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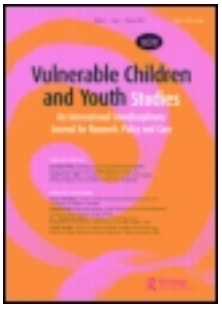

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Young people as victims of crime on the internet: A population-based study in Finland

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Young people as victims of crime on the internet: A population-based study in Finland

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This study investigates cybercrime, which has become a significant phenomenon within the last two decades. Being a victim of fraud, defamation or harassment online concerns, younger age groups who are active Internet users. A population-based cross-sectional survey collected from 15 to 74 year olds in Finland ($n = 46{,}139$) is used as data. The first analysis section assesses whether the younger age group (15–24 year olds) is more likely to be exposed to cybercrime than older age groups. The second analysis section delves into what kinds of risk factors are associated with the exposure to Internet crime among young people aged 15–24. Descriptive analysis and multinomial logistic regression analysis are used as methods. The results show that young people are more likely to be victims of cybercrime even when other factors were adjusted for. Besides age, other factors including gender, education, economic status, and violent victimization are associated with cybercrime victimization. The analysis conducted on 15–24 year olds shows that participation in online communities and violent victimization were associated with cybercrime victimization. Good offline social networks were a protective factor against cybercrime victimization among females. Young cybercrime victims were more likely to be worried about future victimization. Our findings highlight the importance of understanding both psychosocial risk factors offline and patterns of risky online behavior. The risk of cybercrime victimization is related to the problems that young people may face in the offline everyday life.

Keywords: Internet; youth; crime; victimization

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Introduction

The virtual world experienced through online gaming, communities, and networking has a significant role in the lives of young people, especially in countries leading in technological innovation where future global usage trends are set (Lehdonvirta & Räsänen, 2011; Livingstone, Haddon, Görzig, & Ólafsson, 2011). Despite new opportunities provided by technological innovation, there has been public concern expressed over the well-being of children and youth (Brown & Bobkowski, 2011; Wolak, Finkelhor, Mitchell, & Ybarra, 2010). The most explicit concerns involve children being victims of bullying, harassment, and crime online.

Previous studies have shown the prevalence of various forms of youth cyber victimization. A considerable amount of recent work has already been done toward investigating

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cyberbullying (Juvonen & Gross, 2008; Ortega et al., 2012; Sourander et al., 2010; Walrave & Heirman, 2011; Ybarra & Mitchell, 2004). A second branch of research has studied different forms of online sexual victimization from exposure to risky material to encounters with "sexual predators" (Helweg-Larsen, Schütt, & Larsen, 2012; Mitchell, Finkelhor, & Wolak, 2007; Wolak et al., 2010; Ybarra & Mitchell, 2008). Other issues, such as cyberstalking, expand the range of possible risk scenarios for young people (Bradford, Henson, & Fisher, 2012; Pittaro, 2007; Sheridan & Grant, 2007).

Within the last decade, the category of cybercrime has emerged as an area of investigation, especially in criminology. Cybercrime refers to any crime involving computers or computer networks including, for example, online credit card fraud, phishing, identity theft, and the dissemination of child pornography or other illegal material (Bossler & Holt, 2010; Britz, 2008; Casey, 2011; Ngo & Paternoster, 2011; Wall, 2007). Other examples include overly aggressive and threatening messages submitted online, such as death threats or racists discourse (Gerstenfeld, Grant, & Chiang, 2003; Hawdon, 2012; Lee & Leets, 2002). The management of crimes committed online has been particularly difficult for legislators and there has been a growing discussion over how various Internet abuses could be controlled (Brenner, 2006; Henry, 2009; Lipton, 2011). The prevalence of general user anonymity combined with the transient and global nature of online communications and rapid technological development have made the task difficult.

Cybercrime, as a category toward legal action, is a relatively new phenomenon. As such, it remains far from being an objective category for analysis (Casey, 2011; Wall, 2007). The positive or negative outcomes of online interaction, including crime therein, allow for a high level of interpretation; whether one is guilty of crime or fallen to victimhood is often unclear and heavily weighted by personal opinion based on what has been experienced. What becomes helpful in this case is the comparison of self-reported instances of cybercrime including the comparison of various age groups toward a contrasted analysis of possible markers that would shed light on the dynamics of this Internet-based phenomenon.

This article investigates cybercrime victimization among young people. Despite there having been many studies carried out on cyber victimization among children and youth, so far studies have been most concentrated on young people without comparing younger generations to older generations. Any significant variance in the types of Internet activities and behaviors between generations may shed light on the possible differences in victimization between the groups. Here, the starting hypothesis is that young people who live their lives increasingly online might be more vulnerable to the crimes online. It is likely that the online interactional patterns more often adopted by this particular age group, such as actively taking part in social media, chat forums, and other online communities, might partly explain the likelihood of becoming a victim of cybercrime, especially when combined with the naivite in risk and trust management that accompanies social inexperience (Holt & Bossler, 2009; Marcum, 2008; Mitchell, Wolak, & Finkelhor, 2008).

The second starting point is that specific groups of young people might be more often victimized online. There exists the possibility of variance in victimization between genders due to a number of possible causes including differences in generalized approaches adopted toward seeking self-esteem or personal expression, for example. Variance in methods toward relational intimacy may also play a role, in addition to the preferences acted upon by potential predators online in targeting youth, namely young girls (Holt & Bossler, 2009). Notably, previous studies show that young females are more often victims of sexual solicitation and harassment than males (e.g. Helweg-Larsen et al., 2012; Holt & Bossler, 2009; Ybarra & Mitchell, 2008).

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Furthermore, harassment driven by known aggressors (having some relation to the victim offline) may follow the victim to the sphere of cybercrime through harassment. As such, studies have shown that offline victimization (e.g. being a victim of violence) is indeed associated with cyber victimization (Helweg-Larsen et al., 2012; Mitchell et al., 2007; Mitchell, Finkelhor, Wolak, Ybarra, & Turner, 2011). Hence, we hypothesize that cybercrime victims are more likely to have problematic relationships with other people offline. Namely, they might have traumatic experiences offline in addition to having weaker social ties. We argue here that offline problems are a key to understanding the problems young people are facing online (Helweg-Larsen et al., 2012; Mitchell et al., 2011). For example, cybercrime victims might have weaker social ties offline and the lack of supportive social ties offline might be one reason for engaging in risky online behavior. Also, it is likely that these individuals will be more likely to worry that they will become victims of cybercrime in the future (Jackson, Allum, & Gaskell, 2005). Based on these starting points, we aim to answer two research questions:

RQ1: Are younger respondents more often victims of cybercrime than older respondents?
RQ2: What kinds of risk factors are associated with the exposure to the cybercrime among young people?

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Method

Data

Public Safety Survey 2009 from Finland (total population of 5.4 million) will be used as data. This population-based cross-sectional survey was produced by the State Provincial Offices of Mainland Finland (Police Departments) and collected by Itella Finland in April 2009–May 2009. The method of data collection was a postal survey and Internet survey. The sample of 112,534 persons was randomly selected from the database of Finland's Population Register Centre. The participants were given a chance to respond either by filling the postal survey or online survey form. In all, 85.7% answered via post and 15.3% via the Internet. The response rate was 40% ($n = 46{,}139$).

Despite the relatively low response rate, the sample represents the Finnish and Swedish-speaking Finnish population aged 15–74 relatively well. Women are slightly overpresented in the data (55.2% females) in the whole data. Among the 15- to 24-year-old age group, 57.9% are females (vs. 49.0% in official statistics). Younger age groups are underrepresented in the data. In all, 10.4% of the respondents were aged 15–24 years (vs. 16.3% in official statistics) (see Statistics Finland 2009). A weight measure was created to correct the age distribution.

Variables and analyses

Cybercrime victimization is used as a dependent variable. A set of 15 questions were designed to assess whether respondents have been victims of various crimes (e.g. violent assaults, robbery) during the past three years. One option considered the possibility of being a victim of a cybercrime: "A crime via the Internet (for example fraud, defamation)." Both fraud (petos in Finnish) and defamation (kunnianloukkaus in Finnish) are legal terms that are defined in the penal code of Finland. They were added as examples, because cybercrime is an emerging phenomenon and not all the people might be familiar with it. Options to the question were "no," "within last 12 months" and "1–3 years ago." The variable was categorized as 0 = "not a victim" and 1 = "victim within the last 3 years."

The analysis of the data is divided into two sections. The first analysis section uses the whole data and assesses whether younger age groups are more likely to be exposed to cybercrime. Respondents who are victims of cybercrime were compared with those who are not by conducting descriptive analysis (cross-tabulation, chi-square tests) and multinomial logistic regression analysis. Independent variables are age, gender, education, socio-economic status, intensity of online participation, and exposure to the violence.

Age was categorized into five groups (15–24, 25–39, 40–54, 55–64, and 65–74). Education was divided to three categories (primary, secondary, and BA/higher). Economic status was measured by one variable based on answers to the question asking whether the respondents are living in owner-occupied housing or some other type of housing such as a rented apartment. This question can be considered as a valid background variable in Finnish context, especially when using as wide an age span as 15–74. The type of housing reveals more about the real economic situation of young people than does their income, as many continue to be supported by parents. Those living in owner-occupied housing are categorized as having higher economic status compared with those living in other types of housing.

Online participation was assessed with a question concerning how often the respondents participated in various online communities: "How often do you participate via the Internet in discussion, gaming or other communities?" The five options ranged from "everyday" to "no participation." Exposure to violence was measured with a set of four questions measuring whether the respondents have been victims of (1) domestic violence, (2) physical violence in the workplace, (3) other physical violence, or (4) rape or attempted rape within the last 3 years. Respondents who answered "yes" to at least one of these questions are considered victims of violence.

Multinomial logistic regression analysis is used in the second section of the analysis, which focuses on 15–24 year olds. The analyses were conducted separately for both genders. Analyses were made separately for males and females, because previous literature indicates gender differences in cyber victimization (e.g. Wolak et al., 2010; Ybarra & Mitchell, 2008). Like the first analysis, this analysis uses online participation as an independent variable. Furthermore, offline social networks were measured by asking how often they meet their relatives or friends or colleagues outside the office. Interaction with other members of the same household were not included in this category. Four options were given (1 = daily, 2 = weekly, 3 = monthly, and 4 = more seldom). The variable was categorized in "often" (= at least weekly) and "seldom" (= monthly or more seldom). Three variables were used for exposure to violence within the last three years: (1) domestic violence, (2) other physical violence, and (3) rape or attempted rape.

Results

Risk factors for cybercrime among young people and adults

Table 1 shows the distribution of responses for each independent variable (percentages, number of valid cases, and *p*-values). Age was weighted for analysis. Overall, 1074 respondents (2.5 %) said that they had been victims of cybercrime within the last three years. Although it is difficult to estimate exactly what kind of experiences they have had, the question was asked in the same 15-question battery where arguably more well-known crimes were asked about, for example, being a victim of burglary (2.7%), car theft (2.2%), or rape (0.7%). As such, it is reasonable to say that cybercrime is a recognized but still relatively uncommon crime in Finland.

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Table 1. Cybercrime victimization by independent variables.

	Cybercrime victim, % (*n*)	Other, % (*n*)
Age (*weighted*)***		
15–24	5.3 (384)	94.7 (6 860)
25–39	3.7 (407)	96.3 (10 447)
40–54	2.6 (312)	97.4 (11 863)
55–64	1.4 (108)	98.6 (7 720)
65–74	0.9 (47)	99.1 (5 000)
Gender**		
Female	2.3 (542)	97.7 (23 246)
Male	2.8 (530)	97.2 (18 617)
Education***		
Primary	1.9 (236)	98.1 (12 465)
Secondary	2.4 (478)	97.6 (19 152)
BA/higher	3.4 (354)	96.6 (10 150)
Economic status***		
High	2.1 (716)	97.9 (32 638)
Low	3.7 (358)	96.3 (9 402)
Online communities***		
Does not participate	1.2 (290)	98.8 (23 824)
Seldom	2.8 (213)	97.2 (7 512)
Once a week	3.9 (84)	96.1 (2 058)
2–3 times per week	4.5 (166)	95.5 (3 538)
Everyday	6.2 (314)	93.8 (4 721)
Victim of violence***		
No	2.1 (825)	97.9 (38 607)
Yes	7.6 (191)	92.4 (2 309)
All	2.5 (1074)	97.5 (42 040)

**$p < 0.01$, ***$p < 0.001$.

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According to our descriptive analysis shown in Table 1, younger age groups become victims of cybercrime more often than older age groups. Cybercrime is most prevalent among 15–24 year olds (5.3%). Gender, education, and economic status show statistically significant differences. Based solely on descriptive analysis, it seems that males, people with higher education, and those who are not living in owner-occupied housing are more often victims of cybercrime. In addition to age, participation in online communities and previous violent experiences are most clearly connected to experiencing cybercrime.

A multinomial regression analysis was conducted to predict cybercrime victimization. First unadjusted effects of cybercrime victimization were tested, then the effects were tested by entering new variables into the model. Table 2 shows the results of this analysis. Odds ratios (ORs) measure the relative strengths of the independent variables by comparing a reference group to others. The table also shows the statistical significances of the variables and models by chi-square test (χ^2). Degrees of freedom (df) and pseudo-coefficients of the determination (Nagelkerke pseudo R^2) are also shown in the table.

The unadjusted effects shown in Table 2 reveal that all selected variables are statistically associated with the cybercrime of victimization. Education has significance only when the lowest education group is compared with the BA/higher level. Respondents with BA/higher are 1.4 times more likely to become victims of cybercrime than respondents

Table 2. Cybercrime victimization by independent variables, logistic regression models.

Main effects	*n*	Unadjusted effects OR	Model 1 OR	Model 2 OR	Model 3 OR
Age, χ^2		*323.07****	*267.34****	*54.35****	*38.86****
15–24	7,243	1	1	1	1
25–39	10,854	0.67*	0.70***	0.80**	0.82*
40–54	12,175	0.36***	0.47***	0.82*	ns
55–64	7,830	0.24***	0.25***	0.51***	0.54***
65–74	5,047	0.17***	0.17***	0.39***	0.46***
Gender, χ^2		*9.59***	*16.77****	*10.64***	*11.76***
Female	24,183	1	1	1	1
Male	18,865	1.20**	1.27***	1.21**	1.23**
Education, χ^2		*19.81****	*22.96****	*17.10****	*21.08****
Primary	11,240	1	1	1	1
Secondary	20,724	ns	ns	ns	ns
BA/higher	10,980	1.41***	1.38***	1.32**	1.38***
Economic status, χ^2		*80.37****	*21.50****	*15.01****	*5.16**
High	31,959	1	1	1	1
Low	11,190	1.73***	1.34***	1.28***	1.16*
Online communities, χ^2		*507.85****		*224.64****	215.76***
Does not participate	20,978	1		1	1
Seldom	8,212	2.28***		1.86***	1.88***
Once a week	2,402	3.30***		2.63***	2.52***
2–3 times per week	4,529	3.78***		2.86***	2.85***
Everyday	6,648	5.14***		3.67***	3.77***
Victim of violence, χ^2		*243.46****			*155.32****
No	39,157	1			1
Yes	2,962	3.68			2.83***
All, *n*	*45,518*				
χ^2 (model)			383.08***	609.59***	758.69***
df			8	12	13
Pseudo R^2			0.04	0.06	0.08

Note: Weighted data were used.
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. ns – not significant.

with only primary education. Age, participation in online communities, and violent victimization are much more clearly associated with cybercrime. For example, 25–39 year olds are less likely to be victims of cybercrime than the reference group, 15–24 year olds (OR $= 0.67$, $p < 0.05$). The results also show that online activity increases risk of experiencing cybercrime victimization.

Model 1 shows that younger age groups are more likely to report cybercrime victimization even if other socio-demographic items (gender, education, and economic status) are included in the model. In model 1, 15–24 year olds are more likely to be victims of cybercrime than the other age groups. Older age groups are less likely to be victims of cybercrime. Difference between two youngest age groups 15–24 year olds and 25–39 year olds is statistically significant (OR $= 0.70$, $p < 0.001$).

Model 2 adds the participation to the online communities. Those who participate daily in online communities have a 3.67 times higher risk of being victims of cybercrime than those who do not participate in online communities. Gender and economic status have a

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relatively modest association with cybercrime victimization. Age is statistically significant in this model. In other words, although online activity was adjusted, 15–24 year olds are among the high-risk group of becoming cybercrime victims. For example, 25–39 year olds are less likely to be victims of cybercrime (OR = 0.80, $p < 0.01$).

Model 3 adds the violent victimization and indicates that the relevance of participation in online communities remains almost the same. In this model, the OR for people with violent experiences within the last three years is 2.8. Males are more often cybercrime victims (OR = 1.23, $p < 0.01$) as well as people with BA/higher education (OR = 1.38, $p < 0.001$) and people who have lower economic status (OR = 1.16, $p < 0.05$). The effect of age remains present in the final model, showing that 15–24 year olds are more likely to be victims of cybercrime. The difference of this group is, however, relatively moderate compared with the 25–39 year olds (OR = 0.82, $p < 0.05$) and 40–54 year olds (OR = 0.86, $p = 0.096$).

Both descriptive analysis and multinomial logistic regression analysis show that young people are more likely to be victims of cybercrime. This is the case even when other factors such as age, education, economic status, and violent victimization are controlled for. It should be stressed, however, that violent victimization and, especially participation in online communities, have a strong association with cybercrime victimization. The results underline the significance of behavioral patterns in the prediction of cybercrime victimization. Next, we will move into a detailed analysis of young people.

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Risk factors among 15–24 year olds

Tables 3 and 4 are conducted for both males and females aged 15–24. Analyses were conducted by using multinomial regression analysis. As in Table 2, unadjusted effects were first tested before entering new variables to the models 1–3.

Unadjusted effects shown in Tables 3 and 4 underline the gender difference. All of the variables included in the tables were statistically significant with females. Meeting friends and relatives and being a victim of rape were not statistically significant among males. As is generally the case, reported prevalence of rape or attempted rape among young males is extremely rare (10 cases in the data) (see also Sirén, Aaltonen, & Kääriäinen, 2010). Other unadjusted effects were statistically significant for both genders.

Model 1, shown in both Tables 3 and 4, reveals that online participation is strongly associated with cybercrime victimization, especially among females. The OR for females who participate in online communities everyday is 9.06 ($p < 0.001$) compared to those who do not participate. Respectively, for males the similar OR is 3.89 ($p < 0.01$). However, for males the model is quite weak. Social networks have a positive protecting function against cybercrime victimization with females in the model.

Model 2 adds violent victimization (domestic violence, other physical violence, and rape/attempted rape). These prove to be important factors, especially among females. This model reveals the significance of participation in online communities among females. Those who participate everyday are now 25 times more likely to be victims of cybercrime ($p < 0.01$). The effect of meeting friends/relative remains the same for females in model 2. Various forms of violent victimization are associated with cybercrime victimization among both females and males (except rape/attempted rape).

Final model 3 adds the worry about future cybercrime victimization. Both males and females who report being victims of cybercrime inform that they are worried about such things happening again in the next 12 months. Adding this item in the model raises the statistical relevance of the models both in the case of males and females. It now explains 16% of the variance among males and 23% among females. With the final model, the

Table 3. Internet crime victims (15–24-year-old males) by independent variables, logistic regression models.

Main effects	*n*	Unadjusted effects OR	Model 1 OR	Model 2 OR	Model 3 OR
Online communities, χ^2		*13.48***	*14.15***	*13.44***	*10.33**
Does not participate	201	1	1	1	1
Seldom	299	ns	ns	ns	ns
Once a week	121	ns	ns	ns	ns
2–3 times per week	362	ns	ns	ns	ns
Everyday	931	3.76*	3.89**	3.63*	2.86*
Meets friends/relatives, χ^2		*ns*	*ns*	*ns*	*ns*
Often	1739	ns	ns	ns	ns
Seldom	178	ns	ns	ns	ns
Victim of domestic violence, χ^2		*10.41***		*5.30**	*4.04**
No	1824	1		1	1
Yes	107	5.25***		3.65*	3.14*
Victim of other physical violence, χ^2		*18.25****		*14.10****	*12.53****
No	1688	1		1	1
Yes	237	2.88***		2.64***	2.61***
Victim of rape or attempted rape, χ^2		*ns*		*ns*	*ns*
No	1914	ns		ns	ns
Yes	10	ns		ns	ns
Worry about cybercrime, χ^2		*69.25****			*64.48****
No	1421	1			1
Yes	476	5.60***			5.49***
All, *n*	*1936*				
χ^2 (model)			15.16*	40.20***	104.66***
df			5	8	9
Pseudo R^2			0.02	0.06	0.16

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. ns – not significant.

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effects of different forms of violent victimization remain. Likewise, the effect of meeting friends and relatives remains among females.

The full model indicates the high degree of relevance of participation in online communities among females (OR = 22.07 *everyday*, $p < 0.01$), but less so with males (OR = 2.86 *everyday*, $p < 0.05$) when compared to those who do not participate. Furthermore, both Tables 3 and 4 show the relevance of offline violence victimization. The final model provides strong evidence concerning the possible risk factors for cyber victimization among females especially.

Our results on 15–24 year olds underline the association between offline victimization and online victimization. Traumatic violent experiences during past three years were associated with the cybercrime victimization. Not surprisingly, especially online activity was associated with cybercrime victimization. Online activity is a strong predictor of cybercrime victimization among 15–24-year-old girls, especially in the models 2 and 3 (Table 4), which include violent victimization and measures and the fear of future victimization.

Table 4. Internet crime victims (15–24-year-old females) by independent variables, logistic regression models.

Main effects	*n*	Unadjusted effects OR	Model 1 OR	Model 2 OR	Model 3 OR
Online communities, χ^2		*31.54****	*35.85****	*42.77****	*34.29****
Does not participate	303	1	1	1	1
Seldom	546	ns	ns	8.27*	8.23*
Once a week	194	4.30*	4.74*	12.20*	11.11*
2–3 times per week	597	6.23**	6.89**	19.16**	16.18**
Everyday	1030	8.00***	9.06***	25.09**	22.07**
Meets friends/relatives, χ^2		*8.07***	*12.35****	*10.77****	*10.23***
Often	2399	1	1	1	1
Seldom	274	2.01**	2.45***	2.44***	2.45**
Victim of domestic violence, χ^2		*30.84****		*7.46***	*7.07***
No	2559	1		1	1
Yes	123	4.89***		2.44**	2.43**
Victim of other physical violence, χ^2	*43.24****			*17.48****	*12.29****
No	2511	1		1	1
Yes	168	5.24***		3.22***	2.71***
Victim of rape or attempted rape, χ^2		*22.12****		*9.36***	*8.92***
No	2595	1		1	1
Yes	83	4.93***		2.97**	3.08**
Worry about cybercrime, χ^2		*123.04****			*101.37****
No	1812	1			1
Yes	832	7.79***			7.17***
All, *n*	*2692*				
χ^2 (model)			43.88***	109.10***	209.16***
df			5	8	9
Pseudo R^2			0.05	0.12	0.23

*$p < 0.05$, **$p < 0.01$, *** $p < 0.001$. ns – not significant.

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Discussion

The aim of this article was to both compare young cybercrime victims to older age groups and to further investigate different factors related to cybercrime victimization among young people. Analysis showed that cybercrime was more prevalent among younger age groups. The age group of 15–24 year olds was investigated further, confirming earlier findings inferring that in order to understand Internet victimization, we must understand different offline interactional patterns and vulnerabilities (e.g. Helweg-Larsen et al. 2012; Mitchell et al., 2011; Sourander et al., 2010). Furthermore, different forms of violent victimization from domestic violence to rape or attempted rape were associated with cybercrime victimization, pointing to an overlap between online and offline interaction. Significantly, participation in online communities was strongly associated with occurrences of cybercrime (see also Holt & Bossler, 2009).

The findings showed that young people were more likely to be victims of cybercrime even when other factors were adjusted for. The definitive reasons for this finding remain

outside the scope of this study, although the result that participation in online communities as an especially significant indicator of victimization provides a potential explanation. As youth were more at risk for cybercrime than other age groups, controlling for other factors including online activity, the culprit seems to be in behavioral patterns chosen. Young people are more likely to seek out modes of interaction and expression online paired with a relative inexperience in risk assessment (Holt & Bossler, 2009; Ybarra & Mitchell, 2008). This makes for an enhanced willingness to interact in ways involving higher risk.

Furthermore, violent victimization offline was associated with cybercrime victimization. This points to the reality of an overlap between online and offline relationships among youth, which is unsurprising given the integration of Internet-based community and interaction in the offline lives of young people today (Helweg-Larsen et al. 2012; Holt & Bossler, 2009; Ybarra & Mitchell, 2008). Increasingly, the flow of causality between online and offline victimization is becoming blurred, with bullying offline increasingly following the victim into online harassment and online harassment taking hold socially offline (Helweg-Larsen et al. 2012; Ybarra & Mitchell, 2008).

The results on 15–74 year olds show that in addition to age, other factors including education and economic status were associated with cybercrime victimization. Sociodemographic differences have been demonstrated in previous studies, indicating that young and highly educated user groups are socially more active and also more willing to try out new online services and products (Räsänen & Kouvo, 2007). This might in some respects increase the risk of being victim of cybercrime, although the exact logic of becoming a cybercrime victim remains unclear. Our results also show that future studies should pay attention to the general socio-economic factors that might play a role in cybercrime victimization.

Overall, the results show that cybercrime is an existing phenomenon, yet no more common than any other crime. In all, 5.3% of the 15–24 year olds reported being victims of cybercrime within the last three years. Researchers have also speculated that cybercrime might be underreported by victims, because they do not necessarily consider certain acts as either being crimes or involving the Internet (Wall, 2008). At its worst cybercrime is able to cause distress to people like any other severe crime. This study showed that cybercrime victimization is associated with violent experiences offline and other possible psychosocial problems, illustrating the need for a deeper understanding of the areas of overlap between the two in the arena of Internet crime. Significantly, the findings put forth that cybercrime victimization is likely becoming an important category for the understanding of how young people are exposed to crime.

The study was based on cross-sectional data. Hence, it is not possible to argue that people who have had violent experiences in the past are more likely to become victims of cybercrime. Another limitation of the study is that the category of cybercrime might be too ambiguous for the respondents due to its relative newness in both legal and cultural spheres. Future studies should be able to ask about different forms of victimizations separately, for example, distinguished by various categories of aggressor motivation and severity of victimhood, in order to afford a more detailed analysis.

Our study has policy implications concerning the well-being of youth through the taking into account of the now inevitable overlap between that experienced online and offline. Instead of simply focusing on the online contents or specific methods of online communication, it is important to understand possible psychosocial problems that young people are having offline that overlap with online experience. As lives are increasingly lived through the Internet, it is critical to identify new ways in which teachers, parents, and youth workers

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can support the fundamental offline identity issues of youth today. Notably, the root of the online problem behavior might not lie in the cyberworld, but rather in offline everyday life.

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