

# Parental Mediation, Online Activities, and Cyberbullying

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## Abstract

Cyberbullying, the use of information and communication technologies to intentionally harm others, has become an important area of research. Studies have begun to investigate the extent of cyberbullying and its victims' personality characteristics. Less is known about the effect of specific online activities and the role of parental mediation on the likelihood of being bullied. This study attempts to fill this gap in the literature conducting a secondary analysis of a representative sample of the U.S. youth population, the Teens and Parents survey conducted by the Pew and American Life Project ( $n = 935$ ). The results indicate that the risk of youth being bullied is higher for adolescents who have an active profile on social networking sites and participate in chat rooms but not in playing games online. Gender differences emerge in risk factors. A few parental mediation techniques are protective, but most are not. The results indicate the need for more parental participation to reduce risks to youth arising from Internet use for interpersonal communication.

## Introduction

FOR YOUTH, the most frequent use of the Internet is for communication purposes with known and unknown individuals who are met in electronic spaces of activity such as interactive games, social networking sites, forums, and chat rooms. According to a recent U.S. survey, 87% of youth send or receive e-mails, 68% send or receive instant messages, 55% use an online social networking site, 57% participate in video-sharing spaces, and 18% visit chat rooms.<sup>1</sup> While the Internet can be a critical tool for searching information and being connected to a peer group, it can be misused as a tool for offensive and harmful behavior.

Adolescence is a period in which social relationships outside the family expand, and their quality has been linked to various behavioral outcomes.<sup>2</sup> Social interaction with peers provides a forum for learning and refining socioemotional skills needed for enduring relationships. Through interactions with peers, adolescents learn how to cooperate, to take different perspectives, and to satisfy growing needs for intimacy.<sup>3,4</sup> Youth who report having close friends are more confident, more altruistic, and less aggressive, and they demonstrate greater school involvement and work orientation.<sup>5</sup>

At the same time, the search for association with known friends and the possibility of expanding the peer group to unknown individuals expose adolescents to risks. Adolescents are susceptible to negative social interactions, and frequent use of the Internet might expose them to bullying, harassment, and sexual solicitation.<sup>6</sup>

Bullying has been historically a common form of aggression that affects children and teenagers mostly while at school, while traveling to or from school, or in public places such as playgrounds and bus stops.<sup>7</sup> In recent years, increasing empirical evidence is available suggesting that bullying is also present online, and as greater numbers of youth are using the Internet for interpersonal relationships, the risk of being bullied for children and youth is increasing.<sup>8,9</sup> As a result, a growing number of studies have been directed to understanding the prevalence and correlates of cyberbullying. Yet there is a paucity of studies investigating the association between online behaviors and parental mediation on the risk of cyberbullying. While studies indicated that the higher the frequency of Internet use, the higher the risk of cyberbullying, it is not clear what kinds of uses expose teens to this risk and what uses do not.

As to potential protective factors, parental mediation refers to the activities carried out by parents to protect their children from exposure to online dangers.<sup>10,11</sup> There is evidence of such an effect: some studies have reported children whose parents monitored their online activities were less likely to disclose personal information, less likely to seek out inappropriate sites, and less likely to conduct chat conversations with strangers.<sup>9,12</sup> Yet the findings of these studies are limited because they were conducted with small samples, and the analysis is descriptive. The purpose of the current study is to investigate which online behaviors are associated with increased risks of being bullied and what kind of parental mediation techniques decrease this risk.

### *Cyberbullying*

Cyberbullying has been defined as willful and repeated harm inflicted through the use of e-mail, cell phone, instant messaging, and defamatory Web sites.<sup>7</sup> It is an act of aggression that can take the form of purposeful harassment, such as making unwanted, derogative, nasty, or threatening comments through electronic communications or spreading rumors, short clips, or altered photos that are offensive or embarrassing the victim by posting them on a Web site.<sup>13,14</sup>

As to the effects of online aggression, there are a number of reasons to expect that the effects of cyberbullying might be more pronounced than the effects of traditional bullying. An important characteristic of cyberbullying is that when moving from the physical to the virtual space, its intensity increases. In traditional bullying, there exists the possibility of physical separation between the aggressor and the victim, but in cyberbullying, physical separation does not guarantee cessation of acts as text messages and e-mails are being sent to the victim. Further, when using the Internet, the abuser has a sense of anonymity and often believes that there is only a slim chance of his or her misconduct being detected. Also, when bullying is technologically supported, the aggressor is not aware of the consequences of the aggression. The screen does not allow seeing the emotional expression of the victim. Thus, anonymity and lack of interactive interaction may increase the aggressor's lack of inhibition, increasing the frequency and power of cyberbullying.<sup>15</sup>

There is growing evidence that victimization has negative effects on adolescents' well-being. Victims of online bullying displayed low school commitment, engaged in alcohol and cigarette consumption, and about one third of the harassed felt at least one symptom of psychological stress following the incident.<sup>16,17</sup>

### *Conceptualizing cyberbullying*

This study relies on the routine-activities theory of victimization.<sup>18</sup> The basic assumption underlying the lifestyle exposure theory is that differences in the likelihood of victimization are attributed to differences in personal lifestyles of the victims. Variations in lifestyles are important because they are related to exposure to dangerous spaces where there are high risks of victimization. From this perspective, lifestyles are routine daily activities, both vocational (study, work) and leisure. An individual's lifestyle is the critical factor that determines risks of victimization. In victimization studies, space is a critical element. Cohen and Felson<sup>18</sup> contend that exposure to personal victimization is more likely when there is a convergence in space of motivated offenders, suitable targets, and absence of effective guardianship. This argument implies that there is considerable variation in exposure to risk of personal victimization and that exposure varies as a function of activities.

In order to apply this perspective to Internet studies, the Internet should be considered as a new space of activity of youth. The innovative aspect of the Internet is to provide opportunities for activities that induce social interaction, resulting in providing a space for meeting new individuals, and in that sense, the social use represents more than a communication channel, in many cases a space of social activity.<sup>19</sup> As it has been documented in different surveys, youth are using the Internet as a space of activity: searching for information

through Web pages, participating in moderated and unmoderated forums, searching and posting pictures and clips, playing online games, and interacting with known and unknown individuals. As youth use the Internet for their daily routine activities, it can be argued that online activities differ in the extent that they expose youth to risks of being bullied. Consistent with this argument, there is some evidence that frequent Internet use increases the risk of being bullied online, and the most frequent spaces where cyberbullying occurred were in chat rooms.<sup>17</sup> It can be expected that youth who participate in Internet activities in which there is a high likelihood of providing contact and personal information are at a higher risk than youth who use the Internet mainly to search for information provided in Web pages. Thus, in this study, it is expected that having a profile in a social networking site and participating in a clip-sharing site increase the risk of being bullied online. In these sites, teenagers provide personal information (personal picture, city of residence) and built in is the ability for users to communicate through e-mail. Participation in chat rooms and playing online games increase the exposure of adolescents' to unknown others and therefore increase the risk of being bullied or harassed online.

Online bullying requires some knowledge about the victim. When conducting online activities, individuals differ in the extent to which they are willing to share personal information. Some are less willing than others to provide contact and personal information. Providing personal communication can be considered a risk factor for victimization, particularly when it is provided to strangers. Thus, it is expected that individuals who express more willingness to provide personal information are at a higher risk of being bullied than those who express more reservations about sharing this information.

### *Parental mediation*

An additional concept in routine-activities theories is guardianship, which is the presence of people or actions that decrease the risk of victimization. Guardianship may have a human element, usually a person whose mere presence deters potential offenders from perpetrating an act. A capable guardian could also be an electronic device, such as a closed-capture camera, providing that someone is monitoring it at the other end of the camera.

This concept has been used slightly differently in the media literature. Parental mediation is a concept that has been used in media research to understand the process of television influence on audience attitudes and behaviors. According to the parental mediation model, individuals are exposed to media content that may affect their attitudes and behaviors.<sup>21</sup> The model assumes that this effect is mediated by intervening variables such that the extent to which some viewers may adopt attitudes and behaviors presented in the media is dependent on parental activities that affect how the information is received, processed, and acted on by the audiences.<sup>22</sup> According to the literature, there are various types of mediation, but we restrict our discussion to only two techniques: (a) Restrictive mediation involves limiting the child's amount of viewing time and the programs watched. It is restrictive because it does not involve the active participation of the child and is a decision of the parent. In this study, it is measured by the use of electronic devices that restrict the content and Web

sites that the youth is exposed to. (b) Evaluative mediation represents open discussion of issues related to Internet use, evaluation of content, and joint creation of rules regarding the amount of time for Internet use and Web sites that are or are not allowed. It also involves placing the computer in a common space that allows parents to use the Internet along with their children and to be available for questions.<sup>22</sup>

Previous studies found that parental mediation influences the type of Internet use in which their children engage. A study of 222 children in Korea investigated the effect of four parental mediation techniques. Evaluative mediation measured as parents' recommendations of Web sites and co-use of the Internet were related to children's use of the Internet for educational purposes. Restrictive mediation, such as time limits and Web site restrictions, was not related to the type of Internet use.<sup>23,24</sup> A study in the United Kingdom found that computer location was critical for understanding the amount of daily time spent using the Internet. When the computer was located in a shared space like the living room, children's daily computer use was lower than when it was located in the teen's bedroom.<sup>10</sup> A study that investigated a sample of U.S. parents' and adolescents' online behavior found that teens whose parents monitored their online activities were less likely to disclose personal information such as their full name, e-mail address, instant message name, school name, and social event information.<sup>13</sup> A large study of young adolescents in Canada investigated the rules that families set and the propensity of youth to seek out inappropriate sites. The survey asked about four rules: sites you should not visit, meeting people whom you got to know online, giving personal information, and time spent online. The results found that the extent of visiting inappropriate sites, meeting strangers, giving personal information, and amount of time spent online was lower for the youth whose parents had a specific rule limiting their activities. This study provides support for the expectation that family rules decrease the exposure to risks. Thus, while there is evidence that parental involvement through restriction and evaluation might have an effect on online behavior, none of the studies on cyberbullying have considered the role of parents in reducing the exposure to the risk of being bullied online.<sup>25</sup>

Age and gender should be considered as well. The risk of being bullied is higher for older adolescents and lower for younger adolescents. An age difference may be the result of developmental factors that affect the extent and type of Internet use. It is very likely that as youth grow older, they engage in more activities with unknown others that result in an increased risk for being bullied online. The evidence regarding gender differences in exposure to cyberbullying is mixed. Some studies did not find gender differences, and boys and males did not differ in the extent of self-reported cyberbullying.<sup>26</sup> Yet there is some evidence that boys and girls use the Internet differently and are exposed to different types of parental mediation. A higher percentage of boys are involved in conversations in chat rooms, and girls are more involved in e-mail communication. These two different uses may expose boys and girls differently to the risk being bullied online.<sup>27</sup>

The purpose of this paper is to investigate the effect of exposure to online risks and parental mediation on the likelihood of cyberbullying in a large and representative sample of the youth population of the United States.

## Method

### *Participants*

Participants were 935 teens ages 12 to 17 years old and their parents living in the continental United States. Participants were recruited by means of a representative sample of the U.S. youth population. The survey was conducted by Princeton Survey Research Associates. Interviews were conducted during October to November 2006. The response rate for the survey was 46%.

### *Procedure*

The sample was designed to represent all teens ages 12 to 17 living in the continental United States' telephone households. The telephone sample was pulled from previous Pew Internet and American Life projects conducted in 2004, 2005, and 2006. Households with a child age 18 or younger were called back and screened to find 12 to 17 year olds. Interviewers conducted the interview with a child selected at random.

### *Instruments*

The dependent variable of the study is the likelihood of cyberbullying. In the survey, adolescents were asked to indicate if they had experienced one of the following things online: someone spreading rumors online about you, someone posting an embarrassing picture online without your permission, someone sending a threatening e-mail, instant message, or text to you, someone taking a private e-mail, instant message, or text message you sent them and forwarding it to someone else or posting it, and having been contacted by a stranger. The dependent variable was a dummy variable that was coded 1 if the respondent had experienced at least one of the events and 0 if he or she had not.

Exposure to risk was measured using a number of variables that asked about the types of online activities conducted. Respondents were asked to indicate whether they have an active profile in a social network site, participate in clip-sharing social networking sites (such as YouTube), participate in conversations in chat rooms, and participate in online games. Each item was coded as a dummy variable when positive responses were coded 1 and negative responses as 0. Each variable was introduced in the multivariate analysis as a dummy variable.

A second measure of exposure to risk was frequency of online communication with friends. Three items inquired how often the adolescent sent instant messages, e-mail, and text messages. The items were measured in a 5-point Likert scale; higher values indicated higher frequency of communication. The items were combined into a single scale adding the values of the responses.

Willingness to share personal information was measured using nine items that inquired the extent to which the youth believed it was okay to share with a person you just met your last name, school name, cell phone number, home number, IM screen name, e-mail address, a link to a blog, and your city and state of residence. The answers were combined into a single scale with scores from 0 to 9 with higher values indicating a higher likelihood of sharing personal information.

In order to measure parental mediation, a number of variables were used. Restrictive mediation was measured with

three items that asked parents whether they (a) had installed a filter that keeps youth from going to specific Web sites, (b) had installed monitoring software to record online activities, and (c) whether they check the Web sites that their children visit. Each item was coded as a dummy variable when positive responses were coded as 1 and negative responses as 0. Evaluative mediation was measured by means of two different sets of variables. The first measured the existence of Internet rules. Parents were asked the extent to which they have rules at home for "Internet sites your child can or cannot visit," "the kinds of personal information you child can share with people they talk on the Internet," and "how much time your child can spend time online." Each item was coded 1 for a positive response and 0 for a negative response. The three items were introduced as dummy variables in the multivariate analysis. The second set asked about the location of the computer in the house. The possible responses were "a common area such as the living room" or "a private area such as the youth bedroom." The measure was coded 1 when the computer was in a common area and 0 for bedroom location.

Family and youth social characteristics were included in the analysis. Race was measured with a dummy variable when 1 indicated Caucasian origin and 0 indicated a visible minority. Parents' and children's ages were measured in years, parental marital status was measured as a dummy variable when 1 indicated that the parents are married and else was coded as 0. Adolescent age was introduced as a continuous variable and gender as a dummy variable when male was coded as 1 and female as 0.

## Results

The average age of parents was 44.96 years ( $SD$  7.75), and the average age of children was 14.71 years ( $SD$  1.68); 51% were boys and 49% girls. In terms of race, 88.7% were Caucasian, and 11.3% were African Americans. Overall, 79% of the children were living with parents who were currently married. Overall, 40% of the youth reported having been a victim of at least one type of bullying behavior.

The results on regulation of Internet use in the household confirm the perception that a relatively high percentage of parents exert some type of regulation. In 73% of cases, the computer is located in a common area of the house such as the living room. Eighty-six percent of the parents reported that they have rules regarding Web sites that youth can and cannot visit. As to online time, 66% indicated there are rules on the amount of time children are allowed to use the Internet, and the same percentage regularly check the sites their children visit. Only 56% have installed a filter, and the same percentage have rules on the type of information that children are allowed to provide over the Internet.

In the next step, we compared youth who reported being a victim of cyberbullying with those who did not (Table 1).

The parents of youth who were cyberbullied reported, on average, a higher education than parents of youth who were not bullied ( $M = 5.02$ ,  $SD = 1.53$ , and  $M = 4.09$ ,  $SD = 1.52$ ,  $p < 0.001$ ). Victims of cyberbullying were, on average, older than nonvictims: average age of victims, 15.11 years; average age of nonvictims, 14.43 years ( $p < 0.01$ ). Gender was associated with bullying: only 39% of the males were victims, while 61% of the girls reported being bullied at least once.

TABLE 1.  $T$  TEST FOR MEAN DIFFERENCES ACCORDING TO ONLINE BULLYING

	No victim		Victim	
	Mean	SD	Mean	SD
Parental age	44.67	7.47	45.37	8.14
Parent education	4.09	1.52	5.02	1.53**
Family Income	5.93	1.85	5.96	1.84
Marital status (1 = married)	0.81	0.35	0.77	0.39**
Children age	14.43	1.68	15.11	1.60**
Children sex (1 = male)	0.56	0.49	0.39	0.48**
Extent of information sharing	4.08	2.241	4.77	2.11**
Extent of communication use	7.54	3.50	9.73	3.11**
Computer in shared space	0.78	0.41	0.67	0.46**
Rules on Web site	0.89	0.30	0.81	0.39**
Rules on information sharing	0.59	0.49	0.52	0.50**
Rules on time online	0.70	0.45	0.61	0.48**
Parents monitor sites	0.70	0.45	0.61	0.48**
Parent check Web sites	0.66	0.47	0.64	0.57
Filter software	0.60	0.48	0.56	0.49*

\* $p < 0.05$ ; \*\* $p < 0.01$ .

Parents of nonvictims were more likely to have rules on Internet use. The percentage of youth reporting that the computer is in a shared space was higher for nonvictims than for victims. Consistent with this finding, the percentage of youth reporting the existence of parental rules on Web sites they are allowed to visit and time they are allowed to be online is higher among nonvictims than among victims. It was also found that teens whose parents installed a filter restricting online activities were less likely to be victims than those with no filter.

When inspecting the association of reporting being bullied and online activities, a significant association was found between victimization and having an active profile on social network site ( $\chi^2 = 93.68$ ,  $p < 0.001$ ), participation in public chat rooms ( $\chi = 16.78$ ,  $p < 0.001$ ), and participation in YouTube ( $\chi = 27.70$ ,  $p < 0.001$ ). Online bullying was not found to be associated with playing online games ( $\chi = 2.91$ ,  $p > 0.06$ ). Adolescents who were victims of cyberbullying reported, on average, a higher use of the Internet and cell phones for communication with their peers ( $M = 9.73$  vs.  $M = 7.54$ ,  $p < 0.01$ ).

In the next step, a multivariate analysis using logistic regression modeling was conducted because the dependent variable victimization is a dummy variable (see Table 2).

We present two models. The first introduces measures of restrictive parental mediation, and the second, measures of evaluative parental mediation. The results indicate that the odds of online victimization are higher for girls than for boys. Some of the measures of online activity were statistically significant as well. Having a profile in a social networking site, watching clips in YouTube, and participation in chat rooms were conducive to a higher risk of online bullying. Note that playing online games was not associated with the odds of online bullying victimization. Youth who frequently send text messages, instant messages, and e-mails to their friends were at a higher risk of victimization. Furthermore, independently of online activities, youth who are willing to disclose more personal information were at a higher risk of

TABLE 2. LOGISTIC REGRESSION PREDICTING ONLINE BULLYING

	Model 1			Model 2		
	Parameter Estimated	SE	Odds	Parameter Estimated	SE	Odds
Parental age	−0.008	0.013	0.992	−0.019	0.012	0.98
Parental education	0.110	0.072	1.11	0.10	0.06	1.10
Race (1 = white)	−0.04	0.31	0.96	−0.20	0.28	0.813
Income	−0.056	0.063	0.94	−0.05	0.05	0.94
Children gender (1 = male)	−0.88	0.21	0.41**	−0.72	0.19	0.48**
Children age	0.090	0.063	1.09	0.10	0.06	1.10
Social network site	0.73	0.21	2.08**	0.80	0.20	2.23**
YouTube	0.49	0.21	1.63*	0.47	0.20	1.60**
Chat rooms	0.54	0.25	1.72*	0.54	0.23	1.72*
Online games	−0.17	0.20	0.83	−0.11	0.19	0.89
Communication	0.07	0.03	1.08*	0.06	0.03	1.06*
Children privacy disclosure	0.131	0.049	1.140**	0.07	0.04	1.08*
Computer in common space	−0.19	0.21	0.82			
Software monitoring sites visited	−0.30	0.20	0.73			
Parents check sites visited	0.07	0.20	1.07			
Filter installed in the computer	−0.06	0.19	0.93			
Control of time online				−0.27	0.20	0.76
Rules on sites visited				−0.57	0.26	0.56**
Rules on information sharing				−0.23	0.18	0.78
Constant	−3.71	1.30	0.02**			
−2 LL	671.63			771.60		
Nagelkerke $R^2$	0.234			0.23		

LL, log likelihood; \* $p < 0.05$ ; \*\* $p < 0.01$ .

victimization than children less willing to disclose personal information.

Regarding the potential protective effect of parental mediation, the results were mixed. Of all the restrictive mediation techniques, only monitoring Web sites visited by the youth decreased the risk of victimization. In the second model, we replaced measures of restrictive parental mediation for measures reflecting evaluative parental mediation. The existence of rules on sites that the children are allowed to visit is statistically significant, indicating that the existence of this rule decreases the odds of online cyberbullying victimization. However, other factors, such as computer location, restrictions on time spent online, and rules on information sharing were not found to have a statistically significant effect. The results indicate that participation in online communication of any type increases the risk of victimization and that parental monitoring providing guidance and restrictions to Web sites is effective as a protective mechanism.

In the next step, the goal of the analysis was to investigate if there were differences according to gender. Previous studies have shown that there are differences in the use of the Internet by boys and girls as well as differences in the type of parental mediation to which they are exposed (see Table 3).

The first two models present results when measures of restrictive mediation and online activities are introduced. For boys, the odds of victimization from bullying increased when they kept an active profile on a social networking site and participated in YouTube activities. For girls, the online activities that increased their risk of victimization were participation in social networking sites and chat rooms. For both boys and girls, the more information they disclosed and the more they used the Internet and cell phones to communicate with friends, the higher the risk of being targeted for online bullying. In terms of family monitoring, our results indicated

that a few measures of parental monitoring are effective, but only for boys. Monitoring Internet sites visited and establishing rules on information sharing decreased the risk of online victimization for boys but not for girls.

## Discussion

Consistent with the routine-activities theory of victimization, the results indicate that some types of Internet activities increase the odds of victimization. Participation in social networking sites was found to represent a risk for being bullied online. Having an online profile on these sites apparently provides information on both personal characteristics and contact information and exposes the adolescent to potential contact with motivated offenders, probably unknown to the teen. This private information is the raw material that might be used by potential offenders to call them by names, threaten them, and make fun of them. It is not surprising that participation in chat rooms increases the risk of cyberbullying, as participants are likely to engage in conversations with strangers, some of whom may be offenders.

An important risk factor was the willingness of the adolescent to provide personal information both offline and online. This result indicates that adolescents' differ in their extent of trust and that these differences partially explain the risk of being bullied online. While trust is an important component of interpersonal relationships, young adolescents are likely still going through the process of developing a mature conception of trust as a process whereby disclosure is gradual. For this reason, it seems that young adolescents who have not developed a mature conception of trust tend to disclose their information without discrimination, and this disclosure increases the risk of cyberbullying.

TABLE 3. LOGISTIC REGRESSION PREDICTING ONLINE BULLYING ACCORDING TO GENDER

	Boys			Girls			Boys			Girls		
	<i>B</i>	<i>SE</i>	<i>Odds</i>	<i>B</i>	<i>SE</i>	<i>Odds</i>	<i>B</i>	<i>SE</i>	<i>Odds</i>	<i>B</i>	<i>SE</i>	<i>Odds</i>
Parental age	0.02	0.02	1.02	−0.02	0.01	0.97	−0.01	0.02	0.99	−0.03	0.01	0.96
Parental education	0.13	0.12	1.14	0.12	0.09	1.12	0.09	0.10	1.10	0.12	0.08	1.12
Race (1 = white)	−0.30	0.52	0.73	−0.02	0.41	0.97	−0.49	0.46	0.61	−0.02	0.37	0.98
Income	−0.01	0.10	0.98	−0.11	0.08	0.89	−0.02	0.08	0.97	−0.08	0.07	0.91
Children age	−0.16	0.10	0.84	0.22	0.09	1.25**	−0.11	0.09	0.89	0.25	0.08	1.28**
Social network site	0.90	0.34	2.48**	0.60	0.29	1.83*	0.90	0.31	2.46**	0.70	0.28	2.01**
YouTube	0.74	0.37	2.11*	0.33	0.27	1.39	0.79	0.34	2.20*	0.36	0.26	1.43
Chat rooms	0.29	0.36	1.34	0.78	0.40	2.18*	0.15	0.33	1.16	0.83	0.36	2.30**
Online games	−0.51	0.31	0.59	−0.06	0.28	0.93	−0.33	0.28	0.71	0.07	0.27	1.07
Communication	0.09	0.05	1.10*	0.05	0.04	1.05	0.09	0.04	1.09*	0.04	0.04	1.04
Children privacy disclosure	0.15	0.07	1.17*	0.14	0.07	1.15*	0.16	0.06	1.07*	0.11	0.06	1.12*
Computer in common space	−0.27	0.30	0.76	−0.13	0.32	0.87						
Parents monitor sites visited	−0.90	0.31	0.40**	−0.04	0.29	0.95						
Parents check sites visited	0.12	0.31	1.13	0.06	0.28	1.06						
Filter installed in the computer	0.35	0.31	1.42	−0.29	0.27	0.74						
Control of time online							−0.53	0.30	0.56	−0.04	0.28	0.96
Rules on sites visited							−0.45	0.41	0.64	−0.61	0.36	0.54
Rules on information share							−0.59	0.27	0.55**	−0.01	0.25	0.99
Constant	−1.48	1.93	0.22	−0.342	1.71	0.03*	0.26	1.71	1.30	−3.39	1.55	0.034
−2 LL	304.7			346.7			358.5			394.4		
Nagelkerke <i>R</i> <sup>2</sup>	0.27			0.20			0.25			0.16		

LL, log likelihood; B, parameter estimate; \**p* < 0.05; \*\**p* < 0.01.

In this study, six different parental mediation techniques, or guardianship, were investigated. It was found that the location of the computer does not have an effect on the risk of being bullied online. This finding might indicate that even when the computer is located in a shared space, youth might be able to multitask, hiding from their parents their use of social media and increasing their risk of online victimization. Measures of restrictive parental mediation, such as use of software to block access to Web sites and to record online activities were not statistically significant. The lack of statistical significance might be the result of two different processes: (a) that online bullying occurs in spaces that are considered safe by parents, such as social networking sites, YouTube, and chat rooms, and (b) that some of these sites are not considered safe, but youth use their skills to make sure the hidden activities are not recorded. An important finding is that rules on Web sites that adolescents are allowed to visit (an evaluative mediation) decreased the risk of exposure to online bullying. This result, while modest, informs us on the importance of parents' engaging in conversations on the nature of Web sites, their content, and their possible risks. Some of these sites might be related directly to the risk of victimization, and parents who discuss online risks create awareness in youth of the potential dangers of engaging in discussions in chat rooms and participating in social networking sites.

This study attempted to expand the routine-activities theory approach to the understanding of cyberbullying. The model proved to be more useful in the explanation of the factors associated with increased risks than with guardian-

ship or parental monitoring. Supporting the perspective, participation in specific online activities explained the odds of being bullied online. At the same time, a clear limitation was in the lack of statistical significance of the measures of parental monitoring conceptualized as the guardianship component of the perspective. Future studies should expand this perspective to the empirical test of a wider range of victimization experiences, including the spread of computer viruses and attacks by computer hackers. Also, more specific measures of parental mediation and protective actions specific to Internet media should be developed.

#### Disclosure Statement

No competing financial interests exist.

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