Unwanted Online Attentions

Unwanted Online Attentions among an Italian students sample

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Background

New technologies, including the Internet, are central elements of today's society, potentially able to improve the everyday life and the possibilities of expression, information and communication (Spitzberg and Hoobler 2002; Li 2007; Mitchell and Ybarra 2007; Spitzberg and Cupach 2007; Brolin Laftman, Modin and Ostberg 2013). In addition to the obvious positive aspects and benefits of this technology, the digital world is also associated with a number of risks to which users of the so-called Information and Communication Technologies (ICT) may face (Spitzberg and Hoobler 2002; Phillips and Spitzberg 2010; Alvarez 2012; De Fazio and Sgarbi 2012; Lau and Yuen 2013; Connolly, Hussey and Connolly2014). Among these, the most relevant and frequent are connected to privacy violation, economic frauds, identity thefts, personal insults and pursuing behaviors. Considering this, children and young people, who are fully involved in the cyber space (Chishom 2006; Li 2007; Boyd 2008; Shariff 2009; Mishna, Cook, Gadalla, Daciuk and Solomon 2010; Lenhart, Purcell, Smith and Zichuhr 2010; Mishna, Khoury-Kassabri, Gadalla and Daciuk 2012) are also more exposed to the dangers associated with using internet technologies because of their age and lack of awareness concerning the risks involved with using technology (Chisholm 2006; Agatson, Kowalski and Limber 2007; Tokunaga 2010; Smith, Thompson and Davidson 2014).

Young people, in fact, display a huge familiarity with computers, tablets, smartphones, Internet, social networks etc. as “digital born” (Kowalsky and Limber 2007; Tokunaga 2010; Farber, Shafron, Hamadani, Wald and Nitzburg 2012). However, at the same time they appear to be unprepared to protect themselves, often completely naive and helpless with respect to the possible negative consequences of ICT use (Dempsey, Sulkowski, Dempsey and Storch
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2011; Marcum, Higgins and Ricketts 2011, 2014; Lau and Yuen 2013). In particular, this risky environment allows for a misuse of electronic tools, engaging in improper behaviors (from simple fun and kidding to harassment and aggression) perpetrated through electronic media (Chisholm 2006; Wolak, Mitchell and Finkhelor 2006, 2007; Ybarra and Mitchell 2007; Hinduja and Patchin 2009).

Some features inherent to the nature of cyber space, such as anonymity and the absence of a physical approach, make it more appealing for children and youth, affording them new disturbing or harassing pathways (Li 2007; Marcum et al. 2014; Connolly et al. 2014). The ability to hide behind fake screen names, to anonymize email addresses, or to steal someone else’s screen name create the opportunity to act and communicate in a different way than in traditional face-to-face cases, feeling more free and safe (Chisholm 2006; Li 2007; Kowalski and Limber 2007; Spitzberg and Cupach 2007; Hinduja and Patchin 2008; Calvete, Orue, Estévez, Villardón and Padilla 2010).

Starting from this preliminary consideration, Unwanted Online Attentions (UOA) can be defined, in the most inclusive way, as the behaviors carried out through the Internet and technological devices to annoy, disturb, offend, humiliate, intimidate, threaten, harass, harm, or attack others. This broad definition can include a range of different activities perpetrated through sending messages via mobile phone, e-mail, mms, sms, instant messaging (e.g. sending excessively ‘needy’ or demanding messages, exaggerated messages of affection, pornographic/obscene messages, sexually harassing messages, threatening messages); in chat rooms; on websites, including social networks (e.g. facebook, twitter, myspace, flickr, netlog etc.); posting images, video or negative information on other people (e.g. exposing private information to others, sabotaging private reputations); obtaining private information without permission; posting false information (rumors); ordering goods/services in another persons’ name; GPS and covert video monitoring; Trojan horse viruses; and all the opportunities that
new technology can offer (Ybarra and Mitchell 2004, 2007; Wolak et al. 2006; Ybarra, Mitchell, Finkhelor and Wolak 2007; Smith et al. 2008; Hinduja and Patchin 2009; Alvarez 2012; Griezel, Finger, Bodkin-Andrews, Craven and Seeshing Yeung 2012; Lembrecht 2012; Marcum, Higgins, Freiburger and Ricketts 2014). Motivations driving this conduct vary; some are connected to the motivations of harassment in face to face contexts. These include reasons such as initiating or terminating a relationship, and dealing with disputes among friends. Additionally, young people may act in these ways only following their feelings and needs or for naiveness, considering the crucial youth stage at which these behaviors occur. So UOA may express homophobia, revenge and intolerance or jealousy and hate (Smith et al. 2008; Vandebosch and Van Cleemput 2008; Hinduja and Patchin 2009), to get satisfaction and pleasure (Hinduja and Patchin 2009) and also only for fun and joke (Li 2007; Varjas, Talley, Meyers, Parris and Cutts 2010), without any consideration for the situation of the target.

With the evolution of cyber technology, more people continue to take advantage of the Internet and other telecommunications tools; therefore, it is likely that OUA will continue to become more complex and likely demonstrate a serious problem for users. Increasing access to cyberspace allows easier abuse of it in order to attack other persons and intrude upon their lives (Spitzberg and Cupach 2007). The consequences, often unknown both to the perpetrators and to the victims, may be very severe and dangerous, with consequences not only at a personal level but also at a legal/judicial level (Ybarra, Mitchell, Wolak and Finkelhor 2006; Mitchell, Ybarra and Finkelhor 2007; Ybarra and Mitchell 2007; Dehue, Bolman and Völlink 2008; Hinduja and Patchin 2008, 2009, 2010; Smith et al. 2008; Vandebosch and Van Cleemput 2008; Mishna, et al. 2010; Perren, Dooley, Shaw and Cross, 2010; Mishna et al. 2012; Davison and Stein 2014; Kowalski, Giumetti, Shroeder and Lattanner 2014). UOA may produce negative feelings and psychological problems (e.g. sadness, anxiety, fear, depression,
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anger guilt, loneliness, despair, alienation, loss of self esteem and eating disorders etc.); social
and behavioural effects (e.g. social reputation damages, inability to concentrate, decreased
academic performance, skipping school, violent and aggressive behaviors, triggering violent
revenge reactions, drug and alcohol abuse etc.); and/or economic consequences for families
and schools (e.g. direct and indirect costs for treatment, security systems, involvement of
experts etc.). UOA outcomes may be very serious including suicidal ideation and attempts as
well as violent outbursts.

The harmful effects of UOA may be even more intense than offline harassment ones,
considering specific aspects strictly linked to the nature of cyber world. This includes: the
great amount of control the abuser has in relation to the victim, being anonymous in most of
the cases (Li 2007; Calvete et al. 2010; Davison and Stein 2014; Marcum et al. 2014); the
possibility of attacking at any time, 24 hours a day 7 days a week, and everywhere (Slonje
and Smith 2008; Tokunaga 2010; Dempsey et al. 2011; Griezel et al. 2012); the difficulty to
escape from the harassment and to limit the consequences of it, as what happens online may
last for a long time and what is published may not be easily removed (Ybarra and Mitchell
2004; Wolak et al. 2007; Griezel et al. 2012; Misna et al. 2012; Davison and Stein 2014); the
potentially unlimited nature of the audience, easily reached and potentially unlimited (Slonje
and Smith 2008; Connelly et al. 2014; Davison and Stein 2014).

For several years empirical research on UOA was quite limited as the technology itself
was a new issue; however, nowadays research is growing with the recognition of how
dangerous and widespread UOA might be. This work has mainly focused on cyberbullying
and cyberstalking, although it is beginning to consider specific new modalities of online
aggression (e.g. happy slapping, sexting, flaming, bombing etc.). Recent studies report
percentages of UOA between 6 and 44 with variations connected to the methodology, the
sample used and the specific defined behaviors studied (Ybarra and Mitchell 2004; Kowalski
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and Limber 2007; Li 2007; Wolak et al. 2007; Dehue et al. 2008; Slonje and Smith 2008; Smith et al. 2008; Hinduja and Patchin 2008, 2009; Calvete et al. 2010; Marcum et al. 2010, 2011, 2014; Tokunaga 2010; Mitchell, Finkelhor, Wolak, Ybarra and Turner 2011). In this context, research appears necessary to explore not only the techniques, effects, and predictors of UOA, but also the means of coping and protection that may permit people to take control of their means of communication.

The current study investigated the phenomenon of UOA among Secondary and High School Students in the Modena Area of North Italy. The data were collected using a questionnaire, administered online, developed to get information on the presence of UOA, the use of the technology, the characteristics of victims and perpetrators, the perception of such conduct and the possible reactions and help seeking. In particular, this paper aims to: a) describe the prevalence of students who either have experienced or have engaged in UOA or both situations; b) identify group differences between those who have experienced, engaged in UOA or both situations as to what concern demographic characteristics, technology use and online habits; c) explore the type of behaviors suffered or perpetrated and students perception; d) explore students’ emotional impact and reactions.

Method

Procedure

The Authors decided to involve secondary and high schools of the territory of Modena (North Italy). At this point, to assess the interest in participating, the single schools were randomly contacted explaining the content and the goals of the study. Researchers have sent
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to principals a letter of presentation of the research, offering to meet teaching staff in order to
provide the information and explanations necessary to evaluate participation to the survey.

Then schools that accepted to participate received an informational letter for parents that
requested their consent to survey their children, describing procedure and aims of the research
and guaranting the confidentiality of the data collection. After obtaining this permission, a
timetable for the administration of an online questionnaire was set with the staff of each
school, without affecting the normal educational activities. The students were approached
inside school computer labs by the research group, who explained the content of the survey
and gave preliminary practical information, supervising the filling in of the questionnaires.
The anonymity was guaranteed and emphasized, and voluntary participants were free not to
answer any specific questions and to withdraw at any time. All the students who were at
school the day of the administration filled in the questionnaire (N = 585).

The participants used unique passwords (generated automatically by the computer
system) to enter and complete the questionnaire, which was hosted on a dedicated website.
Each students had about 30 minutes to complete the survey. Data collection occurred from
October 2012 to April 2013.

This procedure was approved by the Institutional Review Board of the Education
Directorate of the Province of Modena and the School Councils.

Sample

Two public secondary and three high schools accepted to participate, among these 26
classes were randomly selected in order to fill in the questionnaire, after obtaining the written
parental consent if minors, for a total of 585 students surveyed (366 male and 219 female),
age between 12-19 years ($M = 14.50$, $SD = 1.04$). Most of the participants were
White/European (86.8%), living with both the parents (77%) and during their life had at least
one affective relationship (70%). Seventy percent of the students used technological tools daily, while 20% used technology five times a week. Moreover, 96% had an Internet connection at home, and 84% had a laptop and 73% had a smartphone. About 90% had at least one personal page on a social-networking website.

**Questionnaire**

An *ad hoc* questionnaire was specifically developed by the authors to investigate UOA among Modena area students, starting from their particular knowledge and experience on the topic, exchanging information and sharing knowledge, techniques and instruments.

The resulting questionnaire was organized into 5 sections. The first section probed the socio-demographic characteristics of students, including questions on gender, age, ethnicity, family status, and year in school. The second section investigated technology use, including questions about what electronic tools participants had and used, with what frequency, where, for what reason, if they had social network accounts, if they used sharing programmes, online games etc. and if their access to Internet and electronic devices was limited by parents. The following third section specifically addressed the topic of the research, verifying the presence of perpetrators and victims, asking to participants if they have ever suffered or perpetrated any of 20 different online behaviors belonging to the larger category of UOA at least one time in their life. The fourth section was about perception and knowledge on UOA, with questions on the feelings of the participants, on their evaluation of the online behaviors, on how the cyber-victimization ended and on the source of their online technology knowledge. The final section was on help request and interventions, asking if the experience was reported to someone who then help the victim or stop the perpetrator.

The final version was then translated into the online version of it by colleagues in the Engineering Department, and made available for use on the survey dedicated website.
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Following the feedback arising from the first experiences of administration both the text of the survey and its operation have been adjusted and improved.

Data Analysis

The data collected were analysed using the Statistical Package SPSS v.20. Absolute and percentage frequencies have been calculated for categorical data, mean and standard deviation for continuous data. As the students could report themselves to be a victim, perpetrator or both, students were categorized into three groups: “victim”, “perpetrator” and both victim & perpetrator (hereafter this group is referred to as “combined”). For categorical data, the Chi-square test has been used to evaluate the three groups with regard to demographic characteristics, technology use and online habits, and perception of UOA. For continuous data, the ANOVA test has been used to evaluate statistically significant differences among the groups. These analyses have been also conducted by comparing only “victim” and “perpetrator”. A p-value less of .05 has been considered as statistically significant.

Results

In response to the direct question about UOA (“Are you a victim?, Are you a perpetrator?”), 69 participants (12%) answered that they had been victims and 303 (52%) perpetrators, 39 (7%) belonged to the combined group. Only victims were 30 (5%) and only perpetrators 264 (45%).

Demographic data and relationships

Table 1 presents the demographic characteristics of the three groups. Victims had a mean age of 14.7 years, were mainly female (76.7%), white (63.3%), living with both the parents (76.7%) and attended secondary school (66.7%). The perpetrators had a mean age of
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14.6 (%), were mostly male (76.1%), mainly white (93.5%), living in a family with both parents, and attended high school (96.6%). Those in the combined group had a mean age of 14.4 years, were predominantly male (61.5%) and attended high school (87.2%). All three groups were involved in organized activities during free time, with percentages ranging from 72.6% to 83.3%. Regarding their relationship status, 30% of the victims, 16% of the perpetrators and 18% of the combined group were currently dating someone at the time of completing the questionnaire.

**TABLE 1**

As shown in table 1, chi-square test demonstrates a statistically significant association ($p < .001$) regarding the distribution of gender, ethnic background and school attended between the three groups. In particular, victims were more likely to be female and perpetrators male, as male were also most of the combined group even if with a lower difference. Regarding ethnic background, all three groups were more likely to be white than “others”, especially the perpetrators. Victims were more likely attending secondary schools, while the perpetrators and the combined group were more likely to attend high school. A chi-square analysis considering only victims and perpetrators confirmed the same statistically significant associations reported above and one more ($p < .001$) concerning the number of romantic relationships that the participants had in their life (data not showed in the table).

**Technology use and online habits**

Technological tools use and general online habits are described in Table 2. The majority of those who declared themselves as a victim of UOA had an internet connection at home (90.0%), a smartphone/tablet or other connected devices (73.3%), a personal access to internet
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(56.7%), was registered on at least a social network (96.7%) and used the internet daily (80.0%).

The perpetrators reported similar characteristics, as 97.7% had an internet connection at home and 70.3% a personal internet connection, 78.3% owned a smartphone/tablet or other connected devices, 71.4% used the internet daily, and 93.5% had a personal account on at least a social network. Everyone in the combined group indicated that they had a home Internet connection (100.0%) and were present on at least a social network (100%). Additionally, 76.9% of this category owned a smartphone/tablet, 76.9% had personal access to the Internet, and 79.5% reported their frequency on the Internet as happening daily. Participants were also asked whether their online/Internet use was regulated by their parents (either using electronic programmes or personal supervision). While only 19.5% of perpetrators stated that their use was regulated, parental regulation was more common for both victims and those in the combined group (33.3% of the cases).

**TABLE 2**

With respect to the data shown in Table 2, the chi-square test demonstrated a statistically significant association for Internet connection at home \((p = .026)\) and for Internet access regulation \((p = .049)\). All the three groups were more likely to have Internet connection at home and to be present on at least a social network. When only victims and perpetrators groups were compared, a statistically significant association was observed for Internet connection at home \((p = .020)\) (data not showed in the table).

**Unwanted Online Attentions Behaviors**
The Authors identified 20 different online behaviors that fall under the general definition of Unwanted Online Attentions (UOA). Participants responded whether they had ever suffered from or perpetrated, at least one time, each of the 20 behaviors at any time in their life. The 20 behaviors are presented in Table 3. The average number of behaviors suffered was 2.9 (Minimum = 1; Maximum = 19; SD = 3.4) and the average number of behaviors perpetrated was 1.6 (Minimum = 1; Maximum = 19; SD = 2.3). The most frequent suffered online behaviors were “Threatening to harm someone socially through Internet or mobile phone” (31.3%), “Sending unwanted needy or overly affectionate messages” (29.4%), “Sending unsolicited and unwanted e-mails” (26%), “Sending unsolicited and unwanted text messages” (25.8%), “Deliberately forwarding computer viruses or spyware” (21.2%), “Sending messages in someone else’s name” (21%) and “Disseminating/sharing someone’s private or protected information with others without permission” (18.9%). The most frequent perpetrated behaviors included “Threatening to harm someone physically through Internet or mobile phone” (51.5%), “Threatening to harm someone socially through Internet or mobile phone” (19.6%), “Sending messages in someone else’s name” (15.9%), “Sending unwanted needy or overly affectionate messages” (10%), with the rest of the behaviors reported as being perpetrated at rates below 10%.

TABLE 3

Perception of Unwanted Online Attentions

Those participants who identified themselves as having been a victim or perpetrator were also asked how they considered and evaluated UOA. Participants were asked to tick the answers that applied from a given list (Table 4). Most of the victims, when reflecting on their experience, considered UOA as scary (40%), annoying (36.7%) or dangerous (26.7%). Several said they were funny (23%) or normal (20%), while few described them as a crime
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(10%). Similarly, 35.2% of the perpetrators used the term annoying to refer to their UOA behaviors, but at the same time about a 22% described them as normal and a 12.9% funny. Compared to the victims, more perpetrators did choose the word crime to describe the UOA (15.5%), and in a less percentage the adjectives dangerous (18.9%) or scary (11.4%). Those in the combined group described their experience mainly as annoying (69.2%); but a 20.5% also said it was normal and funny, while only 12.8% considered it a crime.

TABLE 4

As shown in Table 4, the chi-square test revealed a statistically significant association (p < .001) with respect to having defined the UOA as annoying or scary. In particular, the combined group were more likely to define UOA as annoying, while the victims were more likely to define it as scary. Comparing only the victim and perpetrator groups, we observed a statistically significant difference (p < .001) for having defined the UOA scary but not annoying (data not showed in the table).

Victims’ emotional reactions

Victims who suffered at least one of the 20 behaviors (N=392) were asked to state how they felt as a result of their UOA experience (again, participants were able to select more then one answer; see Table 5). The most frequent response by the victims was ‘uncomfortable’ (46.2%), then ‘angry’ (17.9%) and ‘scared’ (17.1%). Further, 11.7% also felt threatened because of what happened, while 9.2% reported feeling ‘sad’ and ‘vulnerable’. Then 8.7% of victims reported being flattered to be the target of online attentions and only 9 victims (2.3%) said they were desperate.
TABLE 5

The victims were also asked to state how they reacted to the UOA. Participants declared to have ignored what was happening (35.7%) and to have taken some security measures (17.9%). In 15.1% of case, victims informed other people while 9.7% decided to approach the author directly, instead of ignoring (18.4%) or isolating him/her (15.8%).

Discussion and conclusions

The survey, involving 585 secondary and high school students, offers an estimate of the prevalence of the topic investigated, Unwanted Online Attentions (UOA), among young people of the Modena area, in accordance with literature data (Kowalski and Limber 2007; Li 2007; Wolak et al. 2007; Dehue et al. 2008; Slonje and Smith 2008; Smith et al. 2008; Hinduja and Patchin 2008, 2009; Calvete et al. 2010; Tokunaga 2010; Mitchell, Finkelhor, Wolak, Ybarra and Turner 2011); results identified 69 self-reported victims and 303 self-reported perpetrators. Among these youths, 39 experienced UOA as both victim and perpetrator (combined group). Regarding gender, the phenomenon seems to involve older males as perpetrators, and younger females as victims, with a prevalence of white students living with both their parents, so in a family context which we can define “normal”. When considering the three groups, gender, ethnic background and school year revealed statistically significance differences, while no differences were found with regard to family structure, mean age, and extra-school activity involvement. These results indicate that victims are more likely white females and that perpetrators are white males, independently from the family context, giving us the most expected picture of the subjects involved, according to what happens for other similar behaviors and among adults population (Li 2007; Spitzberg and Cupach 2014; De Fazio and Sgarbi 2012; Sgarbi and De Fazio 2014). Regarding school year,
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there was a higher probability of victims attending secondary schools and of perpetrators attending high school, although mean age and participation in other activities were not significant. This finding may be due to the different school environments, which could influence both student behaviors and reactions. The mean number of romantic relationships in which the students were involved also revealed a different pattern. This suggests that the motivations under UOA seem similar to the offline forms of harassment perpetrated mostly by adults (e.g. stalking), where these behaviors may be connected to communication problems or as a result of beginning or ending a relationship.

In line with international literature (Li 2007; Boyd 2008; Shariff 2009; Lenhart et al. 2010; Tokunaga 2010; Mishna et al. 2012), this sample of young people involved in UOA are frequent visitors of the Internet and major users of electronic tools, using them on a daily basis, from home or through their personal electronic devices (smartphone/tablets), with at least one social networking account (Facebook is the most common). For some of the responses, the results were over 90% or even 100%. At the same time, they seemed to have relatively unrestricted Internet access, with only about a quarter of the perpetrators and a third of the victims reporting parental restrictions, through either electronic programmes or supervision. From this, it might be inferred that parents may not be well informed and/or conscious about technology risks, as well as about the existence of parental control programmes, not giving rules to their children or not controlling their cyber activities and habits. Further to this point, emerged a very low statistical significance, but it seems something interesting to consider from the prevention side.

Frequent use of technology raises the risk of a misuse of it and of suffering possible negative consequences, especially when considering adolescent users, who are at a crucial stage of their life, often completely naive and not able to protect themselves (Chisholm 2006; Agatson et al. 2007; Tokunaga 2010; Smith et al. 2014). Even in our sample, in fact,
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participants appeared to be not conscious and aware of cyber world dangers and not easily able to understand what was UOA. However, after declaring if they were or not a victim or an author, they then considered whether they had experienced (as perpetrator and/or victim) behaviors that are actions which can be defined as UOA. Surprisingly, the number of those who suffered some of those behaviors were reported beyond the 69 who openly declared themselves as a victim. Some behaviors, such as “Threatening to harm someone socially through Internet or mobile phone”, “Sending unwanted needy or overly affectionate messages”, “Sending unsolicited and unwanted e-mails”, “Sending unsolicited and unwanted text messages”, “Deliberately forwarding computer viruses or spyware”, “Sending messages in someone else’s name” or “Disseminating/sharing someone’s private or protected information with others without permission”, were reported by over 100 people, thus exceeding by far the number of those who were self-defined victims (N = 69). This difference in self-identifying and recognizing the different single behaviors, however, was not present with respect to perpetrators/perpetration. In this case, reported behavior numbers were close but below the total of the self-defined perpetrators (N = 303). The most common behaviors were “Threatening to harm someone physically through Internet or mobile phone”, “Threatening to harm someone socially through Internet or mobile phone”, “Sending messages in someone else’s name” and “Sending unwanted needy or overly affectionate messages”, with the exception of the first one, chosen 275 times, all the other behaviors were reported at lower frequencies (in most of the cases under 50), with a more regular distribution among all the 20 different behaviors. The difficulties with respect to the self-identification of one’s role as victim or perpetrator may be explained considering the different UOA behaviors reported, as the most frequent perpetrated could be more violent and threatening (e.g., “Threatening to harm someone physically through Internet or mobile phone”, “Threatening to harm someone socially through Internet or mobile phone”) respect to ones suffered (e.g.
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“Sending unsolicited and unwanted e-mails”, “Sending unsolicited and unwanted text messages”, “Deliberately forwarding computer viruses or spyware”). Another reason under these results may also be the fact that several of these online conducts may be perceived as common or normal by students and so not considered in order to recognize themselves as victims. At the same time victims may feel embarrassed in declaring what happened, instead perpetrator may feel more free to declare what they did, being an online questionnaire, sometimes also considering their behavior brave, funny or cool.

A problem in terms of knowledge and lack of awareness is also evident in the data regarding how the perpetrators and victims evaluated their experiences of UOA, demonstrating some difficulties and oddities from the perception point of view. A few perpetrators said they were normal, annoying or funny, that may be an expected result for perpetrators, but these answers were also given by some victims and those in the combined group. Victims then mostly recognized these behaviors as scary, certainly a more usual way of defining some form of abuse. On the other hand, however, all the three types of participants rarely considered (or recognized) these experiences as a crime or something to be punished. Among the three groups, defining the UOA annoying or scary was statistically significant, as the combined group was more likely to define them annoying and victims group scary. Statistical significance instead was present only for the use of the term scary considering only the two groups of victims and perpetrators. These findings may be influenced considering the participants’ age and also the fact that their answers, in general, suggest that they were not really conscious about the dangers and consequences of UOA behaviors. Moreover, their perception may be also influenced by the different behaviors suffered/perpetrated and by the ambiguities connected to the motivation under the behaviors, as it can be difficult for youth to understand what drives someone to act in this way. With this
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in mind, an educational intervention could have a fundamental role in providing knowledge and awareness of UOA as well as changing the behaviors of young people.

Most of the victims who suffered at least one of the 20 UOA behaviors showed an emotional response that could be considered as being understandable: from feeling uncomfortable or vulnerable to scared, threatened or angry, in front of a situation from which is difficult to escape, to protect themselves and to ask for help. But, the percentage of those who stated that they felt flattered from being a target of UOA should not be ignored. Importantly, this again demonstrates a problem of a lack of awareness and information about what UOA is and in recognizing it as an unwanted crime. This may be a consequence of the age of these participants; however, this then also indicates that the broader community needs more information on UOA. What can be gleaned from this research is that youth (and school and families) need information and training about how to deal with UOA.

This lack of understanding how to deal with UOA is also evident in the results concerning how the victims responded to their UOA experiences. Most of the victims declared that they reacted by ignoring what was happening, rather than informing any one, asking for formal help/support, or taking online safety measures. Others declared, instead, to have approached directly who was the perpetrator, a choice that could be dangerous and potentially worsen the situation. The choice not to involve other people, in particular adults such as parents or teachers, may be more broadly indicative of a reality in that the students do not understand how to seek help once they experience UOA. They may simply consider UOA to be a part of their technological life as opposed to viewing it as a punishable crime and one that other people might be able to help them deal with, or may be embarrassed or ashamed for their experience.

In conclusion, the phenomenon of UOA is quite present among Modena students, and a real need for education and information about UOA emerges also in this population. Further,
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this information should also be disseminated to parents and school personnel, who need to be
aware of their role as both technology users themselves and also as people who may need to
assist the students with how to handle UOA. Being completely involved in what we call the
cyber world, adolescents are also exposed to the risks associated with it; and when
considering the infinite possibilities of abuse and misuse, more technology use is also
associated with the greater possibility of becoming a perpetrator or a victim (along with all
the negative consequences). Technology should not be avoided, being an undeniable tool of
knowledge and communication, but it must be used in a responsible, supervised and correct
way. Users must understand the effects of their online actions and how to be safe and
protected. Awareness and information are essential elements to prevent dangerous behaviors
and to reduce the vulnerability of young people.

The main limitations of this study concern the generalizability of its findings,
considering the restricted geographical area analyzed. But, with reference to existing data, it is
likely that the prevalence of UOA and reactions to UOA are not dissimilar to the results of
other Italian surveys on cyber victimization (Eurispes – Telefono Azzurro 2011; Menesini,
Nocentini et al. 2012; Brighi, Guarini, Tomassoni and Genta 2013; Buccoliero and Tirotta
2013). Still, it would be interesting for future research to consider both a larger age range of
students as well as a larger geographical area.

Nonetheless, the study has its strengths. First of all the development of the definition of
UOA, wide and inclusive, is able to cover a lot of different online improper behaviors, not
included in other, more restricted definitions (e.g. cyberbullying, cyberstalking etc.), making
easier for young people and parents to recognize this phenomenon. Secondly, the response
rate was very high, as all the students who were present in the computer labs the days of
administration of the questionnaire participated voluntarily to the survey and no one
withdrew, even if they were free to do so.
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Moreover, this research represents an important contribution to the Italian literature on young people and abusive online behaviors, where existing studies are still limited. The findings indicate that UOA are evident in the lives of youth and demonstrate the need for additional research on this topic. Importantly, such research should be aimed at raising awareness of and providing information as to how to cope with ICT risks: what we defined as UOA appears to be not easily recognized and underreported, leading to difficulties in reporting and admitting victimization. Future surveys should also involve peers, parents and educational environment, obtaining information of the phenomenon from different perspectives in order to better understand the place UOA holds in the lives of youth. Results of such work could then be used to explain to these different groups of people how best to prevent UOA and protect each other. In particular adults should be more conscious about the problem, considering their responsibilities. Moreover, as the age of first contact with the cyber space and technological tools decreases, work in terms of early prevention is more important. This includes educating children in primary schools about the potential consequences and dangers of online life, and developing training and educational specific paths, built from research results, as those here presented, which can serve as the starting point to offer practical information and adequate tools to identify UOA and to protect victims more effectively.

Acknowledgements

The study was supported by a grant from a Local Bank Foundation (FCRMO). The authors acknowledge all the researchers who participated to the survey, Engineering Department of the University of Modena and Reggio Emilia for the development of the electronic version of the questionnaire, Cinzia Del Giovane for her assistance with statistic analysis and Amanda Krause for stylistic and language revision.
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References


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Tables

Table 1. Demographic data and relationship status of victims, perpetrators and combined group

<table>
<thead>
<tr>
<th></th>
<th>Victims (n = 30)</th>
<th>Perpetrators (n = 263)*</th>
<th>Combined group (n = 39)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>23 (76.7)</td>
<td>63 (24)</td>
<td>15 (38.5)</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Male</td>
<td>7 (23.3)</td>
<td>200 (76.1)</td>
<td>24 (61.5)</td>
<td></td>
</tr>
<tr>
<td>Age, mean (SD) range</td>
<td>14.7 (1.2)</td>
<td>14.6 (0.9)</td>
<td>14.4 (0.9)</td>
<td>p = .429</td>
</tr>
<tr>
<td></td>
<td>13-18</td>
<td>13-17</td>
<td>14-18</td>
<td></td>
</tr>
<tr>
<td>Ethnic background, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/European</td>
<td>19 (63.3)</td>
<td>246 (93.5)</td>
<td>32 (82.1)</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Other</td>
<td>11 (36.7)</td>
<td>17 (6.5)</td>
<td>7 (17.9)</td>
<td></td>
</tr>
<tr>
<td>School, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>20 (66.7)</td>
<td>9 (3.4)</td>
<td>5 (12.8)</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>High</td>
<td>10 (33.3)</td>
<td>254 (96.6)</td>
<td>34 (87.2)</td>
<td></td>
</tr>
<tr>
<td>Living with, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both parents</td>
<td>23 (76.7)</td>
<td>201 (76.4)</td>
<td>31 (79.5)</td>
<td>p = .914</td>
</tr>
<tr>
<td>Other</td>
<td>7 (23.3)</td>
<td>62 (23.6)</td>
<td>8 (20.5)</td>
<td></td>
</tr>
<tr>
<td>Number of previous romantic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relationships, mean (SD) range</td>
<td>3.9 (3)</td>
<td>2.9 (5.2)</td>
<td>4.5 (4.5)</td>
<td>p = .050</td>
</tr>
<tr>
<td></td>
<td>0-12</td>
<td>0-45</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>Currently dating, n (%)</td>
<td>9 (30)</td>
<td>42 (16)</td>
<td>7 (18)</td>
<td>p = .159</td>
</tr>
<tr>
<td>Involved in some organized activities during free time, n (%)</td>
<td>25 (83.3)</td>
<td>191 (72.6)</td>
<td>29 (74.4)</td>
<td>p = .448</td>
</tr>
</tbody>
</table>

Chi-square test statistically significant association for p-value < 0.05

*Missing data are present for one perpetrator, therefore the number of authors analysed is 263 instead of 264.
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Table 2. Technology use and online habits of victims, perpetrators and combined group

<table>
<thead>
<tr>
<th></th>
<th>Victims (n = 30)</th>
<th>Perpetrators (n = 263)*</th>
<th>Combined group (n = 39)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet connection at home, n (%)</td>
<td>22 (90)</td>
<td>257 (97.7)</td>
<td>39 (100)</td>
<td>p = .026</td>
</tr>
<tr>
<td>Smartphone/tablet or other connected devices, n (%)</td>
<td>22 (73.3)</td>
<td>206 (78.3)</td>
<td>30 (76.9)</td>
<td>p = .817</td>
</tr>
<tr>
<td>Personal access to Internet, n (%)</td>
<td>17 (56.7)</td>
<td>185 (70.3)</td>
<td>30 (76.9)</td>
<td>p = .180</td>
</tr>
<tr>
<td>Regulated Internet access, n (%)</td>
<td>10 (33.3)</td>
<td>51 (19.5)</td>
<td>13 (33.3)</td>
<td>p = .049</td>
</tr>
<tr>
<td>Social network, n (%)</td>
<td>29 (96.7)</td>
<td>245 (93.5)</td>
<td>39 (100)</td>
<td>p = .216</td>
</tr>
<tr>
<td>Frequency of Internet use, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rarely</td>
<td>2 (6.7)</td>
<td>9 (3.4)</td>
<td>1 (2.6)</td>
<td></td>
</tr>
<tr>
<td>Once/twice</td>
<td>1 (3.3)</td>
<td>20 (7.6)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>Three-five times</td>
<td>3 (10)</td>
<td>45 (17.6)</td>
<td>7 (17.9)</td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>24 (80)</td>
<td>187 (71.4)</td>
<td>31 (79.5)</td>
<td></td>
</tr>
</tbody>
</table>

*Chi-square test statistically significant association for p-value < 0.05

*Missing data are present for one perpetrator, therefore the number of authors analysed is 263 instead of 264
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Table 3. Unwanted Online Attentions reported by a sample of students of Modena area (20 behaviors)

<table>
<thead>
<tr>
<th>Suffered (n = 562)</th>
<th>Perpetrated (n = 560)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Threatening to harm someone physically through Internet or mobile phone, n (%)</td>
<td>70 (12.5)</td>
</tr>
<tr>
<td>2. Threatening to harm someone socially through Internet or mobile phone (e.g. ruining reputation, insulting, gossiping/spreading rumors via internet or mobile phone), n (%)</td>
<td>176 (31.3)</td>
</tr>
<tr>
<td>3. Sending unsolicited and unwanted e-mails, n (%)</td>
<td>146 (26.0)</td>
</tr>
<tr>
<td>4. Sending unsolicited and unwanted text messages, n (%)</td>
<td>145 (25.8)</td>
</tr>
<tr>
<td>5. Harassing by deceiving someone or pretending to be someone else, n (%)</td>
<td>90 (16.0)</td>
</tr>
<tr>
<td>6. Breaking into or stealing some electronic information (hacking) (e.g. someone else’s mailbox or IM programme changing password, etc.), n (%)</td>
<td>87 (15.5)</td>
</tr>
<tr>
<td>7. Sending messages in someone else’s name, n (%)</td>
<td>118 (21.0)</td>
</tr>
<tr>
<td>8. Deliberately forwarding computer viruses or spyware, n (%)</td>
<td>119 (21.2)</td>
</tr>
<tr>
<td>9. Disseminating/sharing someone’s private or protected information with others without permission, n (%)</td>
<td>106 (18.9)</td>
</tr>
<tr>
<td>10. Sending or posting publically pictures/videos/audiotapes that are private or embarrassing, n (%)</td>
<td>82 (14.6)</td>
</tr>
<tr>
<td>11. Sending or posting publically pictures/videos/audiotapes that someone consider threatening, n (%)</td>
<td>21 (3.74)</td>
</tr>
<tr>
<td>12. Posting false information on someone else’s social networks profiles (e.g. MySpace, Facebook, Twitter, etc.), n (%)</td>
<td>86 (15.3)</td>
</tr>
<tr>
<td>13. Building defamatory websites about someone, n (%)</td>
<td>11 (2.0)</td>
</tr>
<tr>
<td>14. Ordering goods or subscribing unwanted services in someone else’s name, n (%)</td>
<td>11 (2.0)</td>
</tr>
<tr>
<td>15. Stealing someone else’s online identity, n (%)</td>
<td>51 (9.1)</td>
</tr>
<tr>
<td>16. Sending unwanted needy or overly affectionate messages, n (%)</td>
<td>165 (29.4)</td>
</tr>
<tr>
<td>17. Sending unwanted sexually oriented images or messages (e.g. pornographic or obscene materials, etc.), n (%)</td>
<td>85 (15.1)</td>
</tr>
<tr>
<td>18. Sending unwanted invitations or suggestions (e.g., sexual proposals), n (%)</td>
<td>93 (16.6)</td>
</tr>
<tr>
<td>19. Advising or guiding others to contact someone in an unwanted way, n (%)</td>
<td>18 (3.2)*</td>
</tr>
<tr>
<td>20. Spying on someone through GPS or other electronic devices (e.g., video, camera, GPS or location devices, etc.), n (%)</td>
<td>19 (3.4)*</td>
</tr>
</tbody>
</table>

Percentage was calculated on a different sample size: *N = 561; **N = 534; ***N = 301
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Table 4. Unwanted Online Attentions perception of victims, perpetrators and combined group

<table>
<thead>
<tr>
<th></th>
<th>Victims (n = 30)</th>
<th>Perpetrators (n = 263)*</th>
<th>Combined group (n = 39)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal/inoffensive, n (%)</td>
<td>6 (20.0)</td>
<td>58 (22.0)</td>
<td>8 (20.5)</td>
<td>p = .954</td>
</tr>
<tr>
<td>Funny, n (%)</td>
<td>7 (23.3)</td>
<td>34 (12.9)</td>
<td>8 (20.5)</td>
<td>p = .171</td>
</tr>
<tr>
<td>Annoying, n (%)</td>
<td>11 (36.7)</td>
<td>93 (35.2)</td>
<td>27 (69.2)</td>
<td>*</td>
</tr>
<tr>
<td>Scary, n (%)</td>
<td>12 (40.0)</td>
<td>30 (11.4)</td>
<td>5 (12.8)</td>
<td>*</td>
</tr>
<tr>
<td>Dangerous, n (%)</td>
<td>8 (26.7)</td>
<td>50 (18.9)</td>
<td>6 (15.3)</td>
<td>p = .483</td>
</tr>
<tr>
<td>A crime, n (%)</td>
<td>3 (10.0)</td>
<td>41 (15.5)</td>
<td>5 (12.8)</td>
<td>p = .676</td>
</tr>
</tbody>
</table>

*Chi-square test statistically significant association for p-value < 0.05

*Missing data are present for one perpetrator, therefore the number of authors analysed is 263 instead of 264
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Table 5. Emotional reactions on who suffered UOA (N = 392)

<table>
<thead>
<tr>
<th></th>
<th>Who suffered any of UOA n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomfortable</td>
<td>181 (46.2)</td>
</tr>
<tr>
<td>Sad</td>
<td>36 (9.2)</td>
</tr>
<tr>
<td>Angry</td>
<td>70 (17.9)</td>
</tr>
<tr>
<td>Scared</td>
<td>67 (17.1)</td>
</tr>
<tr>
<td>Threatened</td>
<td>46 (11.7)</td>
</tr>
<tr>
<td>Vulnerable</td>
<td>36 (9.2)</td>
</tr>
<tr>
<td>Desperate</td>
<td>9 (2.3)</td>
</tr>
<tr>
<td>Frustrated</td>
<td>25 (6.4)</td>
</tr>
<tr>
<td>Flattered</td>
<td>34 (8.7)</td>
</tr>
</tbody>
</table>

UOA = Unwanted Online Attentions