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NOW YOU SEE ME, NOW YOU DON'T
A STUDY OF THE RELATIONSHIP BETWEEN INTERNET ANONYMITY AND FINNISH YOUNG PEOPLE

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Abstract

The internet has allowed for a vast array of relational and expressional opportunities and risks, becoming an especially central component in the lives of young people in nations leading in consumer technology. Notably, most forms of internet use involve a level of user anonymity, whether carrying out online exploration, expression or interaction. This dissertation represents a study of the relationship between young people and internet anonymity. The main goal of the research is to examine how young people understand internet anonymity and its effects in addition to what psychological and socio-demographic characteristics are linked to preferring anonymous expression online. Four studies were constructed for the purpose of this aim, each bringing a unique perspective to the discussion of internet anonymity through both past theoretical frameworks and previous studies on the online behavior of young people. Results of these studies highlighted various ways in which online anonymity provides avenues for meeting the needs of young people through forms of beneficial social invisibility while also being viewed as a cause for certain risks due to the lack of accountability for aggressors. Overall, the studies allowed for the effects of anonymity to be linked as both cause and facilitator to various opportunities and risks found in past research concerning online behavior. Furthermore, the identification of characteristics of those preferring anonymity online provided a bridge between anonymity studies and studies on internet use toward a new perspective of how the structural nature of the internet can appeal to users. Finally, the various findings along with the development of a model of contemporary internet anonymity provide points of reference for future research while also highlighting existing gaps in the study of young people online.

Keywords: internet, anonymity, youth, risk, identity, autonomy, social networking, social media

Abstrakti

Internetistä on tullut keskeinen osa nuorten ihmisten elämää teknologisesti edistyneissä maissa. Internet ja sosiaalinen media ovat avanneet laajan kirjojan mahdollisuuksia itsensä ilmaisuun ja sosiaalisiin suhteisiin, mutta samalla myös näihin mahdollisuuksiin liittyviä riskejä. Anonyymius on osa internetin käyttöä oli sitten kyse verkkoselailusta tai kanssakäymisestä sosiaalisessa mediassa. Väitöskirjassa tutkitaan nuorten netin käyttäjien anonyymiydelle antamia merkityksiä. Tutkimuksen päätarkoituksena on tarkastella millainen on nuorten käsitys anonyymiydestä verkossa ja sen vaikutuksista, sekä millaiset psykologiset ja sosiodemografiset piirteet linkittyvät anonyymiyden suosimiseen internetissä. Näiden selvittämiseksi toteutettiin neljä osatutkimusta, joista jokainen valottaa internet käytön anonyymejä tilanteita. Tutkimustuloksista käy ilmi, kuinka anonyymiys tarjoaa väylän sekä henkilökohtaisten että sosiaalisten tarpeiden täyttämiseksi. Samalla anonyymiys altistaa käyttäjien kertomuksissa erilaisiin riskeihin, kun nimimerkkien suojissa voidaan hyökätä toisia henkilöitä vastaan ilman huolta vastuusta. Väitöskirjan tulokset avaavat kuitenkin moniulotteisen kuvan nettianonyymiyden eri muodoista, mahdollisuuksista ja riskeistä. Sen perspektiivi on uusi ja siinä kuvataan kuinka internetin käytön rakenteelliset tekijät voivat vaikuttaa käyttäjiin. Tutkimuksen yhtenä lopputuloksena on malli anonyymiydestä internetissä.

Asiasanat: internet, anonyymius, nuoret, riski, identiteetti, autonomia, sosiaalinen verkostoituminen, sosiaalinen media

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Open doors offer the path of least resistance, I've found. From applying to doctoral studies in Finland while living in the U.S. to being surprised at the reception of the acceptance letter, things have fallen into place better than I could have planned. It has been a nomadic and thoroughly enjoyable experience, complete with valuable guidance and lessons learned through trial and error. I have come a long way from wondering what a study plan is, due to the investments of a number of truly exceptional guides.

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List of empirical publications

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IV. Keipi, T. (forthcoming) Relatedness online: an analysis of youth narratives concerning the effects of internet anonymity. *Young* (under review)

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1. Introduction

The internet connects a great number of personal and social aspects of daily life for most of the Western world, where computer mediated communication is becoming a primary form of interaction. The online setting has become a place for expression, socialization and relationship management on a wide scale where ease of access to others and convenience of communication help to drive the popularity of its various mechanisms. This growing social arena available online in the form of various communities or mechanisms for networking and communication plays a central part in the lives of young people in nations at the peak of communication technology adoption (Drotner & Schrøder, 2010; Livingstone & Haddon, 2009)

Closely tied to this adoption of technology is the social aspect of being connected. Young people between the ages of 16–30 are the most significant consumers of these relational aspects of the internet by a significant margin (Lehdonvirta & Räsänen, 2011). The internet brings with it a great deal of new opportunities for young people through identity exploration and experimentation, skill development and new forms of expression (Kim & Lee, 2011; Boellstroff, 2008). However, this connectedness and navigation online brings new forms of risk to young people as well, including various forms of bullying and harassment of varying degrees of severity (Oksanen & Keipi, 2013; Livingstone, Haddon, Görzig, & Ólafsson, 2011; Ortega et al., 2012).

The social aspects of the internet within which various risks and opportunities are faced by young people are contained within the rubric of social media, made of up of all manner of interactional and expressional possibilities along with a large population of users and communities with diverse bonding interests or values with whom to interact. Young people are especially active in the social networking aspects of social media, taking advantage of the enhanced capacity for socialization to create desired connections on a scale as large or small as determined by individual preference (Davidson & Martellozzo, 2013; Allen, Szwedo, & Mikami, 2012). Here, young people are provided a platform through which any number of new social ties can be contacted or previous ties reinforced and maintained; a diverse social tool especially valued for its delivery of social support

and validation among young users through various forms of communication, self-presentation and exhibitionism (Hogan, 2010). Furthermore, the behaviors and forms of social interaction chosen by young people online point to the fulfillment of various needs. The online setting can grant access to methods of strengthening a sense of autonomy through new forms of expression or provide opportunities for relatedness with like-minded individuals of communities where a sense of belongingness can be found in ways not accessible offline (Blais, Craig, Pepler, & Connolly, 2008).

A significant structural component of computer-mediated interaction inherent to most forms of communication online is that of modified social presence. In the online setting, the degree to which an interacting participant is experienced physically is typically diminished. These various degrees of social presence are significant toward an understanding of the dynamics of online interaction (Kreijns, Kirschner, Jochems, & Van Buuren, 2004). This modifier of social presence is often referred to as anonymity, which exists in various forms today and can be used for various purposes, both beneficial and destructive. Notably, the study of the effects of contemporary internet anonymity is scarce, though foundational research has been carried out before the wide scale adoption of social media. Furthermore, the study of how the most significant consumers of various online mechanisms involving modified social presence, namely young people, relate to anonymity remains absent from the literature. As a result, a number of questions have been raised concerning the role of internet anonymity in the lives of young people.

The goal of this dissertation is to answer the question of how young people in Finland use various levels of anonymity to negotiate their identities and relationships. Notably, the complexity of anonymity online and the internet's social variance in all its forms present a body of potential research too broad for this project. As such, the research is focused on two primary areas. First, the approach delves into how the effect of anonymity is understood by youth along with how young people take advantage of those effects. Second, focus is shifted to determining what characteristics among young people are associated with a preference for anonymity online. The study of these two areas requires a new set of data collection

due to the lack of recent research on internet anonymity as a variable in affecting behavior and interaction.

Three primary frameworks provide tools for interpreting the data of the study. First, a foundational understanding of anonymity's effects is provided by the Social Identity model of deindividuation Effects (SIDE) developed by Lea, Spears and de Groot (1991, 2001) toward the finding of anonymity as a mechanism encouraging group formation and self-stereotyping. Second, a model of contemporary internet anonymity maps out key identifiers of different levels of anonymity based on both past findings of anonymity itself and recent research on the online behavior of young people. Third, Self-determination Theory (SDT) created by Deci and Ryan (2000), a model toward understanding motivation through the needs of relatedness, autonomy and competence provides a framework for categorizing and interpreting behavioral aspects of the data. Furthermore, a fourth tool provided by the social tie approach (Granovetter, 1973; Haythornthwaite & Wellman, 1998) is used in a secondary manner to reinforce the three primary frameworks through mapping the relational forms prevalent among young people online in the anonymous setting. These four components are implemented to varying degrees throughout the four included studies, with previous findings of the online behavior of young people providing important areas of overlap between these frames.

In studying how internet anonymity is understood and implemented by young people in addition to who prefers the anonymous state specifically, the hope is to provide a new window into the online setting so prevalent today in addition to complementing previous research on young people's internet behavior. As internet savvy young people are at the forefront of all the themes mentioned, Finland represents a strong sample for this study due to its young people's prominence in being early adopters and extensive users of consumer technologies (Oksman & Turtiainen, 2004; Räsänen & Kouvo, 2007). This research intention in addition to the chosen sample population can in conjunction provide novel insight and shed light on new areas of research especially in terms of understanding the opportunities and risks existing online dependent on some level of user anonymity.

In order to understand the issue of modern internet anonymity as it relates to Finnish young people, a non-country specific overview of previous research involving young people's online behavior, user needs and anonymity's effects is necessary, to which we turn in the following chapter.

2. Young people and internet use

The internet as experienced by young people is made up of a number of relational modes, including social networking sites, online gaming and various online communities. These all play a significant role in the daily lives of their users, with all manner of both social and individual effects emerging from their use. The young people of Finland are especially active online, with over 80 per cent of those aged 16-30 reporting internet use several times a day (Official Statistics of Finland, 2014). Furthermore, the Finnish population is one of the leaders in online consumption with internet use significantly higher than the E.U. average (Seybert & Reinecke 2014). The online setting poses all manner of opportunity and risk to its users, especially those most active there. As such, this chapter provides an overview of significant themes involved in young people's online interaction, including both the effects on an individual level and the characteristics of the unique online environment that foster them.

2.1 Online risks and opportunities

The mechanisms provided by the internet for young people can be both unique to the online environment or extensions of offline experience. For some, the relational capabilities of the internet become a virtual world in which to escape, while for others it is used as a toy primarily for entertainment; some value it as a learning tool while others use it as a social instrument (Livingstone, 2008; Liu, 2011). These modes of use can carry both positive and negative attributes, depending on how
they are used and what a particular user wishes to accomplish. This interactive setting provided by the internet brings about a positive relationship between risks and opportunities for young people in the various forms taken advantage of by users (Byrne & Lee, 2011; Livingstone, 2009; Livingstone & Helsper, 2010).

The internet is increasingly a provider of mechanisms for the promotion of social and cognitive development for young people, complementing traditional satisfaction of social needs in new ways (Guan & Subrahmanyam, 2009). As such, the online setting provides a wide array of opportunities for young people to explore and meet social needs in ways not previously possible, though new risks can

emerge. Those struggling with loneliness are more likely to take on online interaction for the purpose of escapism and other short term benefits, while the possible long term risks of doing so include increases in both isolation and loneliness (Allen et al., 2012; Kim, Larose, & Peng, 2009). The effects of self-reinforcing behaviors along with the wide array of potential interactive partners creates the potential for costs that can offset the valued benefits available online (Keipi & Oksanen, 2014). The internet's provision of popular methods of solitary exploration online or anonymous interaction with users previously unknown toward relationship formation and identity experimentation (Näsi, Räsänen & Lehdonvirta, 2011; Livingstone et al., 2011) are characterized by this intersection of enhanced opportunities and new risks.

2.1.1 Online bullying and victimization

Despite the various benefits provided by online interaction, the use of the internet by young people has been shown to increase various forms of social risk inflicted by other users through bullying or sexual victimization (Sourander et al., 2010; Wolak, Finkelhor, Mitchell, & Ybarra, 2010; Livingstone et al., 2011; Ortega et al., 2012). The form of outside harassment and abuse in the online setting, or cyber bullying, is made up of threats and other forms of offensive and damaging behavior carried out through computer- mediated communication (Byrne & Lee, 2011; Guan & Subrahmanyam, 2009). Notably, the relational mechanisms of the online setting act to improve access and therefore ease of abuse between users, further enhancing the effects of harassment (Keipi & Oksanen, 2014; Näsi et al., 2014).

The risks in the online relational sphere tend to both mirror and magnify areas of social difficulty being experienced by young people offline. Both those most at risk of becoming a victim of harassment online and those most likely to harass others tend to share characteristic problems of depression, rebellious behavior and difficulties in maintaining peer relationships (Wolak, Finkelhor & Mitchell, 2008; Wells & Mitchell, 2008). As such, social and personal issues can be predictors of online behavioral tendencies.

2.1.2 Enhanced interactive access and communication

Technological developments taking advantage of internet connectivity have allowed for an heightened capacity for a new ease of interaction, both in terms of access to other users and modes of communication. Young people are the most proficient consumers of online mechanisms and most benefitted by these developments, namely through its social aspects (Panek, Nardis & Konrath, 2013). Communication has been found to be centrally important to these young users, as their preferred websites are those which specifically enhance communication and connectivity with others (Merchant, 2012; Näsi et al., 2011).

These enhancements in socialization often complement existing methods of communication for young people (Davidson & Martellozzo, 2013; Panek et al., 2013). This computer-mediated model of socialization has become central to how young people interact on a daily basis, as they maintain communication and interaction online to reinforce relationships through technology.

2.2 Social media

The enhanced capacity for communication and interaction online culminates in the area of social media, a term encompassing an array of various popular forms of internet socialization. Social media is made up of social networking sites (SNS) such as Facebook, content communities such as YouTube, collaborative projects such as Wikipedia, online gaming communities, virtual communities and various forms of blogging or personal expression through text (Kim & Lee, 2011; Kaplan & Haenlein, 2009).

Social media, as a whole, makes up the most used segment of the internet for young people. Its popularity is closely linked to its provision of effective tools for building social networks through empowering new and effective ways of autonomous socialization (Wang & Stefanone, 2013; Livingstone et al., 2011; Dooris, Sotireli, & van Hoof, 2008; Hargittai, 2008; Boyd & Ellison, 2007). As such, social media has allowed young people to become more autonomous in social network creation and maintenance (Holtz & Appel, 2011; Jones, Mitchell & Finkelhor, 2011; Lehdonvirta & Räsänen, 2011). Foundational to the perceived benefit of the various

forms of social media by young people is its provision of tools for the fulfillment of the need for intimacy and belongingness with others (Davidson & Martellozzo, 2013). Here, social media creates an abundance of relational possibilities by way of a platform for personal expression.

The most popular of these forms of social media are those of social networking sites (SNS). Online networking among young people is widespread, with SNS use accounting for newly one quarter of time spent online and a further 80 percent of internet users reporting regular SNS use (Panek, et al., 2013; Subrahmanyam & Lin, 2007). Despite widespread SNS use among all age groups, young people aged 16-30 years are by far the most active users (Lehdonvirta & Räsänen, 2011). Furthermore, those under the age of 16 display tendencies for seeking validation and social support through SNS to a significantly greater degree than other age groups (Livingstone, 2008). As such, the SNS setting provides users with a potentially valuable platform for both self-presentation and exhibitionism toward identity exploration or peer validation, a central component of its growth in popularity online (Hogan, 2010).

Linked closely to the relational aspect of SNS use is that of personal expression and access to favorable interacting partners (Merchant, 2012; Shaw & Gant, 2002). Social media, including SNS, brings with it a great degree of personally discoverable interest-based groups; like-minded users become more accessible online (Keipi & Oksanen, 2014). As such, identifying with specific groups within social media adds to the user experience, enhancing relational possibilities while also allowing for the creation of an online persona according to personal preference.

2.2.1 Customized self-presentation

Computer-mediated interaction combined with platforms of social media allow for a great deal of customization in terms of how young people wish to be viewed by interacting partners; self-presentation has become central to how young people explore social opportunities online (Allen et al., 2012). Users can control their level of identifiability online, which can enhance both social benefits and individual exploration of identity, for example (Livingstone & Brake, 2010; Näsi et al., 2011).

Much like the capacity toward finding ideal online groups to match individual interests or values, the online setting provides young people with a significant degree of flexibility in terms of self-presentation toward gaining favor from desired audiences (Panek et al., 2013). Here, the possibility for desired peer recognition can be enhanced through controlling one's visible persona by producing an idealized self. This idealized self can then be used to attract desired attention (Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012).

The wide audience available online increases the value of the ability to remain flexible in terms of self-presentation. It becomes possible to hide or enhance self according to the circumstance in question. Limiting visibility or customizing an idealized self can both be used toward the fulfillment of social needs online, representing an attractive set of options for young users of social media today (Wang & Stefanone, 2013).

2.3 Youth relatedness online

The online mechanisms discussed all make up practical aspects of relatedness online, where young people are increasingly spending time toward socialization. Social media makes up a primary mode of online interaction for young people as discussed, fulfilling relational needs for intimacy and belongingness with others in many forms including SNS.

The popularity of social media among young people is unsurprising due to young people showing an especially strong desire to form relationships online, where social constraints otherwise present can be diminished (Allen et al., 2012; Panek et al., 2013). Furthermore, the relational spectrum available online is enhanced beyond one's family, school or community due to accessibility and convenience in methods of communication. Here, young people operate with complex classifications of friends, depending on the degree of intimacy desired (Livingstone, 2008).

The differences in quantity of time spent online in terms of gender are insignificant. However, the forms of activity carried out have been found to vary between boys and girls under the age of 16 (Livingstone & Helsper, 2010).

Furthermore, gender based differences in online relational behavior are also apparent in emerging adults aged 18-29; females tend to interact online more toward reinforcing existing relationships while males tend to focus more on seeking out new romantically motivated attachments and friends (Subrahmanyam, Reich, Waechter, & Guadalupe, 2008).

Males are also significantly more likely than females to participate in risky behaviors online as they tend to be more outwardly focused in their online activity (Livingstone & Helsper, 2010). Males also have a higher likelihood of being exposed to harmful people or materials as they operate online (Pompili et al., 2007). Despite these differences in interactional behavior and motivation behind those behaviors, the significance of social media and social networking for young people remains.

Interactional dynamics online can vary from face to face interaction in ways that create boundaries to accurate interpretation. Relationships in this arena can become complicated, despite their relative convenience in communication, due to the potential for misreading social cues and other important nuances (Keipi & Oksanen, 2014). Risks of online relationships increase for those users displaying harmful emotional issues, especially where online romances are sought (Wells & Mitchell, 2008). Troubled young people are less likely to receive beneficial feedback from others and can move toward online relational risks at an accelerated rate (Valenzuela, Park, & Kee, 2009). Experiencing harassment can also have significant negative effects on well being by encouraging harmfully reinforcing methods of internet use, especially in young users (Näsi et al., 2014).

Furthermore, the diminishing of face to face cues online can cause a tendency toward fantasizing about others unrealistically, resulting in unwarranted intimacy (Sheldon, 2009). This seeking after intimacy online can in turn result in accepting unwanted sexual solicitation by online predators (Jones et al., 2011). Fortunately, the majority of unwanted solicitation is refused by young people; where online predator crimes involving sexual solicitation do take place is in cases where the victims regarded advances as complimentary (Livingstone, 2009).

2.3.1 Strong and weak social ties online

The social framework of strong and weak ties (Wellman, Salaff, Dimitrova, Garton, Gulia, & Haythornthwaite, 1996; Haythornthwaite, 1996; Sproull & Kiesler, 1991), though developed before the advent of social media, provides beneficial context to the relational dynamics of young people online.

These social ties make up the relational spectrum of young people as they interact online, engaging in complex navigations between various levels of relationships, or social ties. A social tie here refers to the relationship that exists between two or more interacting individuals involving a sharing or exchanging of resources having to do with social support or information (Subrahmanyam & Lin, 2007). This social tie approach to analysis of relational networks originally developed for economic analysis (Granovetter, 1973) allows for a systematic categorization of how social ties interact both online and offline. The strength of a social tie depends upon degree of reciprocity, duration of the relationship, level of intimacy, and frequency of contact (Berkowitz, 1982; Granovetter, 1973).

Central to tie maintenance is communication, an attribute enhanced by the ease of communication through online mechanisms (Haythornthwaite, 2002). Furthermore, all forms of interaction, both based on technology and otherwise, enhance the social ties that make up relational networks (Haythornthwaite & Wellman, 1998; Garton, Haythornthwaite & Wellman, 1997). Notably, the designation of a tie as strong or weak depends upon a range of characteristics.

Superficiality, narrow focus and infrequent contact characterize weak ties. These ties do not provide the significant social support inherent to relationships built upon more intimacy (Wellman et al., 1996). Weak ties are instrumental in nature, where interacting partners are seen as a means to an end without a desire to invest (Wellman, 1982). Conversely, strong ties are more foundational in nature, being made up of mutual interest toward frequent interaction over a long term timescale (Kavanaugh, 2005).

The online setting allows for enhanced methods of communication and a new ease of access to others, creating new opportunities for relational development and social benefit (Davidson & Martellozzo, 2013; Panek et al., 2013). This, in turn, has a

positive effect on the maintaining of strong ties. Weak ties are also affected significantly, as the convenience of both maintaining and seeking out new weak ties increases.

2.3.2 Online communities

Identification with online groups based on common interests or shared identity characteristics plays a central role in the socialization of young users of the internet. These online groups provide reinforcing sources of identity expression and exploration, working in a complementary fashion with offline behavior (Davidson & Martellozzo, 2013; Lehdonvirta & Räsänen, 2011). The strong motivator of successful attainment of peer confirmation from desired groups online helps to drive young people toward communities of various kinds, especially when group cohesion is based on shared interests (Panek et al., 2013; Näsi et al., 2011). Notably, online communities provide a strong sense of identification in those young people who are less autonomous (Lehdonvirta & Räsänen, 2011).

However, online communities can also strengthen negative effects, for example through the organized dissemination of hate material (Oksanen, Hawdon, Holkeri, Näsi, & Räsänen, 2014). The various benefits of the online setting toward interaction and group reinforcement are also used by hate communities driven by a purposeful targeting of others (Näsi et al., 2014). These online communities can carry far-reaching negative effects, including encouraging extreme forms of violence and hatred among young people (Oksanen, Hawdon, & Räsänen, 2014). As such, online communities can carry both positive and negative effects through their provision of a common goal or need fulfillment.

Age is a strong predictor of social tie strength with an online community, as young people are more likely than older users to bond with likeminded individuals making up the group providing desired relational benefits (Näsi et al., 2011). As users become more independent in behavioral motivation and self-image, the strength of the bond with the online community or interest group weakens. Furthermore, the mechanisms of online and offline peer group identification operate in a similar fashion as tie strength of offline group identification tends to be

equivalent to online group identification (Lehdonvirta & Räsänen, 2011). Added to this similarity in group identification is that of social disposition; behavioral style in terms of extroversion and introversion are transferred to SNS use and online group bonding where users are identifiable (Wilson, Fornasier & White, 2010).

2.3.3 Trust and self-esteem

The use of social media is a powerful avenue for fulfilling needs for various kinds of social and emotional support in young people toward improving self-image or finding validation through acceptance (Chew, LaRose, Steinfield, & Velasquez, 2011). Linked to the finding that age is a predictor of online group tie strength is that of social trust online; younger users are more likely to trust interacting partners once relational intimacy is experienced (Merchant, 2012; Livingstone, 2008). Trust is often a determinant of how visible or identifiable a user wishes to be online.

Self-disclosure is central to the process of developing trust and relationship formation, both online and offline (Fogel & Nehmabd, 2009; Sheldon, 2009). Notably, young people who tend to avoid face to face interaction offline are more likely to connect with others online, where there exists a relative freedom to control both identifiability and visibility toward controlling the pace of trust formation (Sheldon, 2009; Merchant, 2012). However, investment in social ties online is a facilitator of social trust regardless of the social disposition of the user, a central component to keeping online communities active (Valenzuela et al., 2009; Sheldon, 2008).

The social trust necessary for strong ties online toward gaining a sense of acceptance is also strongly related to users' self-esteem. Those with low self-esteem are more likely to seek out validation online from desired users, whether individuals or groups (Anderson et al., 2012). Furthermore, low self-esteem can drive users to take advantage of the ability to customize self-presentation online in order to appear more favorable (Keipi & Oksanen, 2014). Users with low self-esteem are also more likely to have fewer offline friends and thus will spend more time on social media in addition to seeing the benefits of the online relational sphere in a more favorable light (Mehdizadeh, 2010).

In terms of online group dynamics related to self-esteem, those with low self-esteem are more likely to seek out attention from a wide audience while users displaying high self-esteem tend to be more concerned with appearing favorable within a small relational sphere of strong ties (Anderson et al., 2012; Christofides, Muise & Desmarais, 2009). The need for belongingness and acceptance is linked to self-esteem, which is often seen as a self-imposed measure of how worthy one is to join a particular online group. Indeed, low self-esteem can motivate the creation of an idealized self that is assumed to be favorable to the desired community providing security or belongingness (Leary, 2007).

3. Understanding internet anonymity and user motivation online

As young people navigate in various social spaces online, computer-mediated aspects of interaction impose a unique template, namely one of modified social presence. Online, including in the use of social media, social presence is often modified through the removal of live face to face communication. Here, social presence refers to the degree to which one is physically experienced as an interacting partner (Rourke, Anderson, & Garrison, 1999). There exist various degrees of social presence depending on the method of interaction online, and an understanding of these various degrees is significant in a fuller understanding of online interaction (Kreijns et al., 2004). Various modifications of social presence online are often referred to as anonymity, a central component inherent to online interaction employed in various ways and to various degrees by young internet users.

Anonymity can take many forms online, from pseudonym-based profiles on gaming profiles, message boards such as reddit or 4chan, to tailored social media accounts and fully anonymous text-based interaction. Different levels of identifiability exist online, even when users are visually seen; for example, Chatroulette and Omegle provide random interactive partners through video and text without requiring additional personal information. The intricacies of anonymity online are complex and overlapping, with the level of identifiability and exposure determined by both the online environment and users themselves.

3.1 Social identity model of deindividuation effects (SIDE)

Central to an understanding of contemporary anonymity online is an appreciation of foundational early research delving into the effects of anonymity on the individual, namely the Social Identity model of Deindividuation Effects (SIDE). SIDE, developed out of social identity theory (Tajfel & Turner, 1985) and self-categorization theory (Turner, 1982) was a wide scale effort by Lea and Spears (1991) to reconcile various contradicting findings of the effects of anonymity. Here, the effort was made to bring both positive and negative effects of anonymity under a common framework.

SIDE puts forth that as one interacts in social invisibility, or anonymity, there is a movement from thinking in terms of the self to thinking in terms of the group. This depersonalization comes about through the weakening of interpersonal cues of communication, causing a shift from self-awareness to group awareness by self-categorization (Lea & Spears, 1995). As such, SIDE posits that this has the effect of promoting behavior of the salient group that one identifies with. Here, the complexity of self is given up in favor of self-stereotyping in order to strengthen group bonds and better distinguish oneself from other groups .

Thus, anonymity has the effect of various forms of self-categorization dependent upon identity characteristics attractive to one's desired group as complex individuals are seen as simplified group representatives (Lea & Spears, 1991). This finding, in turn, helps to shed light on the dynamics of social interaction online carried out by young people in various states of anonymity. Online, especially through social media, common interests and aspects of personal identity can bind users to online communities with an enhanced effect as individuals interact as representatives of various characteristics or preferences seeking likeminded reinforcement (Keipi & Oksanen, 2014).

Notably, the early findings of SIDE on the effects of anonymity were based on social environments far less complex than those experienced by young people today. Anonymity as a concept is relatively straightforward and has in past research been understood in a relatively uniform manner. However, this uniformity in the mode of anonymity has become more complex through the internet, requiring a more nuanced understanding of its forms. Although the findings of SIDE cannot be applied directly to all forms of anonymity experienced online today, they provide a useful contextualization for a new model of internet anonymity.

3.2 Levels of internet anonymity

As discussed, the online interactional spectrum is broad, with various levels of socialization possible in various levels of identifiability according to user preference. Anonymity online can be approached from two primary perspectives, namely environmental and behavioral. Sweeny's k-anonymity provides a technology-based

perspective where anonymity is assessed according to the level provided to users in specific online settings through various conditions of user identifiability. Here, user anonymity is dependent on the online environment into which one enters, with various degrees possible according to points of information revealed contextually (Sweeny, 2002). In k-anonymity, anonymity is modified contextually by the environment into which users enter. On the other hand, the computer-mediated communication (CMC) approach focuses on how users are affected behaviorally by the visually anonymous setting especially (Joinson, 2001; Lea & Spears, 1995). Here, similarly to k-anonymity, there is potential for the modification of anonymity by the user in cases where self-presentation can be customized within the given environment. As such, levels of anonymity are complex both in terms of environment and user-preference.

Generally speaking, online anonymity brings with it two primary characteristics, namely lessened social presence and diminished identifiability, which need not exist simultaneously. As such, all anonymity functions with some level of modified social presence when contrasted with simple face to face communication, whether modified by environmental factors or users themselves. In CMC, visual anonymity plays a central role. Here, visual anonymity refers to the lack of visual representation, such as through pictures or video (Barreto & Ellemers, 2002; Lea & Spears, 2001; Postmes, Spears, Sakhel, & De Groot, 2001). As such, the anonymous state does not require the user to remain unidentifiable, as some applications simply involve a removal of visual cues. Notably, social media, even SNS such as Facebook, function with some level of anonymity despite being far from fully anonymous. Here, anonymity is present where users are affected by a diminishing of social presence even if they remain identifiable.

Notably, simply removing visual cues in computer-mediated communication has a significant positive effect on self-disclosure (Joinson, 2001) in addition to increasing attraction to groups with which one identifies (Lea et al., 2001). Communication online can function with an enhanced intimacy due to anonymity, where a lack of visual cues allows users to selectively self-present for desired impression management (Walther, 1996; Nowak, Watt, & Walther, 2005; Qian &

Scott, 2007). Early CMC research showed that medical patients, trauma victims, and users dealing with various sensitive issues such as sexuality or suicide, tended to report more honestly and openly to computer-based platforms compared to face-to-face or telephone-based communication despite remaining identifiable (Ferriter, 1993; Joinson, 1999; Joinson, 2001). Here, disclosure and expression are linked to varying degrees of anonymity even while the individual in question remains identifiable otherwise.

As of yet, the various forms of internet anonymity prevalent online have not been developed into a model to frame its discussion. As such, developing a categorization of its various levels brings with it room for interpretation. Here, anonymity is organized on a simplified functional scale from less anonymous to more anonymous, linked to a behavioral view of anonymity stemming from the CMC approach due to a focus here on user reaction to anonymity rather than on mapping of the online environment per se. However, despite the behavioral focus, a general scale of anonymity becomes helpful in categorizing user behavior. Thus, on this scale we move from visual anonymity where users' physical characteristics are hidden or absent, to pseudonymity where interaction is based on the use of a created online self or avatar and, lastly, full anonymity where participants cannot be identified (Pfitzmann & Köhntopp, 2000; Joinson, 2001). Although these categories were developed before the widespread use of social media, they provide a helpful framework on which to build according to behavioral findings of recent online interactional patterns of young people.

Full anonymity	Pseudonymity	Visual anonymity	Face-to-face
Text based interaction without any meaningful pseudonym.	Pseudonym based interaction (e.g. username or avatar).	Any interaction where physical characteristics hidden.	Interaction with identifiable participants with visible physical characteristics.

Table 1: *A functional scale of Internet anonymity*

Table 1 represents a framework for approaching the various levels of internet anonymity relevant to the interactional experience of young people, especially in terms of social media. It should be noted that these levels are not mutually exclusive due to the possibility of their overlapping and occurring simultaneously. Furthermore, the four included scale effects are not rules but simply tendencies to illustrate primary possibilities common to the online experience. Of these modes of anonymity, visual anonymity is the most common due to its prevalence in any situation where users' physical characteristics are hidden, even when interacting partners are otherwise familiar with one another. Furthermore, it exists simultaneously with both full anonymity and pseudonymity, representing a lack of direct visual feedback during interaction. Second, pseudonymity is present in interactions where usernames, avatars or other representations are created for an instrumental purpose. Here, pseudonyms can be functional (fulfilling a social or technical function, e.g. title or position), situational (an externally motivated concealing of identity), and personal (driven by internal motivation to create a different persona) (Hogan, 2012). Finally, full anonymity is prevalent in cases where no reputation effects are possible and participants remain unidentifiable after the conclusion of interaction (Pfitzmann & Köhntopp, 2000; Joinson, 2001).

A general guideline of scale effects as one moves from full anonymity toward visual anonymity includes both relational and identity components. This movement toward visual anonymity involves becoming more identifiable, an increase in the reputation costs of behavior, a longer relational time scale and an increase in social tie strength. These effects related to anonymity online allow for an interactive flexibility that can enhance the social experience of young people toward fulfilling both relational and recreational demands (Kaveri, Reich, Waechter, & Espinoza, 2008; Livingstone et al., 2011). As such, this model represents an early attempt to bring together past studies on anonymity with modern findings of behavior online among young people.

3.3 Self-determination theory and internet use

The contextual framework of anonymity along with the various forms of online interaction and exploration involve a set of behaviors and motivations of users. An understanding of those motivations allows for a practical framework toward a systematic analysis of young people's behavior online. Self-determination theory (SDT) developed by Deci and Ryan (2000) is particularly valuable for delving into the various processes at work within the user due to its focus on needs, motivations and behavior through a significant body of empirical support. SDT has thus far been applied to a number of research areas including virtual gaming and learning environments (Ryan, Rigby, & Przybylski, 2006; Rigby & Przybylski, 2009; Chen & Jang, 2010) but not to the online behavior of young people. As a whole, the theory provides insights into motivation on the individual level.

SDT puts forth that an understanding of human motivations requires the consideration of innate psychological needs; the three needs central here are competence (the need to engage in optimal challenges and experience effectiveness), relatedness (the need for security, intimacy and belongingness) and autonomy (the need to self-organize and regulate one's own behavior toward integration of regulatory demands or goals) (Deci & Ryan, 2000). Notably, the need for autonomy is given priority as a determining component of development, where the individual works toward a sense of self relatively free from excessive external pressures.

Notably, as reference studies showed earlier on concerning opportunities available online for young people, the ease of access to autonomous and relatively socially liberated behavior is a central component of social media use where connectivity and expression are possible in various ways (Davidson & Martellozzo, 2013; Räsänen & Lehdonvirta, 2011; Boyd & Ellison, 2007). The convenience of online communication and access to interacting partners can bring about new and enhanced methods of behavioral independence that might not otherwise be possible (Panek, et al., 2013). Furthermore, the ability to control self-presentation in various ways allows for a higher level of interactive control through anonymity which can bolster self-expression (Anderson et al., 2012).

SDT posits that an increase in behavioral flexibility toward expression is a primary component of fulfilling the need for autonomy and would therefore predict such activities to become popular especially in those going through a process of social or identity development (Deci & Ryan, 2000). Furthermore, SDT proposes that a sense of relatedness with others will drive individuals to internalize the values and norms of the social group. This is in line with previous findings on social and interest groups formed online where belongingness is linked to shared identity characteristics and fulfillment of group expectations (Wan & Chiou, 2006) in addition to linking to SIDE where individuals in a state of anonymity are more drawn to thinking in terms of the group (Lea & Spears, 2001). Notably, related to these aspects of autonomy is the opportunity to socialize in a setting relatively free from excessive social pressures, which can be made possible online through various forms of anonymity where enhanced expression, exploration of self and relational advancement become available (Lee & Holin, 2011; Keipi & Oksanen 2014).

4. Study objectives and research questions

The objective of this dissertation was to study various effects, conceptions and preference characteristics of internet anonymity among Finnish young people. In support of this goal, the dissertation was driven by three mutually reinforcing aims toward a systematic analysis of relevant issues and supporting data.

4.1 Aims of the research

- First, the aim of the research was to develop a new generalized model for understanding functional components of online anonymity that emerge from past theoretical research on anonymity when combined with modern findings concerning the online activity of young people.

- Second, the aim of the research was to provide findings concerning how young people understand the effects of anonymity present online, both in terms of risks and opportunities along with how particular behavioral aspects of anonymity relate to past research on the internet use of young people

- Third, the aim of the research was to identify key characteristics of online anonymity that are valued by young people in addition to delving into what characteristics of young people are related to the seeking out of anonymity online.

These aims together resulted in four studies, each one approaching the research area of internet anonymity and young internet users from a unique perspective. These four perspectives are the following: contextualizing internet anonymity with a model combining past and more recent findings, youth conceptions of internet anonymity and its effects, internet anonymity and online

socialization and, finally, characterization of who prefers to express themselves anonymously online.

4.2 Research questions of the four studies

Study 1: Toward a deeper understanding of youth internet use: Contextualizing previous findings into a model of modern anonymity online

In delving into the specific role of anonymity prevalent online today, various contextual frames are combined toward the creation of a model of anonymity. These frames prove valuable due to the scarcity of research involving modern anonymity specifically. Early findings of the effects of anonymity are combined with recent findings of online behavior among young people toward contextualizing how anonymity exists today in the complex environment available through the internet. Furthermore, in order to highlight the prevalence of anonymity's role online among young people, past work on motivation and needs is contrasted with recent findings concerning the dynamics of social media. These steps are taken in order to illustrate how anonymity functions online today. The following research questions were developed toward the creation of a model of anonymity built on these various approaches:

i) What characteristics of youth online behavior might provide a rationale for the various popular forms of social media based on past findings on motivation? How does this relate to modern anonymity online?

ii) In today's complex online environment, what are the various degrees of anonymity available for interactive purposes and what are their characteristics, based on recent findings of online behavior?

Study 2: Self-exploration, anonymity and risks in the online setting: Analysis of narratives by 14-17 year olds

The understanding that youth hold concerning internet anonymity and its effects involves both behavioral and conceptual components. Behavioral in the sense of the reporting of how the effects are seen, and conceptual in the sense of why those behaviors are considered significant among youth. As such, an understanding of motivation and needs through self-determination theory (SDT) for competence, autonomy and relatedness (Deci and Ryan 2000) sheds light on central aspects of online behavior attributed to anonymity by youth. Furthermore, key areas of opportunity and risk emerge as youth are asked to convey their conceptions of anonymity online. Two research questions were formulated in order to examine these issues, namely:

i) Do the three needs categories of self-determination theory emerge from the data toward better distinguishing accounts of risk and opportunity for youth online?

ii) If so, what are the implications for the already established positive relationship between risk and opportunity online in previous work and is there a clarification of the nature of risks that are positively related to online skills?

Study 3: Relatedness online: an analysis of youth narratives concerning the effects of internet anonymity

A major component of online behavior among youth is that of relatedness. The internet's provision of relational opportunities involves a degree of anonymity. This anonymity adds unique risks and opportunities to interaction along with how the dynamics of that interaction are perceived by users. Both strong and weak ties exist online, yet their creation and maintenance can differ from face-to-face relationships in various ways. The following research questions address these issues:

i) What conceptions do young people hold concerning the effects of internet anonymity on online interaction and in what ways are those effects positive or negative?

ii) What primary areas of risk emerge when theoretical and data analyses are combined?

Study 4: Who prefers anonymous self-expression online? A survey-based study of Finns aged 15–30 years

In studying anonymity as a component of online interaction, it becomes necessary to separate it from other aspects of the online setting. A new perspective on understanding internet anonymity is made available if characteristics of those young people preferring anonymity online can be identified. Furthermore, past findings concerning social media use among young people can be contrasted with these new findings in order more fully assess the valuation and effect of anonymity in the online setting. The research questions developed to approach this subject were:

i) How do psychological characteristics associate with this preference for anonymity online?

ii) How does respondents' socio-demographic background associate with the preference for anonymous expression in the online setting?

5. Data and methods

This chapter presents the datasets and research methods of the four studies in more detail.

5.1 Data description and indicators

The data collected for the body of work for the combined aims of the four studies is comprised of two sets. Notably, study 1 is a theoretical review of literature and proposal of a new model of anonymity through the combination of various frameworks of previous research. As such, study 1 does not involve data as do the remaining three studies. Of the three remaining studies, study 2 and study 3 are made up of essay-based data collected by the researcher in 2012 focusing on how Finnish youth understand the effects of internet anonymity. Study 2 involves the full essay dataset ("Essay Full") toward delving into anonymity's effects while study 3 involves the analysis of a portion of the data ("Essay Relatedness") focused on anonymity's effects on youth relatedness online. Furthermore, study 4 involves its own datasets comprised of YouNet 2013 survey data based on responses by Finnish young people collected by "Hate Communities: A Cross-National Comparison Project" in spring 2013. Two identical surveys were used in data collection, including questions concerning online activity and risks. Of these two datasets, one was collected through Facebook and the other by Survey Sample International Finland (SSI) and are termed "YouNet-Facebook" and "YouNet-SSI." The data for study 4 carries the aim of identifying characteristics related to those young internet users who prefer to express themselves anonymously online. A description of the data is given in table 2.

Table 2 Description of the data

DATA	YEAR	RESPONDENT AGE	n	STUDY
Essay Full	2012	14-17	258	Study 2
Essay Relatedness	2012	14-17	78	Study 3

| YouNet-Facebook | 2013 | 15-30 | 1013 | Study 4 |
| YouNet-SSI | 2013 | 15-30 | 544 | Study 4 |

Both quantitative and qualitative approaches were used in the three studies in order to best delve into relevant topics, whether through essays or surveys. Study 2 involved a mixed method approach, study 3 was qualitative in nature and study 4 was built around quantitative analysis.

5.2 Qualitative and quantitative methods used

As the methods used throughout the three data-based studies varied, this section presents approaches taken throughout according to whether they were qualitative or quantitative in nature.

Qualitative methods

Studies 2 and 3 were based on a qualitative dataset comprised of youth essays concerning the effects of internet anonymity on youth behavior, with study 2 providing a foundation for study 3. Essays were carried out anonymously and results were coded according to the needs categories of Self-determination theory (Deci & Ryan, 2000) for the purposes of study 2. As such, youth narratives were categorized by need fulfillment for autonomy, relatedness and competence in order to identify online risks and opportunities. The descriptive framework of SDT allowed for a thematic analysis of the essays, in addition to new coding categories related to youth online behavior including cyberbullying and insults, identity theft and damaging use of a false identity along with sexual harassment or exploitation.

Data was collected from a school located in Helsinki, Finland with a respondent population made up of grades 8 and 9 along with first and second grades of upper secondary school aged 14-17. In total, 258 students participated in the research with a response rate of 71%. The school chosen represented an ideal site for research due to its high level of academic performance and thus relative advantage in youth ability in conceptualizing the issue of online anonymity.

Furthermore, the school is one whose students have experience in participating in scientific research and as such were familiar with procedures necessary. Notably, the population used cannot be said to be representative but rather descriptive in its role of providing a look into youth online behavior and anonymity. As such, the unique social and personal contexts of the students involved create a unique viewpoint on how anonymity is understood and used.

Students were asked to answer a question concerning anonymity in essay form toward describing their conceptions or experiences of internet anonymity as relates to youth behavior online. A written task was chosen as the data collection method due to an assumed relative advantage of anonymous disclosure when discussing activities performed anonymously along with other benefits of story writing techniques noted in previous research (e.g. Morrill, Yalda, Adelman, Musheno, & Bejarano, 2000). This method allowed students to disclose without fear of judgment while being aware than their answers would be used for academic research, noting only age and gender as identifiers. The question posed to students was the following:

> "Internet use involves a level of anonymity. Write a narrative describing a situation where you feel that anonymity affected the behavior or treatment of a boy or girl of your age online. What happened and what caused the situation? How did he/she react and how did it make him/her feel? Would the situation have been different without anonymity? How? You may also explain whether the situation was routine or an exception."

The question was formulated with an effort to avoid any positive or negative connotation. Furthermore, students were given freedom to choose whether their narratives would be based on actual experience or fictitious description as the goal of the research was to analyze youth conceptions of the issue along with reflections of anonymity's effects more than actual experience.

Study 3 built upon the qualitative analysis of study 2 by focusing solely on the SDT needs category of relatedness and how it is affected by anonymity online.

Here, 78 youth essays having to do with relatedness specifically, made up the dataset. Thematic analysis was also implemented in study 3 due to its usefulness in applications to youth narrative studies (Frank, 2002; White, 2000). Analysis here included coding categories for 1) anonymity's effect on relatedness and 2) how internet anonymity affects social tie formation, development and management online in both positive and negative aspects.

Quantitative methods

Both studies 2 and 4 involved quantitative analysis. In study 2, quantitative analysis was used to thematically quantify coded categories. Here, categories developed for initial qualitative analysis were assessed using frequency tables, cross-tabulations and statistical tests using SPSS 20.0. The role of secondary quantitative analysis in study 2 was used to determine relationships between the three needs categories of SDT and other variables including age and gender along with prevalence of themes demographically.

In study 4, quantitative analysis was the sole method used for analyzing the relationship between a number of variables and the preference for anonymous expression online. The two identical surveys carried out simultaneously, Facebook and SSI, provided two Finnish populations whose responses could be compared to better test consistency of findings. The internet survey approach was chosen here due to the high level of online activity among young people allowing for effective surveying in that setting (e.g. Farell & Petersen, 2010; Schorpshire, Hawdon, & Witte, 2009).

The dependent variable for study 4 was online anonymity preference, namely the extent to which a participant prioritizes anonymous interaction or expression online. Respondents answered the following question by rating their preference using a 10-point Likert-type scale from 1 ('not very true of me') to 10 ('very true of me'): "I find it easier to talk about private things online when others don't know who I am." Here, participants were asked to express whether identifiability is related to their level of disclosure, an approach closely tied to the CMC study of anonymity revolving around visual anonymity especially. Despite the

question representing a specific attitudinal dimension of anonymity, it captures the central theme of past approaches that are foundational here. As such, the relationship of this dependent variable to a number of other identifiers was then carried out.

A total of seven independent variables were included in the analysis of study 4. These included gender, age, trust, offline interaction, self-esteem, grandiosity and online group identification. Here, trust was measured through seven questions concerning trust toward others in general, including trust of family, friends, colleagues and acquaintances both online and offline. This was assessed by rating oneself according to the question, "Would you say that the following people can be trusted, or that you can't be too careful in dealing with these people?" Each relational category was then rated on a scale from 1-10, with 1 representing minimal trust and 10 representing full trust.

Offline interaction was measured with the question, "How often do you meet face to face with friends, relatives or work colleagues for social reasons?" Here, the scale ranged from 1 ('never') to 7 ('every day'). Likewise, self-esteem was assessed with a single question, namely rating oneself according to "I have high self-esteem." Here the range was from 1 ('not very true of me') to 10 ('very true of me'). In terms of grandiosity, representing a sub-type of narcissistic personality, participants were asked to rate themselves according to the following statement: "I think I'm a very special or extraordinary person." Again, ratings ranged from 1 ('not very true of me') to 10 ('very true of me'). Lastly, online identification was assessed as part of an 11 item set, where participants were asked how strongly they felt a part of various groups through the following question: "How close do you feel to each of the following?" Study 4 used the question aimed at online communities, with the range from 1 ('not at all') to 5 ('very much').

The quantitative analysis techniques used in study 4 included descriptive statistics and linear regression models. Here, descriptive techniques were implemented first in order to provide an overview of those users who prefer anonymity online between the two samples. Then, regression models were used toward a more focused assessment of the effects of the relevant background

variables. Furthermore, mean scores of 'online anonymity preference' were estimated from the set of independent variables. Next, the linear relationship between online anonymity preference and the independent variables were tested separately in the two samples and the strength of those relationships was also estimated.   In general, the variances accounted for in the regression models vary between 10-20 percent, which can be considered moderate. Given that the strength of a share of variance accounted for varies depending on topic and involved variables (Cohen 2013), the regression models here provide a sufficient starting point in terms of anonymity preference assessment.

Table 3 summarizes the theoretical frameworks, data, methods and variables used in each of the four included articles. Illustrated are the varying approaches to internet anonymity taken by each. Again, article 1 provided a theoretical base and as such does not include data. Notably, a more detailed description of variables and justification of methods and respondent populations are presented in each of the three studies respectively.

Table 3: Summary of frameworks, data , methods and variables of articles included

	Article 1: Contextualizing internet anonymity	**Article 2: Self-exploration, anonymity and risks online**	**Article 3: Effects of internet anonymity on youth relatedness**	**Article 4: Who prefers anonymous expression online**
Frameworks implemented	SIDE, SDT, Anonymity model	SDT, Anonymity Model	STD, Social Tie Theory	---
Data	---	Essay Full (n=258)	Essay Relatedness (n=78)	-Facebook Survey (n=1013) -SSI Survey (n=544)

Methods of analysis	---	-qualitative thematic -quantitative thematic -frequency -cross-tabulation -statistical tests	-qualitative thematic	-descriptive statistics -mean scores -linear regression
Dependent variables	---	-autonomy -relatedness -competence -cyber-bullying -identity risks -harassment -age -gender	-relatedness -harassment -age -gender -strong ties -weak ties	-internet anonymity preference
Independent variables	---	internet anonymity	internet anonymity	-gender -age -trust -offline interaction -self-esteem -grandiosity -online group identification

6. Overview of the four studies

This dissertation is made up of four studies carried out toward supporting the overall objective and specific research goals of this body of work, each providing a unique perspective toward a strengthened whole. This chapter provides a short overview of each of these four studies.

Study 1: Toward a deeper understanding of youth internet use: Contextualizing previous findings into a model of modern anonymity online

The role of internet-based communication and online socializing has become a significant part of the lives of young people throughout the world and especially in nations leading in technology consumption such as Finland. This being the case, much social research is concerned with how internet use affects young users. As the methods of online expression and interaction typically occur with some inherent amount of anonymity, it becomes relevant to understand whether anonymity itself has an effect on users. The article represents an effort to bring together theoretical frameworks and previous research for a new understanding of anonymity prevalent online today.

Notably, more recent studies assessing the effect of anonymity after the advent of modern social media remain scarce, though there exists a great deal of research on the online behavior of young people in addition to research having to do with the effects of anonymity before the wide-scale adoption of the internet. In order to broaden the scope of the study of young people online by taking into account the possibility of anonymity playing a role in that environment, the study brought together various mutually reinforcing components. Here, by combining frameworks and findings, components were used to form a new model of online anonymity.

The relevant components of this study included the Social Identity model of Deindividuation Effects (SIDE) developed by Lea and Spears (1991) having to do with the effects of anonymity, previous findings on youth internet use and Self-determination theory (SDT) developed by Decis and Ryan (2000), concerning motivation and basic needs. A complementary relationship between these

components was explored, with SIDE providing an empirically based point of departure in the study of anonymity, recent studies of online behavior contributing a modern view of anonymity and SDT lending explanatory power to the various modes of online anonymity popular among young people today.

Beneficial overlap between components was discovered, as SIDE's finding of anonymity causing an increase in attraction to identity groups and self-stereotyping toward peer confirmation illuminated various dynamics of online group behavior. SDT provided empirically based support of the relational drive present in motivating online behavior here. Furthermore, customizable self-presentation through anonymity online was found to be linked with the beneficial role of self-stereotyping toward group acceptance put forth by SIDE in addition to a fulfillment of SDT's proposed need for autonomy. Finally, the model of the levels of online anonymity provided a frame of reference of the interactive landscape within which these areas of overlap take place.

Study 2: Self-exploration, anonymity and risks in the online setting: Analysis of narratives by 14-17 year olds

Studies have been carried out in the area of youth internet use, with findings determining a positive relationship between risks and opportunities online. However, the mechanisms of the online setting are rarely the area of focus, as the bulk of findings are based on participant experiences rather than structural components of the internet and how they are understood and taken advantage of. As such, the study provides a new perspective on online risks and opportunities through an assessment of how youth understand anonymity online. Furthermore, the study sought to test whether the needs categories of Self-determination theory (SDT) for autonomy, relatedness and competence would emerge from youth understanding concerning the effects of anonymity online.

The study provided a new framework for understanding the areas of risk and opportunity available for youth online by categorizing behavior according to SDT needs for autonomy, relatedness and competence. This, in turn, illustrated key areas of both opportunity and risk online. Common risks included cyberbullying and

harassment. Furthermore, new metrics for assessing risk severity were proposed according to level of anonymity and interactional vulnerability. The study also highlights youths' high valuation of enhanced self-exploration, expression and social validation available online.

Research here showed SDT to be a relevant framework for approaching youth online behavior as its needs categories provided a useful labeling of various risks and opportunities disclosed in the data related to anonymity. As such, SDT provided points for assessing dynamics of anonymity online which coincided with the three needs most relevant to the study. Typical risks were linked to relational strategies of the online environment in addition to levels of anonymity taken by aggressors. The cost burden of online interaction was also assessed and linked to an asymmetry in relational vulnerability through disclosure. The study contributed to the continuing implications of anonymity online and areas of online risk faced by youth by viewing the behaviors prevalent online through the lens of anonymity as understood by the young users themselves.

Study 3: Relatedness online: an analysis of youth narratives concerning the effects of internet anonymity

Central to the discussion of risks faced by youth online are the social aspects of the online setting. There, communication is readily available and interacting partners are effectively within reach on a wide scale. The anonymity prevalent in many modes of interaction provides a beneficial mask to some and a damaging tool to others. Central to this study is how youth understand the relational effects of anonymity online, both in terms of opportunities and risks. In order to assess risks and opportunities of the online setting, the study combined youth conceptions of anonymity's effects with social tie theory in order to frame various aspects of interaction. Whether strong ties or weak ties, the dynamic of anonymity was found to have a foundational effect on how youth interacted online.

Previous findings concerning the range of benefits and costs of relational disclosure online were confirmed, though with the added explanatory role of anonymity and social tie theory. Youth showed various modes of both personal and

relational benefit rooted in the mechanism of anonymity. However, the ability to manipulate social tie perception through anonymity was also brought about as a significant potential area of risk online. Where anonymity can be used to create an instrumental self online, strong ties can be falsely portrayed and trust can be misplaced by the vulnerable party.

Anonymity was also found to be a significant factor in various online interactions and behaviors. The online setting was seen by respondents as an area where traditional barriers to relational intimacy were lessened, though various forms of abuse and harassment were also expressed as negative costs of anonymity due to a lack of accountability. Furthermore, the study added to the understanding of complex relational networks created by youth online by framing their characteristics through social tie theory. The relational mechanisms available online involving forms of anonymity were highly valued by participants.

Based on the findings, the relational possibilities available online are vast, due also to the various forms of anonymity available to users. Respondents displayed a wide array of perception in terms of the costs and benefits of anonymity online. More experienced users were less likely to place unwarranted trust in others in an anonymous setting, with more naive youth displaying vulnerability to a degree often unwarranted given the lack of identifiability of the interacting partner.

Study 4: Who prefers anonymous self-expression online? A survey-based study of Finns aged 15-30 years

Social networking has become a central method of interaction for young people online through various social networking sites (SNS) including Facebook. Notably, SNS can be either general or specific depending on whether users prefer the maintenance of existing relationships or the creation of new ones with previously unknown interactional partners. As young people interact online, the presence of some level of anonymity inherent to the experience may be taken for granted due to its prevalence. Some users, however, prefer to interact and express anonymously. Notably, little research exists as to who specifically seeks out the benefits of anonymity online and which factors contribute to an anonymity preference.

If certain users prefer anonymity, the effects of anonymity online become central to a deeper understanding of the behavioral and social preferences of young people on the internet. As such, the study assesses not only SNS use but also those users who specifically prefer an anonymous experience, including through SNS. Central here is a clarification of which characteristics make up SNS users who find it easier to express anonymously. These variables central to analysis for the study include gender, age, trust, strength of offline friendships, narcissism and self-esteem, and online community identification.

The study provides a confirmation of previous findings of behavioral tendencies on SNS by young people in addition to determinating a positive relationship between anonymity and various user characteristics. Those preferring anonymity tended to be younger, highly trusting, have strong ties to online communities while having fewer offline friends. Furthermore, these users tended to display a sense of grandiosity and low self-esteem. The identification of these relationships between variables focuses the relevant population for potential future study, where reasons for why anonymity is preferred might be discovered. Here, the assessment of motivations driving anonymous preference becomes more feasible, a new area of research into the understanding of how young people are affected by anonymity online and why that anonymity is subjectively valued.

7. Main Findings

This chapter presents the primary findings of the four studies carried out toward the provision of a deeper understanding of how young people relate to anonymity in both positive and negative ways socially or individually in addition to who prefers the anonymous state.

Study 1: Toward a deeper understanding of youth internet use: Contextualizing previous findings into a model of modern anonymity online

The conceptualization of modern internet anonymity was approached through an application of three components; a simplified model of the effects of anonymity combined with a theory of needs and motivations and recent findings on the online behavioral themes and characteristics of young people. Together, these were used toward the development of a general model of online anonymity prevalent today.

The theoretical frameworks and analysis of recent findings of internet use yielded useful intersections. Characteristics of young people's online behavior provided a rationale for the various forms of popular social media which linked strongly to the model of motivation and need fulfillment. Furthermore, the various degrees of anonymity present online emerged from both early work on anonymity's effects and recent studies on the online behavior of young people. These degrees of anonymity were then tied to identifying characteristics most prominent in various anonymous settings both in terms of interactional capability and reputation effects.

The key levels of anonymity include full anonymity where users remain unknowable after interaction, pseudonymity where users interact using avatars or fake profiles and visual anonymity where users' physical characteristics are unavailable. These levels of anonymity were then linked to certain descriptive characteristics, namely level of identifiability, degree of reputation effects, relational timescale and social tie strength. Together, these components formed a descriptive framework with which to approach the issue of anonymity online.

The early frameworks of anonymity and motivation applied here to recent studies on internet behavior allowed for an extraction of elements of anonymity prevalent online, pointing to relationships between anonymity and online

behavioral costs and benefits. However, as the study did not involve original data and studies of modern online anonymity are scarce, further research is necessary toward testing whether inferences concerning the previously unattributed effects of anonymity are indeed accurate.

Study 2: Self-exploration, anonymity and risks in the online setting: Analysis of narratives by 14-17 year olds

The online environment in which young people navigate is socially complex, involving a great deal of potential opportunities and risks. The prevalence of some form of diminished social presence, or anonymity, adds to these costs and benefits of internet use in various ways. Here, youth narratives focused on the positive and negative effects of internet anonymity are assessed in combination with previous work on youth internet use toward a deeper understanding of the online landscape. Key areas of risk were identified through a mapping of behavioral themes extracted from the data.

The needs categories of Self-determination Theory (SDT) developed by Deci and Ryan (2000) provided a beneficial framework with which to categorize and interpret youth behavior online and their assessment of the costs and benefits of anonymity. It was found that SDT, used in various fields of research previously, proved accurate in describing youth experience online in terms of motivational benefits. Furthermore, the framework allowed for a more focused identification of key areas of risk.

Participants displayed a high valuation for the expressional benefits of anonymity online along with the ease of access to sources of peer confirmation without the necessity for self-identification. The beneficial use of anonymity specifically as a social tool was evident in the data for individual and interactional opportunities. Themes of anonymity's benefits for autonomy were more prevalent among more experienced users. Older students were also more appreciative of anonymity's benefits in terms of competence and relatedness, perhaps due to a more developed sense of personal need fulfillment.

Girls were more likely to focus on relational aspects of anonymity's effects online, perhaps due to a heightened need for validation from the opposite sex and greater prioritization of social ties. Furthermore, younger respondents were more likely to mention risks of identity theft and sexual harassment, potentially illustrating preferred targets for online aggressors. Notably, younger respondents were also less equipped to deal with risks online due to a relative lack of experience. The primary risks associated with relatedness online were long terms strategies taken by aggressors with lower levels of anonymity while bullying was seen as a short term behavior involving higher levels of anonymity.

Notably, the findings are based on respondents' subjective conceptions and evaluations of the effects of anonymity and as such some uniformity otherwise possible might be lost. However, the goal of providing direct young internet user understanding of anonymity was achieved. Though key areas of risk were identified, further research into measuring and improving interactional navigation and risk assessment online would add to the safety of youth involved in anonymous communication.

Study 3: Relatedness online: an analysis of youth narratives concerning the effects of internet anonymity

The social media aspects of the internet provide a great deal of benefit for young people, enhancing communication and networking whose demand continues to play a significant role in how interaction and socialization takes place today. The relational aspects of the online setting exist within a mechanism where anonymity is prevalent to varying degrees. The ways in which young people view anonymity's effects on relatedness are central here, toward an assessment of the relational costs and benefits of anonymity.

Generally, the study confirmed previous work in terms of increased opportunities afforded by the internet as increasing risks faced by youth. However, the data also provided specific youth assessments of various effects that anonymity can have on interaction online. Anonymity was seen as a method for increasing the pace of relational intimacy and thus also the evolution of social ties from weak to

strong. However, this ease of access was also seen as a cost due to anonymity preventing being sure of who one interacts with, which was seen as a possible reason for harassment or bullying.

Respondents also showed anonymity as a tool used toward interactional courage and communicative openness which in turn motivated feeling a sense of freedom to express oneself. However, this expression was also seen as limited due to the lack of physical cues in communication which could misinterpretation and unnecessary relational complications. Anonymity online could often disrupt communication where subtlety or humor was attempted and then misunderstood.

Participants also revealed a complex overlap between strong and weak ties online. Anonymity aided in the creation of social networks made up of weak ties due to lowered sense of relational responsibility. Weak ties could then turn into strong ties prematurely due to anonymity's effect of enhancing shared interests or other bonds. Here, unwarranted trust was seen as a primary area of risk where those seeking vulnerability were taken advantage of. Tied to this misplaced trust was the possibility of projecting the interacting partner as ideal due to the lack of nuance and physical cues in anonymous interaction. Furthermore, deception was seen as more likely in the anonymous setting. Overall, the strong relational effects that youth attributed to anonymity shows the need for further research into demographic and psychological factors that might motivate anonymous aggression online in addition to how effectively various age groups assess relational risk online.

Study 4: Who prefers anonymous self-expression online? A survey-based study of Finns aged 15-30 years

Anonymity online brings with it potential benefits depending upon the user in question, whether seeking validation, expressional outlet or some other need fulfillment. Central here are the characteristics of those users who specifically prefer an anonymous online experience for self-expression, representing a new perspective on the discussion of internet anonymity.

The study identified psychological characteristics and certain socio-demographic variables that are associated with the preference for online anonymity

among young people. The results of the two separate datasets confirmed one another through similar findings concerning the relationships between anonymity preference and the various independent variables. Furthermore, results allowed for a generalized profile of young users preferring to express anonymously to be put forth.

Users with this anonymity preference tended to display a sense of grandiosity related to narcissism, involving an inflated view of self compared to others. Low self-esteem was also positively related to preferring online anonymity, in line with previous studies where such users tend to seek out validation online due to the availability of a larger audience (Mehdizadeh, 2010). Furthermore, the customizable self-presentation of the anonymous setting allows for maximizing appeal to a desired group (Anderson et al., 2012). These users also tended to have fewer offline friends, using the online setting to compensate for lack of social ties.

Anonymity preference was also positively related to valuing online communities. This is linked closely to displaying low self-esteem and to holding a higher motivation toward taking advantage of the social offerings of the internet through avenues not requiring full identifiability. Respondents preferring anonymity also tended to be younger, a confirmation of previous work where young age is the strongest predictor of online community tie strength (Näsi et al., 2011). Furthermore, trust and anonymity preference were positively related, a finding contrary to the initial hypothesis, perhaps driven by a desire for intimacy online to a degree greater than fear of possible risks.

Although the sample size was significant, findings cannot be said to be nationally representative. Furthermore, it is possible that not all respondents understood the relatively abstract concept of anonymity in a uniform way. However, findings represent a baseline on which to build further study in terms of specific user motivations toward anonymity online. The study of 'why' linked to this study of 'who' would yield a deeper understanding of young people's relationship with internet anonymity.

8. Discussion and conclusion

The role of internet-based communication and socialization continues to play a central role in the daily lives of young people, especially in societies leading in consumer technology such as Finland (Livingstone & Haddon, 2009; Drotner & Schrøder, 2010). The advent of social media has brought about a great variety of forms for interaction and personal expression, helping to fulfill various needs in young people and thus becoming a pivotal to how relationships are managed today (Lehdonvirta & Räsänen, 2011; Näsi et al., 2011). Yet, despite the saturation of online interaction the underlying mechanism of anonymity present throughout to varying degrees has not been explored, representing a significant gap in understanding the various opportunities and risks existing in that popular arena. Notably, early research on anonymity's effects made great strides before the appearance of modern internet-based interactive possibilities. This early research combined with theories of motivation and a strong base of previous research on the online behavior of young people can bring about a new perspective on how anonymity exists today in addition to how it affects interaction. In this dissertation, these related but previously independent elements were brought together in order to assess how internet anonymity affects and is understood by Finnish young people in addition to delving into what individual characteristics are related to specifically preferring the anonymous experience for expression.

8.1 Implications for research on internet anonymity

Two separate datasets were collected in 2012 and 2013 toward studying the role and effect of internet anonymity on young people. First, essay-based questionnaire data was collected to help answer the question of how internet anonymity affects youth, which was then added to by a survey approach toward answering the question of who prefers anonymous expression online among young users. The sphere of technology within which anonymity exists represents a continually changing social space and as such the study of its various components includes a risk of reflecting some previous and thus outdated version. However, the strength of both of the data samples on which the studies were based is in focusing on a

population particularly well equipped for answering questions concerning the online setting and its dynamics, namely Finland. In terms of the adoption of technology consumption, Finland has been a forerunner in the use of new methods of communication and interaction (Oksman & Turtiainen, 2004; Räsänen & Kouvo, 2007). Furthermore, young people represent the most active consumers of the social aspects of the internet. As such, Finnish young people serve as a strong sample for the study of various effects of the online setting and methods of its consumption toward a descriptive look at anonymity and the internet.

Findings of the various analyses involving anonymity provided a clarified view of previous work on both anonymity's effects and online behavior, bringing about a number of implications pointing to the significance of anonymity in both expression, exploration and interaction online. Aiding this categorization of online behavior was the development of a model of modern online anonymity where relational characteristics were mapped with scale effects and linked to anonymity's various generalized forms. Furthermore, key areas of risk and opportunity were identified through the mapping of respondent data with motivation theory (SDT) developed by Deci and Ryan (2000) and social tie theory (Granovetter, 1973; Haythornthwaite & Wellman, 1998). Studies based on youth essays provided insight into youth conceptions of anonymity online along with particularly valuable benefits and costs of interacting under such conditions. Here, key findings revolved around the highly valued opportunities for validation and expression contrasted with the dangers of deception when anonymity is used as a tool toward personal gratification of another party. The asymmetrical risk burden carried by the vulnerable party brought into view the importance of managing vulnerability and assessing trust due to the possibility of a deceptive interacting partner projecting an instrumentally damaging weak tie as strong. Finally, findings concerning who prefers online anonymous expression allowed for a number of both psychological and demographic characteristics to be brought into focus.

Results on youth conceptions of the effect of anonymity in addition to findings concerning which characteristics in young people are associated with seeking out anonymity online confirmed previous research throughout while also

adding unique elements to the discussion. Though the findings were not representative, their contributions as descriptive benchmarks provide a stepping stone for future research. The applications of both SIDE (Lea & Spears, 1991) and SDT (Deci & Ryan, 2000) concerning anonymity and motivation, respectively, proved beneficial despite their frameworks being inadequate to fully encompass the dynamics of youth behavior online. In many ways, the new modes of interaction involved in social media are built upon mechanisms present in past understandings of anonymity and motivation; this dissertation represents and updating of various aspects of past work toward illustrating key areas requiring further research.

The use of anonymity online as a social or developmental tool was a theme throughout. Some respondents sought self-expression through increased interactional courage while others used anonymity to seek out higher levels of peer confirmation. This represents a focusing of previous findings concerning the positive effects of internet use and socialization (Allen et al., 2012; Näsi et al., 2011; Guan & Subrahmanyam, 2009) by linking anonymity to the a partial causation of that effect. For some, anonymity was used to enhance autonomy and a sense of belonging, often through customized self-presentation to maximize attraction to a desired audience. This also represents a new perspective of what contributes to the expressional freedom and peer confirmation methods of young people online, namely anonymity (Livingstone, 2008; Lehdonvirta & Räsänen, 2011; Chew et al., 2011; Wang & Stefanone, 2013). Anonymity was seen as useful in the creation of new weak ties especially, through enhanced disclosure or sense of expressional freedom. Some of these weak ties would then turn to strong ties, while anonymity's expressed benefits to the maintenance of already existing strong ties was minimal. As such, a great deal of benefit was seen by youth in the effects of anonymity on their online experience especially in terms of managing weak ties. However, anonymity was also seen in a negative light. Deception became possible, especially where younger or more inexperienced users granted unwarranted trust. Here, anonymity was seen as encouraging self disclosure, a key component of building trust (Fogel & Nehmabd 2009; Sheldon 2009). As such, anonymity can be linked to causing both beneficial and harmful trust through promoting disclosure. Although

bullying and harassment persist outside of anonymity, they were also seen as more likely when users are relatively free from reputation effects or immediate retaliation. Here also, the findings link anonymity to the causation of certain risk factors identified in past research on youth internet use (Näsi et al., 2014; Sourander et al., 2010; Wolak et al., 2010). Furthermore, the anonymous audience to which youth expressed vulnerability was often unknown or misunderstood by younger users due to inexperience, linking anonymity to previous risks involving both purposeful deception and user naiveté (Livingstone et al., 2011; Ortega et al., 2012).

These opportunities and risks afforded by anonymity online represent areas needing further research. Though users attributed certain positive and negative behaviors to anonymity, the degree to which anonymity is a source of behavioral causation versus more neutral facilitation remains unclear. Characteristics of those preferring anonymity were identified, but motivations driving the preference remain unstudied. Low self-esteem, lack of offline friends and a sense of grandiosity were linked to an anonymity preference, but whether those characteristics are enhanced or diminished by anonymity was not directly assessed. Furthermore, a deeper look into why links exist between low self-esteem, grandiosity and anonymity preference might add a great deal to the understanding of popular forms of self-presentation online. Finally, the analysis of online literacy in terms of how vulnerable young people are according to age and other factors would provide a beneficial gauge of where to focus efforts to curb severe harassment and bullying, for example.

8.2 Limitations

The research contained in the studies presented are constrained by several limitations. Studies 2 and 3 involved free form essay responses and as such are inherently subject to participant bias in terms of the conceptual understanding of anonymity, how various issues are reported in addition to how phenomena is interpreted. With this approach, some degree of uniformity and clarity was lost in the effort to maintain a free-form narrative answer. Also, the needs categories of

relatedness, competence and autonomy used to categorize behavior are not distinctly separate from one another and consequently required a degree of subjective interpretation by the researcher in the coding process. Finally, the sample size of the dataset was limited to one school in Helsinki, characterizing these studies as descriptive rather than representative despite the historical uniformity of Finland's technological literacy among youth (Oksman & Turtiainen, 2004).

Despite the significantly larger sample size of study 4, it could not be considered nationally representative due to the use of online surveys. Also, it cannot be determined with certainty whether respondents uniformly understood the concept of anonymity. Anonymity itself was not thoroughly defined in the survey and as such, a clarification of its definition may have yielded more accurate results. Despite this limitation, however, results were in line with previous research. Also, respondents of the survey determined anonymity preference using only one question. A more in depth assessment through a set of questions exclusively concerning anonymity may have resulted in a more complete understanding of those preferring anonymity and how they experience its benefits. The datasets represent a view of Finland alone and as such limit the testing of findings that would be possible in a cross-national comparison.

Finally, as anonymity's usefulness and effects are largely a socio-constructivist concept in its basis on being both relational and subjectively understood by users, contextual factors weigh heavily on how youth view and use it. Given the limitations of the data, these contextual factors in the lives of young people were not assessed in terms of how impressions and uses of anonymity can differ based on more specific participant profiles. As such, users' contextual factors surrounding anonymity online provide a valuable new area for future research. Furthermore, future research might add to the psychological SDT-based findings on anonymity here with uses and gratifications theory (Tankard, 2000; West & Turner, 2010), where contextual factors can be linked to how and why users are drawn to specific need fulfillment through specific media or level of anonymity.

8.3 Conclusion

If the past is any indicator, online interaction through social media will continue to be central to the relational and expressional life of young people regardless of which mechanisms exist in the future to enhance or diminish social presence. Anonymity has been a central theme to the efforts of this compilation of studies, focusing on how young people understand the online setting in which they spend time, how being hidden to some degree affects the dynamics of their interaction and expression and who especially prefers the anonymous setting for disclosure. The results of participant self-assessment provided a new look into the space within which young people are developing, learning and investing. Many raised a great deal of concern over how open the expressional field is online where anonymity is present due to the potential risks borne through a relative freedom from accountability or reputations effects by harassing participants. Others, and often the same respondents highlighting risks, brought into view the greatly valued expressional freedom and ability to explore afforded by the same ability to remain hidden that was seen as the cause of much potential damage. The study of who prefers anonymity also brought into view many of the same benefits, in addition to an identification of characteristics linked to that preference.

The vast array of both positive and negative conceptions of the effects of internet anonymity brings with it an over-arching characteristic of anonymity itself as it exists online. in the minds of young people. The activity carried out there is a representation of self, seeking the fulfillment of needs already present offline. The range of findings concerning how anonymity is taken advantage of by young people brings into focus its characteristic as a tool specifically sought out by some and used by others perhaps unknowingly. Rather than having a blanket effect, it seems internet anonymity is a relatively neutral avenue for the need fulfillment of young people. As such, it can be used as an aggressive megaphone or passive magnifier, the result of which is as beneficial or destructive as is the fulfillment of those needs.

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