networks where people with a sexual interest in children can meet other like-minded people. The dualistic nature of information technology is highlighted in this paper. On the one side, it could be argued that information technology provide a perceived anonymity for people downloading and distributing child abusive material. While, on the other side the technology offers powerful surveillance mechanisms to monitor these activities and thus constitutes a powerful tool for law enforcement. Surveillance is not a new phenomenon, humans have always kept an eye on each other with purpose to control their surrounding. The diffusion of ICT in society has however changed the conditions for surveillance radically. One of the most important differences is that today with the use of ICT, the surveillance systems have become less obvious, more systematic and subtle in our everyday life. Accordingly, people seldom know exactly when they are subjects of surveillance or how comprehensive others' knowledge of them actually is. *This paper critically explores how offenders manage the risk of surveillance when downloading and distributing child abusive material.* The empirical material is drawn upon semi-structured interviews with fifteen offenders convicted of production and/or distribution and/or possession of 'child pornography'. The concept of panopticon is used in the analysis of the offenders' surveillance practice. The panopticon was originally an architecture design developed by Bentham as a special surveillance tower for a prison (Foucault, 1979). This architecture consists of a central visible surveillance tower and a courtyard surrounded by an outer ring of cells (Willcocks, 2004). The design is based upon the principle that the few guards in the tower could watch the many prisoners in the cells, while the observed could not communicate with each other, nor see the observers, but are constantly aware of the risk of being monitored by the guards. Foucault reinvented the concept of panopticon as a metaphor for 'modern disciplinary societies' and it is widely used to study the power of surveillance in contemporary societies. Panopticon can be seen as the 'illusion of constant surveillance'. The feeling of constant surveillance creates a 'permanent panopticon', where the prisoners act as if they are constantly observed. The result shows that the offenders are aware of the risk of being observed when downloading and distributing child abusive material. It could be argued that this result is not very surprisingly, i.e. that people who are involved in criminal activities are aware and anxious of the risk of being observed. It is

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however more surprisingly that the result shows that the awareness does not seem to act as a deterrent for their involvement in these criminal activities, instead they have developed and adopted different strategies to reduce the risk of surveillance. Two principal strategies emerged during the analysis: technological and social strategies. The developed strategies constitute an illustrative example of the offenders' active resistance of the surveillance capabilities in the environment. Some of the strategies are developed on an individual basis while other can be seen as the organization of a collective resistance. Some of the identified strategies refer to the choice of 'secure technology', carefulness with 'personal information' and 'use of alias' etc. The context, where some of these strategies have been developed, should be noted. As the result shows certain networks have rules regarding what technology that members must use to be part of that particular network, additionally there are rules regarding interactions between the members, for example exchange of personal information is not even allowed between members within the same network since that could be dangerous if one member gets caught. Furthermore the result shows that the offenders have communicated with each other regarding surveillance issues, for example discussing another user's behaviour and language use when distributing child abusive material. This indicates that the offenders have adopted counter-surveillance as a strategy to monitor other users' behaviour in the environment. One of the main principles of the panopticon design is that it allows for 'the few guards to watch the many prisoners'. Digital environments do however allow the many to watch the many, which emphasizes the need for a new concept that could be used to adequately understand surveillance practices within digital environments. The synopticon concept can be used to study surveillance practices where 'the many watch the few' and the panopticon concept where 'the few watch the many'. This paper argue that a third concepts is needed, to act as a complement to these two and that could be used in the analysis of surveillance practices where 'the many watch the many'. Finally this paper is an illustrative example of the complexity involved with the critical intention of emancipation. The emancipatory perspective in this paper refers to emancipation on a societal level. The offenders practice has been studied to obtain knowledge about their behaviour with the aim of using this knowledge to contribute to the development of effective child protection strategies in society.

Paper IV: Criminalising Fantasies: The Regulation of Virtual Child Pornography

Recently there has been concern in the media that those with a sexual interest in children are 'acting out' their fantasies in virtual worlds such as Second Life. For example, in an area within Second Life, called 'Wonderland', young "children" were offering sex in a playground. The young children were in this context not real children, but graphical representations and the playground was a virtual playground created with computer software in this technological world. This incident demonstrates one form of virtual child abusive material, namely computer-generated images (CGI), which is created wholly through computers and does not involve the abuse of real children but nevertheless raise important legal and ethical issues. The term virtual child abusive material, also referred to as 'virtual child pornography', refers to CGI, drawings, paintings and cartoons portraying sexual representation of children. It should be noted that 'virtual child abusive material' and 'pseudo-photographs', also called 'morphed images', are not the same thing. Pseudo-photographs consist of a photograph or a collage of photographs manipulated with digital techniques. It should be noted that the quality of virtual child abusive material varies strongly but some of the CGI appear to be of 'photo-quality' and can hence appear to be very realistic. It also highlights the importance of placing virtual child abusive material in its wider context where technological developments enable easy sophisticated production of this kind of material. In addition to the Second Life incidents concerns are expressed by the law enforcement agencies and welfare organisations about the increasing availability of virtual child abusive material, which has given rise to the question whether the possession of this kind of material should be criminalised. The Swedish legislation regarding child abusive material criminalises the production, distribution and possession of 'virtual' child abusive material through its formulation 'anybody that depicts a child in a pornographic image', 'distribute such image' or 'possess such image'. *This paper critically discusses the legal and policy arguments that are put forward as justifications for the regulation of virtual child abusive material.* The paper is based upon legal proposal and legal acts and explores how the idea of emancipation can be applied in the area of virtual child abusive material. This paper contributes to the theoretical field of critical information systems research by highlighting how the main interest of critical research, namely emancipation can be furthered or hindered by legal developments. Furthermore the paper contributes to the debate of this topical issue and thereby supports policy developments on a national and international level.

As the result shows the criminalisation of virtual child abusive material is a highly

controversial issue with arguments for and against. One of the main arguments brought forward to support the criminalisation is that such images are used in the grooming process with real children with the aim of 'normalizing' sexual activities between children and adults. This indicates that such material could be used to harm and abuse real children. It is also suggested that the possession and circulating of such images can legitimise and reinforce inappropriate perceptions of children, and while being unregulated, allow the development of a sense of social acceptance towards child sexual abuse. One of the main arguments used against the criminalisation of virtual abusive material is that it would be a 'thought crime' to criminalise such images, since it is digitally created images without a real victim and therefore protected by freedom of expression. Another important argument refers to the current lack of empirical evidence showing any direct link between the possession of such images and sexual offending against children. This highlights the need of more research about the connection between looking at computer-generated images and committing sexual abuse to be able to use that as an argument for criminalising such images.

Paper V: Technology and Sexual Abuse: A Critical Review of an Internet Grooming Case

There is growing societal concern regarding the risks that children could be exposed to when interacting with other people through information technology. Research shows that children use the technology to communicate with those known and unknown to them. Furthermore the technology is considered important for children when establishing relations with other people. Social networking sites that provide the opportunity for real-time conversation, communication taking place in, for example, chat rooms or instant messaging programs are popular and frequently used among children. There are undoubtedly a number of benefits with this new way of establishing contacts, but there are also potential risks and negative consequences that need to be further investigated. Grooming is a topical example of how modern technology can be used in a harmful way to exploit children. The term grooming refers to the process where a child is befriended by an adult in an attempt to gain the child's confidence and trust in order to lower the child's inhibitions in preparation of sexual exploitation and/or abuse online and/or offline. During the grooming process, the offender attempts to get 'emotional control' over the child. Grooming has been the principal approach of facilitating abuse for a very long time. It can take different expressions where the adult, through different strategies, induces the child to take part in sexual conversations, sending sexual images, posing in front of a web cam and/or carrying out sexual activities in front of a web cam. The media tend to suggest that grooming is a new phenomenon related to Internet, and yet we know that it is not. The process of grooming a child for sexual abuse is long-established. Technological innovations have however created new opportunities for adults with a sexual interest in children to groom children. The technology has affected the individual grooming behaviour in certain ways. By using information technology the user can conceal the real identity more easily and portray themselves in a way that better fits the purpose. The technology provides the opportunity to post detailed personal information that can be accessed by other users, for example by adults when looking for potential victims. In addition the technology facilitates fast and anonymous communication with a large number of persons despite the geographical distance. *The aim of this paper is to critically examine whether the new Swedish grooming offence can be seen as a useful response to tackle the problem of sexual grooming. Furthermore, the paper questions whether the public discourse and assumption of the Alexandra case as a typical grooming case could be misleading by using the concepts of ideology, hegemony and boundary critique.* The empirical ma-

terial used to explore the offender behaviour is based upon an actual case in the form of court and police record of a man, called the 'Alexandra man', convicted in Sweden 2007 of a number of sexual offences of children he contacted on the Internet. In addition a Detective Inspector has been interviewed to obtain the police view regarding the new legislation. The paper contributes to the understanding of information technology as a mean of behaving in inacceptable way. It makes theoretical and practical contributions to current debates surrounding use and governance of such technologies.

As the result shows, there are certain typical grooming elements in the 'Alexandra case', but there are also significant differences and therefore we argue that even though the Alexandra case is a grooming case it is not a traditional grooming case commonly understood within existing literature. Further research is however needed to enhance the understanding of this behaviour. This paper has highlighted certain difficulties with the new Swedish offence. The identified key concerns refer to the difficulties related to revealing and investigating the offence, the vague definition of what could constitute evidence, the complexity to prove the criminal intent with the contact and the relatively low penalty of the offence. Additionally, we argue that it is reasonably to believe that the legislation mostly will be used re-actively and not pro-actively as suggested by the text of law. Therefore, this paper considers that the new legislation is unlikely to protect children from harm and that other solutions may be necessary.

The critical concepts of ideology, hegemony and boundary critique have been useful to highlight the complexity involved when trying to regulate behaviour related to the use of technology. The critical approach has demonstrated that even apparently clear-cut and generally agreed social regulations of technology can raise substantial problems and need explicit reflection of underlying assumptions. The theoretical contribution of the paper is to show that critical ideas could be useful within information system research to help illuminating issues that go beyond the topic area of information technology in organizations that the majority of critical information systems studies concentrate on. By addressing a larger societal concern, this paper has shown the relevance of applying critical concepts such as ideology critique and boundary critique.

Paper VI: ISPs Filtering of Child Abusive Material: A Critical Reflection of its Effectiveness

The distribution of child abusive material through information technology constitutes a serious and growing challenge for law enforcement agencies, due to technological innovations. The impact and the role of modern technology for the production, distribution and downloading of child abusive material has been highlighted by a number of researchers in recent years. The same technology can also be used to regulate unwanted and criminal behaviour. The use of technology to regulate unwanted and criminal behaviour is long-standing. One topical example where technology is used to control users' behaviour involves ISPs implementation of filtering systems to prevent and block access to child abusive material. In recent years in some countries law enforcement agencies have developed cooperation with the Internet industry to tackle more effectively the distribution of child abusive material by combining legal and technological regulation. The filtering approaches differ somewhat, however, between the countries. In Sweden the model is based upon cooperation between the police and ISPs, where filtering technology is used to block access to blacklisted websites at domain level. The IT Crime Section at the Swedish National Criminal Police is responsible for and compiles the list used by the ISPs. The compiled list of domains is based on Swedish national legislation regarding 'child pornography'. When a user is trying to access a website that has been blacklisted the user is directed automatically to a so-called "stop page". The displayed stop page contains information that the requested website is blocked due to illegal content and informs the user how to submit complaints about the specific websites blocked. Although most people would agree that child abusive material should be regulated through legislation, critical voices have been raised about technological regulation attempts such as ISP filtering systems. One of the main arguments in the debate regarding this controversial issue is that internet filtering is a form of censorship and constitutes a threat to important civil liberties such as freedom of expression and privacy. *This paper critically explores whether ISPs implemented filtering systems could be seen as an effective approach to prevent and control access to child abusive material.* The paper is based upon empirical material collected through semi-structures interviews with 15 offenders convicted of of 'child pornography'. Additionally a police from the Swedish National Criminal Police has been interviewed. As this paper has shown, the current ISP filtering system used to prevent and control access of child abusive material contains both effective and ineffective elements. The ineffectiveness of the system can be explained mainly by the ease

of circumventing the current approach. To achieve a higher degree of effectiveness, the system should cover several types of technologies. The current approach blocks websites, which is the only possible solution with the filtering techniques available. However, this is not an effective solution, as child pornographers use different types of technologies to distribute and access child abusive material. Child pornographers' use of, for example, peer-to-peer file sharing programmes in combination with encryption and anonymizing services constitute a complex and serious challenge for law enforcement and highlights the need for new technological innovations that can be used to reduce the distribution of and access to child-abusive material. The effectiveness of the current filtering approach refers to its ability to act as a preventive measure for the public, i.e. to prevent the public from gaining access to child abusive material unconsciously. Furthermore, the filtering mechanism requires extra steps from users to access the blocked content, and consequently may act as either a hindrance or disturbance factor that makes access more difficult. Finally, it reduces the display of child abusive material and consequently reduces re-victimization of the abused child.

Discussion

The overall aim of this thesis has been to critically explore offenders' use of information technology for sexual exploitation of children, focusing upon child abusive material and grooming and additionally the societal responses. The overall aim was divided into the following three sub-questions: (i) How can offenders' use of information technology for child abusive material and grooming be understood in relation to current regulation models? (ii) What alternative models for regulation of child abusive material and grooming could be proposed? (iii) What are the implications of applying a critical approach? The discussion in this section will be structured around these three research questions.

1. How can offenders' use of information technology for child abusive material and grooming be understood in relation to current regulation models?

This thesis has shown that despite almost a worldwide consensus on the illegality of the distribution of child abusive material, effective international cooperation on this issue still remains unsolved (see paper I). Information technology poses complex challenges for traditional legislation to effectively regulate the distribution of child abusive material. A response to this is the cooperation between law enforcement agencies and the private industry where a number of ISPs in an increasing number of countries have implemented filtering technology with the aim to control the distribution of child abusive material. As recognized in this thesis the use of filtering technology as a regulatory mechanism is a highly complex and controversial topic where there is a tension between different important values that need to be protected in the digital environment, i.e. the right of the child not to be sexually exploited or abused and civil liberties such as freedom of expression and privacy (see paper I and VI). Villeneuve (2010) describes filtering as countries simply hiding child abusive material in the digital environment through 'the cosmetic practice of Internet filtering', rather than law enforcement agencies cooperate internationally and focus their resources on removing such content at its source, identifying victims and prosecuting those who produce, distribute and access this kind of material.

The fact that many actions surrounding child abusive material and grooming constitute criminal offences affect the individuals' behaviour when engaging in these activities in ways not envisaged by the lawmakers. But as the result shows even though that the offenders have been aware of both the law and the filtering mechanism they have not succeeded to prevent them from engage in these crimi-

nal activities. Instead, they have developed different strategies to reduce the risk of being revealed when carrying out the activities or to circumvent the filtering technology (see paper III and VI). Two principal strategies have been recognized, i.e. technological and social strategies (see paper III). These developed strategies constitute an illustrative example of the offenders' active resistance of the regulation mechanisms. Some of the strategies are developed and used individually while others collectively.

The technological strategies refer to the offenders' deliberate choice of different technologies to reduce the risk of being revealed and to bypass the filtering mechanisms. The result shows that offenders' know how to circumvent filtering systems and this should be noted since it means that they are largely unaffected by this regulation attempt. Furthermore, what is shown is that the offenders have used a variety of different technologies, for example the World Wide Web, Peer-to-Peer file sharing, Internet Relay Chat, Instant Messaging, E-mail and File Transfer Protocol in some cases combined with encryption technology and anonymizing services, for following activities such as production, distribution and possession of child abusive material, networking with like-minded and grooming (see paper I, II and V). Within certain closed communities there have been rules, in some cases called 'manuals' that regulated what technologies were allowed within a particular community, this contributing to the collective security, i.e. ensuring the community itself is secured. In addition, the result has shown that these closed communities have provided technological support, in forms of 'manuals' and 'administrators' responsible for this aspect, for its members regarding what technologies to use and how. It should however be noted that not all offenders are members of closed communities. The results from this study show that it is within these environments that more sophisticated technologies are used such as encryption and anonymizing services.

Besides the technological strategies the offenders have also developed and used social strategies which refer to social structures within closed communities such as the creation of certain rules related to the membership. We could see examples of rules regarding the use of secure technology above, but the results have shown that there were rules for social interaction as well as within these communities. Members were for example not allowed to reveal or exchange any personal information to anyone within the community due to the risk that if one member was caught the whole network is revealed, economic transactions were also not allowed due to the risk of detection inherent in their use. Some of the communities seem to be hierarchically organised, where certain individuals were

responsible for different areas and the results showed examples where individuals had a 'working scheme' within the community to make sure that there was always an administrator controlling the environment and available for support regarding technological issues (see paper II and III). Social strategies have also been employed by those acting individually without being part of a community by reducing exchange of personal information.

Similar strategies are also found in relation to the offenders' grooming behaviour. As shown in the papers they use different types of information technology during the grooming process, commonly starting in public technological environments while moving to more private and secure technological environments where the risk of surveillance is reduced, thus minimising their risk of being revealed (see paper V). As highlighted in this thesis there are certain difficulties with the new Swedish so-called grooming offence that aim to control offenders behaviour and the results indicates that this legislation is unlikely to effectively protect children. In addition to the activities described so far, this thesis has highlighted how information technology also is used for virtual child abusive material (see paper IV). Virtual child abusive material refers to computer-generated images where no real child is involved, but which nevertheless raise important ethical and legal issues and challenges the concept of victim.

The public discourse regarding sexual exploitation of children in relation to modern technology tends to focus upon the Internet, often used as a synonym for the World Wide Web, which risks dismissing the fact that information technology is not one homogenous technology but consist of many different technologies with different characteristics. One of the problems with such one-sided discourse is the risk that the development of regulation aiming to protect children is not empirically informed about the variety of technologies used by offenders, which in turn may limit the effectiveness of the developed regulation.

Once again the limitations of the empirical material should be noted. As discussed in section four, one significant limitation of the material used is that it only includes offenders convicted of 'child pornography' and as Terry and Tallon (2004) highlights those who are arrested represent only a fraction of all individuals involved in sexual-related offences of children, with these crimes having the lowest rates of reporting of all crimes. This indicates that the result should be interpreted carefully due to the characteristic of the material, i.e. court and police records produced within a specific context where the focus has been on the offenders' activities related to the criminal offences and not the technology

nor the technology use per se. Furthermore, it should be noted that the number of court and police records included in this thesis should not be interpreted as a measure of the proportion of these phenomena. As argued above this is an area with a high number of unreported cases. This leads to the interesting question of whether the technology use among non-convicted persons involved in child abusive material and grooming differ from the result presented within this thesis and if so what the differences are.

To conclude, the result has shown that different types of information technology have been used for child abusive material and grooming and that the offenders' have developed both technological and social strategies to reduce the risk of being revealed when being engaged in these criminal activities. This is an illustrative example of how the technology has been used in ways not foreseen by the lawmakers and poses major challenges to the law enforcement. We have seen that a consequence of the complexity of law in regulating this criminal behaviour conducted through modern technology is cooperation between law enforcement agencies and the private industry. This solution constitutes a paradoxical example where private operators (ISPs) on the one side provide a market for the users while on the other side attempt to strangle the same market by the implementation of filtering technology that regulates the activities taking place through their services. It has also been recognized that the offenders are largely unaffected by this approach and know how to circumvent it. All in all, this means that current used regulatory models, i.e. law and technology, could not be seen as truly effective solutions to fulfill their purposes.

2. What alternative models for regulation of child abusive material and grooming could be proposed?

Lessig (2006) offers a model with four 'modalities of regulation', law, norms, market and architecture, which can be used individually or collectively either directly or indirectly by regulators to control the actions of individuals in physical spaces and in Cyberspace. The model suggests that these four modalities, control the activities of individuals and each of these modalities functions by acting as a constraint on the choices of actions individuals have. Thus law constrains through the threat of punishment, social norms constrain through the application of societal sanctions, the market constrains through price and price-related aspects and architecture physically constrains. Lessig's model demonstrates how

these four modalities function individually or collectively on an individual's choice of actions with a 'pathetic dot' in the centre that represents the individual and then the four modalities are graphically illustrated as external factors, which control the actions of the dot (Lessig, 2006).

Lessig (2006) challenges the notion that Cyberspace cannot be controlled and argues that it is becoming a highly regulated environment where behaviour can and will be much more controlled than in real space. He further emphasizes the paradox that code regulation could be used as the greatest threat to liberal ideals as well as its greatest promise due to that 'we can build, or architect, or *code* Cyberspace to protect values that we believe are fundamental or we can build, or architect, or code cyberspace to allow those values to disappear (Lessig, 2006). Therefore important choices have to be made of what kind of Cyberspace we want and what values and norms that should be protected and guaranteed. These choices are all about architecture, what kind of code will govern cyberspace, and who will control it (Murray, 2010). There is no alternative trade-offs between what values and norms the code should include and preserve in Cyberspace is necessary (Lessig, 2006). This thesis provides an illustrative example of such trade-off when balancing different rights and values and discusses whether we need to accept certain limitations in civil liberties such as freedom of expression and privacy to enhance the protection of the child not being sexually exploited in the digital environment (see paper I). This example clearly shows the importance and the complexity involved when making decisions about what norms and values that should be 'translated' (built in) into the architecture. The term 'translation' refers to the process of transferring norms and values into Cyberspace (Lessig, 2006).

As will be shown in the following example, Lessig's model with the four modalities is relevant for our understanding of regulation in relation to child abusive material and grooming. The example will however only use child abusive material in the demonstration due to that even though that they are both examples of sexual exploitation of children they are two different phenomena and thus regulated in different ways. The first modality, *law*, constrains through the threat of punishment and aims to act as a crime preventive measure. It is clear that anyone in Sweden that produces, distributes or possesses child abusive material commits a criminal offence and risks punishment. The legal rules regarding this behaviour are clear. However, as recognized in this thesis, it is obvious that law as regulator has limited impact as the individuals have, despite an awareness of the law, continued their criminal activities. The result also shows that the offenders have

developed different technological and social strategies, which have been used individually and collectively to reduce the risk of being revealed (see paper II and III). This failure of law does not mean that the production, distribution and possession of child abusive material could be subject to control. Because one should not make the 'mistake to confuse how something is with how it can be, there is certainly a way that Cyberspace is, but how cyberspace is *is* not how Cyberspace has to be' (Lessig, 2006). For while the direct effects of the law may be failing the other modalities provide an alternative means of regulation.

The second modality, *norms*, constrain through the application of societal sanctions.

Although the law says it is illegal to distribute child abusive material it is assumed that it is not only the law that prevents most of us from engaging in this activity. The majority of people do not distribute child abusive material because they do not want to do so, because they have been morally conditioned to view sexual exploitation of children as a morally unaccepted phenomenon. A mutual relationship exists between norms and law. Social norms affect the creation of laws and the laws in turn have effect upon norms. An illustrative example of this can be found in the creation of the Swedish law regarding corporal punishment of children that was enacted 1979 and which also succeeded to change the general attitude against the phenomenon (see paper V). This thesis has identified two different norm systems, one that could be described as external and the other as internal. The external norms refer to the societal public attitude towards sexual exploitation of children as something highly unacceptable and thus constitute a form of constrain. Additionally the research has shown that the offenders have created their own norms and values within closed private communities when interacting with other like-minded individuals to create an environment that supports their criminal activities (see paper III). These internal norms act as a set of rules within their own environment and define what is allowed and what is not. It has been recognized that within certain private communities there were rules regarding what technologies the individual member should use to contribute to the security for all members and additionally rules regarding what personal information that was allowed to exchange.

Lessig's model suggests that the third modality, *market*, constrains through price and price-related aspects. The paradoxical position for the ISPs that have implemented filtering technology as a regulatory mechanism was mentioned above. Commercial ISPs act as intermediaries that provide access to the Internet in

exchange of payment from its users. This means that on the one side they have an interest in providing an open market for their users whilst at the other side they are now attempting to restrict the same market by the implementation of filtering technology that regulates (constrain) the users activities. Even though the research shows that a number of offenders have used their credit card to pay for access to websites containing child abusive material it also shows that other private markets exist within the closed communities where for example credit cards were explicitly forbidden due to the risk of getting caught by the law enforcement (see paper II). These private markets could be described as a form of trading where the individuals share and exchange material with each other. The results from the interviews show that it is within these types of closed communities that 'desirable' material is exchanged between the members and economic transactions seem to be uncommon. A further related market related aspect is that the research indicates that a common strategy when accepting new members to a closed community is to require the member to contribute with child abusive material, preferable 'new' material since that is considered to be highly valuable within these communities (see paper II and III).

The final modality, *architecture*, physically constrains. It might be assumed that the most effective way to control the distribution of child abusive material is to adjust the architecture. A topical example highlighted in this thesis is the private regulatory attempts by ISPs implementation of filtering technology that aim control the distribution of child abusive material (see paper II and VI). This can be described as the industry solution predicted by Lessig. Both Lessig (2006) and Murray (2010) have emphasized the ability to manipulate the architecture as the most obvious development in regulation of the digital environment. The cooperation between law enforcement and ISPs shows Lessig's prediction that architectural solutions will be used where laws fail to be effective. There are number of different commercial ISPs currently conducting regulation. As it is impossible for individuals to gain access to the Internet without employing the services of an ISP, they have the power to act as gatekeepers (Sutter, 2005). This position is a powerful one in the context of regulation since they can control access to information. The question as to what appropriate level of responsibility should be placed upon private ISPs to control content is a complex issue and highlights once again the importance of translating values and norms into the digital environment. A final dimension of how the architecture can act as regulator is when the offenders have used their private, or in some cases even their business, credit cards to pay access to child abusive material since modern technology can be

used for powerful surveillance (see paper III).

As has been shown Lessig's model with the four modalities has been useful in the analysis since it provides an alternative perspective, not only focusing upon law and technology as regulator mechanisms, but also the two modalities norms and markets which have rarely been considered when discussing the regulation of child abusive material and grooming. This thesis has shown that law and technology are the two dominating perspectives in the debate on how effective regulation models could be achieved and the complexities associated with them. As shown here by applying Lessig's model in this specific context, the debate about the regulation of child abusive material and grooming needs to consider the modalities of norms and markets as well as be able to develop alternative models.

3. What are the implications of applying a critical approach?

The chosen topic of this thesis is an example of one of the most problematic types of misuse of information technology. Research within the field of information system tends to assume that the dissemination of technology in society is beneficial for all. This thesis has however challenged this problematic assumption by exploring the offenders' use of technology for child abusive material and grooming and thus showed how well-established usage of modern technology can be used to cause serious harm to children who are the most vulnerable in our society.

The motivation for conducting this research has been to contribute, with empirically based research, to the development of effective child protection strategies in relation to child abusive material and grooming. This is in line with the ultimate goal of critical research to facilitate social change. The choice of research area posed some challenges on how to empirically and ethically study the use of information technology for these criminal activities. As discussed earlier it would have been difficult to ethically study non-convicted individuals engaging in child abusive material or grooming. The approach adopted has therefore been to study convicted offenders use of technology through interviews in the prison and by analyzing court and police records. Offenders in general, and offenders convicted for sexual-related crimes against children in particular, are a marginalized group in society. The approach employed in this thesis to study this marginalized group does not follow the common approach when conducting critical research since my motivation to study the offenders practice was based on the critical intention to obtain insights that could be used in the development of mechanisms that

should increase the protections of children.

For the objective of this thesis, the ideas of critical IS research has served the purpose of understanding and questioning assumptions about offenders' use of information technology in the context of child abusive material and grooming. This thesis has applied a number of different critical concepts such as panopticon, emancipation, hegemony, ideology and boundary of critique. The concept of panopticon was useful to understand offenders' behaviour in relation to the risk of surveillance when being engaged in their criminal activities. The result shows however that we need a concept better adjusted to understand complex surveillance aspects in the digital environment where 'the many watches the many', whereas the concept of panopticon is useful in practices where 'the few watch the many' and the concept of synopticon when 'the many watch the few' (see paper III). The idea of emancipation was explored in the area of virtual child abusive material to explore how emancipation could be furthered or hindered by suggested criminalisation of virtual child abusive material (see paper IV). While the critical concepts of ideology, hegemony and boundary critique were useful when analyzing whether the new Swedish so-called grooming offence could be seen as a useful response to tackle the problem of online grooming. It was also used to question whether the public discourse and assumptions of the Alexandra case as a typical grooming case are misleading. These concepts highlighted the complexity involved when trying to regulate behaviour related to the use of technology such as online grooming (see paper V). By critically question the public assumptions and discourses about information technology in relation to child abusive material it was possible to open up the 'black box' and present results showing the variety of different technologies used by the offenders and their different activities (see paper II). Finally, this thesis has critically questioned the status quo regarding the predominance of certain civil liberties such as freedom of expression over other such as the right of the child not to be sexually exploited (see paper I) and in relation to ISPs use of filtering technology to prevent and control distribution of child abusive material (see paper VI).

Future Research

There are a number of identified research areas that have been identified during the work with this thesis. First, there is a need of more empirical research to follow up the two 'modalities' market and norms. By applying Lessig's model of the empirical context it was recognized that these two need to be further investi-

gated and integrated in the development of effective child protection strategies. Second, this thesis has shown that ISPs filtering approach is complex and further research of the current filtering practice including an analysis of the filtering list and interviews with actors from ISPs to obtain their perspectives of this cooperation as a complement to the offenders' and the police' perspectives that have been presented within this study. Third, a need has been identified to develop a more fine-grained analysis about the technology involved and the offenders' technology use. A first step could be to open up the identified categories of technologies and activities within this study, that would further contribute to our understanding of how modern technology is used for the sexual exploitation of children and be useful when considering how to prevent and control such criminal behaviour effectively. Finally, it would be interesting to address questions related to female sexual offenders engaged in producing, disseminating and accessing child abusive material and grooming, which is an area that has not been well acknowledged by researcher within this field.

Conclusion

This thesis has shown that offenders' use of information technology for child abusive material and grooming is more complex and multifaceted than current regulation models have managed to envisage. It has been recognized that the offenders are aware of the illegality in their activities and thus the risk of being observed by law enforcement and have therefore developed different strategies to be able to continue with their criminal activities. This result indicates that current regulation models do not successfully fulfill their purposes in an effective way, i.e. to prevent and control individuals to produce, distribute and access child abusive material or for adult individuals to seek contact with minors for sexual purposes. The critical approach employed in this thesis has been useful to question the effectiveness of existing regulation models and provided alternative insights emphasizing that it may be limiting to only focus upon law and technology as regulatory mechanisms. This thesis therefore suggests that existing regulation models such as law and the use of technology for filtering should be re-evaluated and that further dimensions such as norms and markets should be considered .

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