

## **Who is searching for cyberhate? Adolescents' characteristics associated with intentional or unintentional exposure to cyberhate**

Marie Bedrosova<sup>1\*</sup>, Vojtech Mylek<sup>1</sup>, Lenka Dedkova<sup>1</sup>, Anca Velicu<sup>2</sup>

<sup>1</sup> Interdisciplinary Research Team on Internet and Society, Faculty of Social Studies, Masaryk University, the Czech Republic

<sup>2</sup> Institute of Sociology, Romanian Academy

\* Corresponding author, Faculty of Social Studies, Masaryk University, Jostova 10, Brno, 602 00, the Czech Republic, telephone number: +420 549 497 297, email: [marie.bedrosova@mail.muni.cz](mailto:marie.bedrosova@mail.muni.cz)

### **Funding**

This work has received funding from the Czech Science Foundation, project no. 19-27828X.

### **Disclosure**

The authors have no conflict of interest to disclose.

### **Authorship Confirmation/Contribution Statement**

**Marie Bedrosova:** conceptualization, methodology, writing – original draft, writing – review & editing

**Vojtech Mylek:** formal analysis, methodology, writing – original draft, writing – review & editing

**Lenka Dedkova:** conceptualization, methodology, writing – original draft, writing – review & editing

**Anca Velicu:** conceptualization, writing – original draft, writing – review & editing

## **Who is searching for cyberhate? Adolescents' characteristics associated with intentional or unintentional exposure to cyberhate**

### **Abstract**

Cyberhate is one of the online risks that adolescents can experience online. It is considered a content risk when it is unintentionally encountered and a conduct risk when the user actively searches for it. Previous research has not differentiated between these experiences, even though they can concern different groups of adolescents and be connected to distinctive risk factors. To address this, our study firstly focuses on both unintentional and intentional exposure and investigates the individual-level risk factors that differentiate them. Secondly, we compare each exposed group of adolescents to those who were not exposed to cyberhate. We used survey data from a representative sample of adolescents (N = 6,033, aged 12-16, 50.3% girls) from eight European countries – Czechia, Finland, Flanders, France, Italy, Poland, Romania, and Slovakia, and we conducted multinomial logistic regression. Our findings show that adolescents with higher sensation seeking, proactive normative beliefs about aggression (NBA), and who report cyberhate perpetration, are at higher risk of intentionally searching for cyberhate contents when compared to those who are unintentionally exposed. In comparison to unexposed adolescents, reporting other risky experiences was a risk factor for both types of exposure. Furthermore, NBA worked differently – reactive NBA was a risk factor for intentional exposure, but proactive NBA did not play a role and even decreased the chance of unintentional exposure. Digital skills increased both types of exposure. Our findings stress the need to differentiate between intentional and unintentional cyberhate exposure and to examine proactive and reactive NBA separately.

**Keywords:** cyberhate, intentional and unintentional exposure, adolescents, normative beliefs about aggression, individual factors

### **Introduction**

Hateful attitudes expressed online have been increasing.<sup>1-3</sup> Attacks, targeting individuals or groups, that are motivated by a bias against a group of people<sup>4</sup> are defined as cyberhate. On average, 43% of youth from 28 European countries reported witnessing cyberhate as bystanders (i.e., they were exposed but not necessarily targeted by it).<sup>5</sup>

Extremist hate groups purposefully use the internet to target youth<sup>6-8</sup> who might be especially vulnerable to extremist messages<sup>9,10</sup> due to their identity formation and cognitive development of their in-group (i.e., one's own group) and out-group (i.e., other groups) attitudes.<sup>11</sup> Thus, the presence of cyberhate is particularly worrisome in the adolescent population. Exposure to cyberhate can result in harm on both the individual and the societal levels, like in lower subjective and physical well-being,<sup>12,13</sup> social trust,<sup>14</sup> and the reinforcement of discriminatory attitudes.<sup>9,15</sup> These all substantiate the need to identify at-risk adolescents.

### **Existing Gaps and Study's Contribution**

Though existing research has focused on the associations of cyberhate exposure,<sup>16-18</sup> we still lack knowledge about the nature of unintentional (i.e., accidentally encountering cyberhate) and intentional (i.e., deliberately searching for cyberhate) exposure which might represent different experiences with different predictors and preventive approaches. An emerging line of research explores this difference among adults<sup>3</sup> or in relation to online extremism.<sup>9</sup> However, none of the studies investigated individual differentiating factors that are crucial to identify at-risk adolescents. Our study aims to fill this gap by contrasting unintentional and intentional exposure types with robust data from a representative sample of adolescents from eight European countries. To understand the risk factors for exposure, we will also compare both groups with those unexposed.

Our findings will contribute to a theoretically nuanced understanding of cyberhate exposure as a double-faced risk depending on the intention behind such exposure. This distinction also has a practical application as these two situations ask for different preventative approaches. Our focus is on individual differentiating aspects of dispositional factors, other risk experiences, and digital-use factors.

### **Unintentional and Intentional Exposure**

Cyberhate exposure refers to situations when people see or hear hateful content online as bystanders, victims (i.e., are targeted by it), or perpetrators (i.e., create or share it). We focus on ethnicity, nationality, and religion related cyberhate, which is the most commonly witnessed by youth.<sup>3,18</sup>

Cyberhate exposure was linked to negative behavioral outcomes as it could start a 'circle of violence' from exposure to perpetration.<sup>19,20</sup> However, cyberhate exposure results from two distinct risky situations related to different factors. Whereas unintentional exposure represents a content risk (i.e., users are exposed to potentially harmful content),<sup>21</sup> and is a more common experience for adolescents;<sup>3,22</sup> intentional searching represents a conduct risk (i.e., the adolescents actively engage in potentially harmful conduct);<sup>21</sup> that is less common.<sup>3,22</sup> Both can occur during users' everyday online activities, such as discussions on news websites or social media, where cyberhate is increasingly shared.<sup>2,23</sup> But intentional exposure can also happen on platforms with hateful or extremist content adolescents might visit to connect with like-minded people or due to thrill-seeking for polarizing topics.

### **Dispositional factors**

Dispositional factors represent internal characteristics affecting one's behavior. We investigate two factors: sensation seeking and normative beliefs about aggression (NBA). Various studies found positive associations between sensation seeking (i.e., a tendency to look for new experiences) and a willingness to take risks,<sup>24</sup> and involvement in online risky activities. Sensation seeking may predispose youth to explore the internet more, and thus, as a by-product, be more often exposed to online risks.<sup>25–</sup><sup>27</sup> Thus, we presume that *higher sensation seeking relates to a higher likelihood of unintentional exposure compared to no exposure (H1a)*. However, because sensation seeking is a driving mechanism to act in a certain way, it seems to play an especially important role for active engagement with cyberhate (conduct risk). Therefore, we also expect that *higher sensation seeking relates to a higher likelihood of intentional exposure compared to unintentional (H1b) and no exposure (H1c)*.

## SEARCHING FOR CYBERHATE

Normative beliefs (or injunctive norms)<sup>28</sup> are cognitive standards against which a person judges whether a behavior is socially appropriate.<sup>29</sup> NBA can be differentiated into two types: beliefs about the acceptance of reactive/retaliative aggression (in response to injustice or for self-protection); and beliefs about proactive aggression (the general acceptance of aggression and its use for power or status).<sup>29–31</sup> Studies showed that NBA are associated with online and offline aggressive behavior, including hate speech and cyberhate.<sup>28,31–33</sup> Whereas some studies uncover a general two-way interaction between NBA and being involved in cyberaggression,<sup>33</sup> others are more specific in associating proactive and reactive NBA with different roles in cyberhate exposure (perpetrators scoring highest on both proactive and reactive NBA, while victims and bystanders tend to accept aggression only for protection – i.e., they score high on reactive NBA, but not on proactive).<sup>31,34</sup> Since we consider intentional searching for cyberhate to be a form of conduct risk and a precursor for perpetration,<sup>19,20</sup> and in line with the association discussed above between having a high score for both reactive and proactive NBA and being a cyberaggressor,<sup>31,34</sup> we predict that *higher proactive NBA relate to a higher likelihood of intentional exposure compared to unintentional (H2a) and no exposure (H2b)*, and *higher reactive NBA relate to a higher likelihood of intentional exposure compared to unintentional (H2c) and no exposure (H2d)*. A possible explanation for these hypotheses is that adolescents with both types of NBA might be more inclined to look for content that aligns with their attitudes.<sup>35,36</sup> Furthermore, having reactive NBA can generate more awareness because it is linked to justice sensitivity.<sup>31,37</sup> Therefore, we expect that those with higher reactive NBA would be more prone to noticing cyberhate (as an unjust situation). And we predict that *higher reactive NBA relate to a higher likelihood of unintentional exposure compared to no exposure (H2e)*, since the non-exposure is measured based on self-report and depends not only on the actual exposure, but also on users' readiness to be aware of it and acknowledge it. Since there is no strong empirical or theoretical reason to expect a difference between unintentional and no exposure in terms of adolescents' proactive NBA, we do not propose any hypothesis, but we will examine these associations in an explorative way.

### **Other risk experiences**

We also examine two other risk experiences of being a discriminated victim and cyberhate perpetrator. Overlaps among cyberhate bystanders, victims, and perpetrators have been found,<sup>18,38,39</sup> however we still miss distinction of how they relate to intentional and unintentional exposure which might concern different groups of vulnerable adolescents and lead to different outcomes.

Online and offline discrimination are associated.<sup>40,41</sup> Young people who are victimized offline worry more about being targeted online and report more cyberhate exposure.<sup>16</sup> Further, experience with hate speech and discrimination increases the sensitivity and recognition of cyberhate<sup>42</sup> — to which the non-victimized population becomes desensitized due to its high prevalence.<sup>43–45</sup> Thus, the adolescents who experience everyday discrimination are not only more likely to be exposed to cyberhate targeting their group identities, they might also be more sensitive to recognize such content and report exposure. Therefore, we presume that having a *discrimination experience relates to a higher likelihood of unintentional exposure compared to no exposure (H3a)*. On the other hand, adolescents victimized by online hate find hateful materials more disturbing<sup>17</sup> and might want to avoid them, thus we presume having a *discrimination experience relates to a lower likelihood of intentional exposure compared to unintentional exposure (H3b) or no exposure (H3c)*.

A link between cyberhate exposure and perpetration was also reported and discussed in relation to observational learning,<sup>19</sup> or normalization of the hateful conduct by moral disengagement,<sup>46</sup> allowing adolescents to perpetrate hate and perceive it as normal. Further, research<sup>20,47</sup> shows that seeking extremist content online is linked to political aggression, especially for those intentionally searching it.<sup>20</sup> We expect that the relationship is reciprocal and also applies to cyberhate - the adolescents who are cyberhate perpetrators intentionally look for content from like-minded users that normalizes their conduct. Furthermore, cyberhate aggression consists of sharing and disseminating hateful content.<sup>48</sup> Therefore, the perpetrators are likely to look for hateful content they could share or forward. Thus, we presume that *cyberhate perpetration relates to a higher likelihood of intentional exposure compared to unintentional (H4a) or no exposure (H4b)*. Additionally, we argue that *cyberhate*

*perpetration relates to a higher likelihood of unintentional exposure compared to no exposure (H4c).*

This can happen as a by-product of perpetrators' presence in online places where cyberhate is prevalent or due to the algorithmic nature of online environments, where past behavior determines the current/future displayed content, including cyberhate.<sup>36,49</sup>

### **Digital-use factors**

One of the factors that can bring adolescents to virtual proximity of cyberaggressors and harmful content are their online routines.<sup>28,50</sup> Those can be connected to both the amount of online activity<sup>17,18,23</sup> and digital skills<sup>51,52</sup> in navigating cyberspace. Specifically, a positive association between cyberhate exposure and spending more time online has been found: youth who spends more time online have an increased chance of entering a 'dangerous' platform, interacting with perpetrators and being exposed to something harmful, including cyberhate.<sup>18</sup> Relatedly, adolescents with higher digital skills engage in more online activities, and the research shows that they also experience more risks, including exposure to harmful online content.<sup>51-54</sup> Thus, we assume that time spent online and digital skills will not affect the chances of intentional versus unintentional exposure, as they do not affect adolescents' motivations to search for hateful content but rather predispose them to encounter hateful content during their online activities. On the other hand, we expect that *spending more time online relates to a higher likelihood of intentional (H5a) and unintentional exposure (H5b) compared to no exposure; and higher digital skills relate to a higher likelihood of intentional (H6a) and unintentional exposure (H6b) compared to no exposure.*

### **Control variables**

In some studies, cyberhate exposure has been shown to be associated with older age;<sup>18,48</sup> however, the findings about gender yield mixed results.<sup>16,17,39,55</sup> It is also difficult to formulate age- and gender-specific expectations when other factors are analytically controlled for.<sup>56</sup> Thus, we will use age and

gender only as controls. We will also control for the adolescents' country, but we will not interpret them, because country specifics are not in our study's focus.

## Methods

### Participants and procedure

The study uses data from eight countries from the EU Kids Online IV project,<sup>57</sup> which included questions about cyberhate. In each country, a representative sample of children (aged 9-16) was collected in 2017-19. We use a subsample of adolescents (aged 12-16,  $N = 6,033$ ) because cyberhate items were not included in the survey of younger respondents. Further, we only use data from participants who indicated whether they had been exposed to cyberhate (see Table 1), i.e., we excluded those with missing values on these items. Excluded adolescents did not differ in age ( $t(2869.7) = -0.42, p = .677$ ) or gender ( $\chi^2(1, N = 6,004) = 0.58, p = .448$ ).

The data collection method included computer-assisted classroom surveys and personal interviews in households, and an online survey. Research Ethics Committees at the participating universities gave their approval to the project. The legal representative's written informed consent and the participant's oral consent were obtained. Anonymity was ensured and all participants could decide not to answer any question. The collected data underwent thorough checks on national and supra-national level to ensure their quality (see the technical report).<sup>58</sup>

[TABLE 1]

### Measures

All measures are reported in Table 2. All answer scales included the options *Prefer not to Say* and *I don't know* that were treated as missing values in analysis. Cyberhate was defined at the beginning of the questions (Table 2) and each country used nationally relevant examples of groups that are likely targets of cyberhate (e.g., Muslims, Migrants, Jews, Roma). The survey was tested via cognitive testing with 28 children (aged 9-17).

## SEARCHING FOR CYBERHATE

The scale to measure NBA was used in previous studies both as a single scale<sup>32</sup> and to differentiate between proactive and reactive NBA.<sup>31</sup> We followed the second approach, based on the literature about proactive and reactive aggression.<sup>30,59,60</sup>

We selected three of the 10 items, corresponding to our definition of cyberhate (see Table 2), from a perceived discrimination scale developed by the EUKO network based on the Everyday Discrimination Scale.<sup>61,62</sup>

[TABLE 2]

### **Analysis**

To compare the groups and control for the predictors' mutual relations, we used multinomial logistic regression (Table 3). Although 32.6% of the participants had incomplete data across predictors, only 4.2% of the individual responses were missing. Thus, we conducted a multiple imputation (20 imputations) with a fully conditional specification to prevent the loss of statistical power and reduce nonresponse bias. During the imputation, logistic regressions were used to predict each item from all the other items. The presented results come from running the analyses on each of the 20 imputed datasets and pooling the results. Given our large sample size, we evaluated significance at  $\alpha < .01$ . We used Mahalanobis distance to identify potential outliers. Since excluding the identified cases did not change our results, we kept them in the analysis to conserve statistical power and to avoid unintentional exclusion of relevant respondents. We conducted all analyses in SPSS v28.0.1.1. The analytical script and correlation matrix are available via Open Science Framework (OSF):

<https://osf.io/3u8th>

### **Results**

First, we examined the factors related to the chances of intentional exposure rather than unintentional exposure. Cyberhate perpetrators (**H4a**) and adolescents with higher proactive NBA (**H2a**) or sensation seeking (**H1b**) were more likely to get exposed to cyberhate intentionally than unintentionally. On the

other hand, discrimination experience or having high reactive NBA were not related to higher intentional exposure, rebutting **H2c** and **H3b**; nor were sociodemographic or digital-use factors.

Second, we focused on the likelihood of intentional versus no exposure. The chance of intentional exposure was higher among adolescents who were older, had more digital skills (**H6a**), higher sensation seeking (**H1c**), and higher reactive NBA (**H2d**). Cyberhate perpetrators (**H4b**) and adolescents with discrimination experiences (contradicting **H3c**) were also more likely to be intentionally exposed. Gender, proactive NBA, and time spent online made no difference (not supporting **H2b** and **H5a**).

Lastly, we focused on the adolescents' likelihood of being exposed to cyberhate unintentionally rather than being unexposed. Older adolescents, females, those with more digital skills (**H6b**), and those who experienced discrimination (**H3a**) or perpetrated cyberhate (**H4c**) were more likely to encounter cyberhate. In contrast, higher proactive NBA related to the lower likelihood of unintentional exposure which we did not hypothesize, and time spent online made no difference (not supporting **H5b**). Higher sensation seeking (**H1a**) and reactive NBA (**H2e**) seemed to increase the chances of unintentional exposure. However, the Box-Tidwell test suggested that the relationship between these two predictors and the log-odds of unintentional exposure was non-linear. Since this violates the assumptions of logistic regression, we recommend caution in interpreting these relationships.

[TABLE 3]

### Discussion

Our primary goal was to identify factors differentiating the intentional and unintentional cyberhate exposure, because they can represent different types of risks (conduct and content) for adolescents. Our results support the notion that they are conceptually different and should be considered as separate in future research.

Comparing unintentional exposure with intentional, sensation seeking, proactive NBA, and being a perpetrator increase the chances of intentional seeking for cyberhate. Sensation seeking was

## SEARCHING FOR CYBERHATE

connected to conduct risks in previous research,<sup>25,35,64</sup> which stresses its potential to contribute to problematic behaviors. Similarly, proactive NBA was connected to proactive aggressive behavior.<sup>31,34</sup> Together with the effect of perpetration, these associations suggest that intentional cyberhate seeking could represent more aggressive behavior or a first step toward aggressive conduct.

Additionally, we found that proactive and reactive NBA work differently. Adolescents with higher proactive NBA were more likely to intentionally search for cyberhate rather than being unintentionally exposed, but their reactive NBA had no effect. This substantiates the more harmful role of proactive, rather than reactive, NBA. Though some studies found that perpetrators had both types of NBA higher than others,<sup>31,34</sup> proactive NBA provides a justification for behaving aggressively across a wider spectrum of situations, whereas reactive NBA is limited to unjust situations. Thus, proactive NBA could have a wider impact than reactive NBA. This implies that preventative efforts might benefit from targeting specifically proactive NBA and that researchers should not combine both types of NBA into one score, which is sometimes done.<sup>32,65</sup>

Proactive and reactive NBA also had different roles when comparing intentionally exposed adolescents with unexposed. Surprisingly, having high reactive NBA increased the chance of intentional exposure. It is possible that contrasting these two groups – which should, theoretically, be furthest from each other because one represents no risk and the other a conduct risk – made the effect more visible. Accepting aggression as an acceptable form of retaliation might be a part of adolescents' moral disengagement process.<sup>46</sup> Those who intentionally search for cyberhate might develop higher reactive NBA to justify their conduct and, reciprocally, those with high reactive NBA are more inclined to search content congruent with their attitudes.

But we found no effect for proactive NBA when comparing intentional exposure to non-exposure. We presume that adolescents with high proactive NBA might perceive cyberhate as something normal and be more desensitized toward it,<sup>45,66,67</sup> thus less likely to report or acknowledge their exposure. This mediating effect of cyberhate sensitivity could be explored in future studies, following research on hate speech sensitivity and prejudice.<sup>45</sup> Similarly, research should also focus on

## SEARCHING FOR CYBERHATE

the role of potential moderators, such as self-control, which has been found to have different effects on adolescents' proactive and reactive violence.<sup>68</sup>

Discrimination increased the chance for intentional exposure when compared to non-exposure — the opposite to what we expected. It is possible that discriminated adolescents may have specific motivations related with their coping strategies (e.g., counter-speech, helping other victims)<sup>69</sup> to seek cyberhate. We cannot, however, rule out the possibility that intentional cyberhate seeking might be connected to their effort to retaliate, which is a maladaptive coping strategy. Previous research showed that some victimized adolescents indeed became perpetrators over time.<sup>70,71</sup> This has been shown to be moderated by toxic online disinhibition,<sup>39</sup> empathy or moral disengagement.<sup>72</sup> We recommend that future research explores these possible moderators also in the case of cyberhate exposure, especially intentional exposure, and focuses on the motivations to seek cyberhate content and on the longitudinal effects of victimization on cyberhate perpetration.

We also explored the factors increasing the risk of unintentional exposure compared to non-exposure. Our results did not determine whether sensation seeking or reactive NBA played a role. Contrary to our expectations, higher proactive NBA were negatively associated with unintentional exposure. Similar to the effect of proactive NBA described above, we presume that adolescents with higher proactive NBA might be less sensitive toward cyberhate, and thus not report the exposure. On the other hand, discriminated adolescents were more likely to be unintentionally exposed. Our measure did not differentiate online and offline discrimination, hence this effect might indicate that they are victimized online because they possess the characteristics that cyberhate targets (i.e., group identity) or that they are more sensitive to notice cyberhate

According to our expectations, cyberhate perpetrators are also more likely to be unintentionally exposed, compared to the non-exposed group. While it is only logical that perpetrators should not be in the unexposed group, more meaningful explanations are linked to their presence in online places where cyberhate is disseminated (as such, their exposure is a by-product). Additionally,

their higher exposure can be a consequence of algorithms on social media that provide content similar to what they had searched for,<sup>36</sup> even in situations when they do not actively seek it.

Lastly, as we hypothesized, digital-use factors did not distinguish the intentionally and the unintentionally exposed. Spending more time online was not a risk factor for any exposure, but digital skills increased both types of exposure in comparison to non-exposure. Adolescents with higher digital skills engage in more risky online activities and visit more spaces<sup>52-54</sup> where they might also encounter cyberhate. There might also be a difference in acknowledging cyberhate. Higher digital skills might translate into a better comprehension of digital content and more effective recognition of problematic content, thus increasing the chance of reporting being exposed.

### **Limitations**

Cyberaggression experiences, especially intentional exposure and perpetration, represent sensitive issues, which might be difficult to disclose. Even though we ensured anonymity, the rate of some experiences could be underestimated. Our findings confirmed the importance of differentiating the types of exposure; however, our results need to be further tested, preferably with longitudinal research. Lastly, we focused on individual factors, however social and cultural level factors and cross-country differences should be also examined.

### **Conclusion**

Cyberhate exposure can present a content risk when it is unintentionally encountered or a conduct risk when it is searched for intentionally. Our study identified factors connected to and differentiating between those risks. Intentional searching was differentiated from unintentional exposure by higher sensation seeking, proactive NBA, and being a cyberhate perpetrator, suggesting it is a potentially problematic behavior that could be a precursor to aggression. Furthermore, our study showed the need to distinguish between proactive and reactive NBA, which can functionally predispose adolescents to behave differently.

### References

1. Hawdon J, Oksanen A, Räsänen P. Online extremism and online hate: Exposure among adolescents and young adults in four nations. *Nordicom-Information*. 2015;37(3–4):29–37.
2. Weimann G, Masri N. Research note: Spreading hate on TikTok. *Studies in Conflict & Terrorism* 2020;1–14; doi: 10.1080/1057610X.2020.1780027.
3. Reichelmann A, Hawdon J, Costello M, et al. Hate knows no boundaries: Online hate in six nations. *Deviant Behavior* 2021;42(9):1100–11; doi: 10.1080/01639625.2020.1722337.
4. Mondal M, Silva LA, Benevenuto F. A measurement study of hate speech in social media. In: *Proceedings of the 28th ACM Conference on Hypertext and Social Media* (Dolog P., Vojtas P, Bonchi F, Helic D eds.) ACM: New York; 2017; pp. 85–94.
5. Flash Eurobarometer 469: Illegal content online [Dataset]. European Commission, Directorate-General for Communication; 2018 [cited 2023 Jan 6]. Available from: [http://data.europa.eu/88u/dataset/S2201\\_469\\_ENG](http://data.europa.eu/88u/dataset/S2201_469_ENG)
6. Douglas KM. Psychology, discrimination and hate groups online. In: *Oxford Handbook of Internet Psychology* (Joinson AN, Mckenna KYA, Postmes, T, Reips, U-D. eds.) Oxford; 2012; pp. 1–14; doi: 10.1093/oxfordhb/9780199561803.013.0011.
7. McNamee LG, Peterson BL, Peña J. A call to educate, participate, invoke and indict: Understanding the communication of online hate groups. *Communication Monographs* 2010;77(2):257–80; doi: 10.1080/03637751003758227.
8. Tynes B. Children, adolescents, and the culture of hate online. In: *Handbook of children, culture, and violence* (Dowd N, Singer D, Wilson RF. eds.) SAGE; 2006; pp. 267–89.
9. Nienierza A, Reinemann C, Fawzi N, et al. Too dark to see? Explaining adolescents' contact with online extremism and their ability to recognize it. *Information, Communication & Society* 2021;24(9):1229–46; doi: 10.1080/1369118X.2019.1697339.

10. Torok R. Social media and the use of discursive markers of online extremism and recruitment. In: *Combating Violent Extremism and Radicalization in the Digital Era* (Khader M, Neo L, Ong E, Mingyi E, Chin J. eds.) Hershey: IGI Global; 2016; pp. 39–69; doi:10.4018/978-1-5225-0156-5.ch003.
11. Cortese A. *Opposing hate speech*. Santa Barbara,: Praeger; 2005.
12. Jakubowicz A, Dunn K, Mason G, Paradies Y, Bliuc AM, Bahfen N, et al. *Cyber racism and community resilience*. Cham: Springer International Publishing; 2017.
13. Keipi T, Räsänen P, Oksanen A, et al. Exposure to online hate material and subjective well-being. *Online Information Review* 2018;42(1):2–15; doi: 10.1108/OIR-05-2016-0133.
14. Näsi M, Räsänen P, Hawdon J, et al. Exposure to online hate material and social trust among Finnish youth. *Information Technology & People* 2015;28(3):607–22; doi: 10.1108/ITP-09-2014-0198.
15. Foxman A, Wolf C. *Viral hate: Containing its spread on the internet*. New York: St. Martin's Press; 2013.
16. Savimäki T, Kaakinen M, Räsänen P, et al. Disquieted by online hate: Negative experiences of Finnish adolescents and young adults. *European Journal on Criminal Policy and Research* 2020;26(1):23–37; doi: 10.1007/s10610-018-9393-2.
17. Hawdon J, Oksanen A, Räsänen P. Exposure to online hate in four nations: A cross-national consideration. *Deviant Behavior* 2017;38(3):254–66; doi: 10.1080/01639625.2016.1196985.
18. Costello M, Hawdon J, Ratliff T, et al. Who views online extremism? Individual attributes leading to exposure. *Computers in Human Behavior* 2016;63:311–20; doi: 10.1016/j.chb.2016.05.033.
19. Wachs S, Wright MF, Sittichai R, et al. Associations between Witnessing and Perpetrating Online Hate in Eight Countries: The Buffering Effects of Problem-Focused Coping. *International Journal of Environmental Research and Public Health* 2019;16(20):3992; doi: 10.3390/ijerph16203992.

20. Pauwels L, Schils N. Differential online exposure to extremist content and political violence: Testing the relative strength of social learning and competing perspectives. *Terrorism and Political Violence* 2016;28(1):1–29; doi: 10.1080/09546553.2013.876414.
21. Livingstone S, Stoilova M. The 4Cs: Classifying online risk to children. 2021. Hamburg: Leibniz-Institut für Medienforschung, Hans-Bredow-Institut (HBI); CO:RE - Children Online: Research and Evidence; doi: 10.21241/ssoar.71817.
22. Bedrosova M, Dufkova E, Dembytska N, et al. Cyberhate in Czech families: Adolescents' experiences and their caregivers' knowledge. Masaryk University; 2022 [cited 2023 Jan 6]. Available from: [https://irtis.muni.cz/media/3452402/report-cyberhate\\_en\\_final.pdf](https://irtis.muni.cz/media/3452402/report-cyberhate_en_final.pdf)
23. Oksanen A, Hawdon J, Holkeri E et al. Exposure to online hate among young social media users. *Sociological Studies of Children and Youth* 2014;18:253–73; doi: 10.1108/S1537-466120140000018021.
24. Slater MD. Alienation, aggression, and sensation seeking as predictors of adolescent use of violent film, computer, and website content. *Journal of Communication* 2003;53(1):105–21; doi: 10.1111/j.1460-2466.2003.tb03008.x.
25. Livingstone S, Smith PK. Annual research review: Harms experienced by child users of online and mobile technologies: The nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry* 2014;55(6):635–54; doi: 10.1111/jcpp.12197.
26. Notten N, Nikken P. Boys and girls taking risks online: A gendered perspective on social context and adolescents' risky online behavior. *New Media & Society* 2016;18(6):966–88; doi: 10.1177/1461444814552379.
27. Peter J, Valkenburg PM. The use of sexually explicit internet material and its antecedents: A longitudinal comparison of adolescents and adults. *Archives of Sexual Behavior* 2011;40(5):1015–25; doi: 10.1007/s10508-010-9644-x.

28. Wachs S, Mazzone A, Milosevic T, et al. Online correlates of cyberhate involvement among young people from ten European countries: An application of the Routine Activity and Problem Behaviour Theory. *Computers in Human Behavior* 2021;123:106872; doi: 10.1016/j.chb.2021.106872.
29. Huesmann LR, Guerra NG. Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology* 1997;72(2):408–19; doi: 10.1037/0022-3514.72.2.408.
30. Calvete E, Orue I. Cognitive schemas and aggressive behavior in adolescents: The mediating role of Social Information Processing. *The Spanish Journal of Psychology* 2010;13(1):190–201; doi: 10.1017/S1138741600003772.
31. Barbovschi M, Staksrud E. Young Norwegians' experiences with online aggression and bullying: Roles, vulnerabilities and connected factors. University of Oslo; 2021 [cited 2022 Jun 30]. Available from: <https://www.hf.uio.no/imk/english/research/center/children-media/news-events/news/2021bully-report.pdf>
32. Blaya C, Audrin C. Toward an understanding of the characteristics of secondary school cyberhate perpetrators. *Frontiers in Education* 2019;4:46; doi: 10.3389/educ.2019.00046.
33. Wright MF, Li Y. Normative beliefs about aggression and cyber aggression among young adults: A longitudinal investigation. *Aggressive Behavior* 2013; 39(3):161–70; doi: 10.1002/ab.21470.
34. Roland E, Idsøe T. Aggression and bullying. *Aggressive Behavior* 2001;27:446462; doi: 10.1002/ab.1029.
35. Slater MD. Reinforcing spirals: The mutual influence of media selectivity and media effects and their impact on individual behavior and social identity. *Communication Theory* 2007;17(3):281–303; doi: 10.1111/j.1468-2885.2007.00296.x.
36. Keipi T, Näsi M, Oksanen A, et al. Online hate and harmful content. Cross-national perspectives. Routledge, London and New York; 2017.

## SEARCHING FOR CYBERHATE

37. Gollwitzer M, Rothmund T, Pfeiffer A, et al. Why and when justice sensitivity leads to pro- and antisocial behavior. *Journal of Research in Personality* 2009;43:999–1005; doi: 10.1016/j.jrp.2009.07.003.
38. Wachs S, Wright MF. Associations between bystanders and perpetrators of online hate: The moderating role of toxic online disinhibition. *International Journal of Environmental Research and Public Health* 2018;15(9):2030; doi: 10.3390/ijerph15092030.
39. Wachs S, Wright MF. The moderation of online disinhibition and sex on the relationship between online hate victimization and perpetration. *Cyberpsychology, Behavior, and Social Networking* 2019;22(5):300–6; doi: 10.1089/cyber.2018.0551.
40. Tynes BM, del Toro J, Lozada FT. An unwelcomed digital visitor in the classroom: The longitudinal impact of online racial discrimination on academic motivation. *School Psychology Review* 2015;44(4):407–24; doi: 10.17105/SPR-15-0095.1.
41. Relia K, Li Z, Cook SH, Chunara R. Race, ethnicity and national origin-based discrimination in social media and hate crimes across 100 U.S. cities. In: *Proceedings of the Thirteenth International AAAI Conference on Web and Social Media (ICWSM 2019)*. AAAI Press, Menlo Park, California, USA; 2019.
42. Schmid UK, Kümpel AS, Rieger D. How social media users perceive different forms of online hate speech: A qualitative multi-method study. *New Media & Society* 2022; 3;146144482210911; doi: 10.1177/14614448221091185.
43. Bilewicz M, Soral W. Hate speech epidemic. The dynamic effects of derogatory language on intergroup relations and political radicalization. *Political Psychology* 2020;41(S1):3–33; doi: 10.1111/pops.12670.
44. Jubany O. Backgrounds, experiences and responses to online hate speech: An ethnographic multi-sited analysis. In: *Proceedings of the 2nd Annual International Conference on Social Science and Contemporary Humanity Development*. Wuhan, China; 2016; doi: 10.2991/sschd-16.2016.143.

45. Soral W, Bilewicz M, Winiewski M. Exposure to hate speech increases prejudice through desensitization. *Aggressive Behavior* 2018;44(2):136–46; doi: 10.1002/ab.21737.
46. Bandura A. Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review* 1999;3(3):193–209; doi: 10.1207/s15327957pspr0303\_3.
47. Pauwels L, Hardyns W. Endorsement for extremism, exposure to extremism via social media and self-reported political/religious aggression. *International Journal of Developmental Sciences* 2018;12(1–2):51–69.
48. Machackova H, Blaya C, Bedrosova M, et al. Children’s experiences with cyberhate. *EU Kids Online*; 2020; doi: 10.21953/lse.zenkg9xw6pua.
49. van Dijck J, Poell T, de Waal M. *The platform society*. Oxford University Press, New York; 2018.
50. Cohen LE, Felson M. Social change and crime rate trends: A Routine Activity approach. *American Sociological Review* 1979;44(4):588–608; doi: 10.2307/2094589.
51. Livingstone S, Mascheroni G, Stoilova M. The outcomes of gaining digital skills for young people’s lives and wellbeing: A systematic evidence review. *New Media & Society* 2021; 0(0); doi: 10.1177/14614448211043189.
52. Sonck N, de Haan J. How the internet skills of European 11- to 16-year-olds mediate between online risk and harm. *Journal of Children and Media* 2013;7(1):79–95; doi: 10.1080/17482798.2012.739783.
53. Staksrud E, Ólafsson K, Livingstone S. Does the use of social networking sites increase children’s risk of harm? *Computers in Human Behavior* 2013;29(1):40–50; doi: 10.1016/j.chb.2012.05.026.
54. Livingstone S, Helsper E. Balancing opportunities and risks in teenagers’ use of the internet: The role of online skills and internet self-efficacy. *New Media & Society* 2010;12(2):309–29; doi: 10.1177/1461444809342697.

## SEARCHING FOR CYBERHATE

55. Savoia E, Harriman NW, Su M, et al. Adolescents' exposure to online risks: Gender disparities and vulnerabilities related to online behaviors. *International Journal of Environmental Research and Public Health* 2021;18(11):5786; doi: 10.3390/ijerph18115786.
56. Hasebrink U, Görzig A, Haddon L, et al. Patterns of risk and safety online: In-depth analyses from the EU Kids Online survey of 9- to 16-year olds and their parents in 25 European countries. London: EU Kids Online network; 2011.
57. Smahel D, Machackova H, Mascheroni G, et al. EU Kids Online 2020: Survey results from 19 countries. EU Kids Online; 2020; doi: 10.21953/lse.47fdeqj01ofo.
58. Zlamal R, Machackova H, Smahel D, et al. EU Kids Online 2020: Technical report. EU Kids Online; 2020; doi: 10.21953/lse.04dr94matpy7.
59. Dodge KA, Coie JD. Social-Information-Processing factors in reactive and proactive aggression in children's peer groups. *J Pers Soc Psychol* 1987; 53(6):1146–58; doi: 10.1037//0022-3514.53.6.1146.
60. de Castro BO, Merk W, Koops W, et al. Emotions in social information processing and their relations with reactive and proactive aggression in referred aggressive boys. *Journal of Clinical Child and Adolescent Psychology* 2005;34(1):105–16; doi: 10.1207/s15374424jccp3401\_10.
61. Williams DR, Yu Y, Jackson JS. Racial differences in physical and mental health socio-economic status, stress and discrimination. *J Health Psychol* 1997;2(3):335–51; doi: 10.1177/135910539700200305.
62. Williams DR, González HM, Williams S, et al. Perceived discrimination, race and health in South Africa: Findings from the South Africa stress and health study. *Social Science and Medicine* 2008;67:441–52.
63. Helsper EJ, van Deursen AJAM, Eynon R. From digital skills to tangible outcomes: Full questionnaire. 2015 [cited 2022 Jun 30]. Available from: <https://www.lse.ac.uk/media-and-communications/assets/documents/research/projects/disto/From-Digital-Skills-to-Tangible-Outcomes-Full-Questionnaire..pdf>

## SEARCHING FOR CYBERHATE

64. Livingstone S, Helsper EJ. Taking risks when communicating on the Internet: The role of offline social-psychological factors in young people's vulnerability to online risks. *Information, Communication & Society* 2007;10(5):619–44; doi: 10.1080/13691180701657998.
65. Ang RP, Li X, Seah SL. The role of normative beliefs about aggression in the relationship between empathy and cyberbullying. *Journal of Cross-Cultural Psychology* 2017;48(8):1138–52; doi: 10.1177/0022022116678928.
66. Bushman BJ, Anderson CA. Comfortably numb: Desensitizing effects of violent media on helping others. *Psychological Science* 2009;20(3):273–7; doi: 10.1111/j.1467-9280.2009.02287.x.
67. Allen JJ, Anderson CA, Bushman BJ. The General Aggression Model. *Current Opinion in Psychology* 2018;19:75–80; doi: 10.1016/j.copsyc.2017.03.034.
68. Winstok Z. From self-control capabilities and the need to control others to proactive and reactive aggression among adolescents. *Journal of Adolescence* 2009;32(3):455–66; doi: 10.1016/j.adolescence.2008.08.006.
69. Wachs S, Machimbarrena JM, Wright MF, et al. Associations between coping strategies and cyberhate involvement: Evidence from adolescents across three world regions. *International Journal of Environmental Research and Public Health* 2022;19(11):6749; doi: 10.3390/ijerph19116749.
70. Wright MF. Cyber victimization and perceived stress. *Youth & Society* 2015;47(6):789–810; doi: 10.1177/0044118X14537088.
71. Camacho A, Ortega-Ruiz R, Romera EM. Longitudinal associations between cybervictimization, anger rumination, and cyberaggression. *Aggressive Behavior* 2021;47(3):332–42; doi: 10.1002/ab.21958.
72. Wachs S, Bilz L, Wettstein A, et al. The online hate speech cycle of violence: Moderating effects of moral disengagement and empathy in the victim-to-perpetrator relationship.

SEARCHING FOR CYBERHATE

Cyberpsychology, Behavior, and Social Networking 2022;25(4):223–229;doi:  
10.1089/cyber.2021.0159.

## SEARCHING FOR CYBERHATE

**Table 1.** Sample Description.

Country	N	% female	<i>M</i> <sub>age</sub>	SD	Cyberhate exposure (% [95% CI])		
					None	Unintentional	Intentional
Czechia	1317	49.1	14.14	1.42	43.8 [41.1, 46.5]	48.8 [46.1, 51.4]	7.4 [6.0, 8.9]
Finland	433	53.3	14.53	1.18	61.7 [57.1, 66.2]	34.2 [29.7, 38.6]	4.2 [2.3, 6.0]
Flanders	485	54.7	14.58	1.19	50.1 [45.7, 54.5]	44.1 [39.7, 48.5]	5.8 [3.7, 7.8]
France	513	43.5	13.95	1.40	78.0 [74.4, 81.6]	20.3 [16.8, 23.7]	1.8 [0.6, 2.9]
Italy	481	47.2	14.03	1.42	70.3 [66.2, 74.4]	26.6 [22.7, 30.6]	3.1 [1.6, 4.7]
Poland	426	54.9	13.50	1.41	61.3 [56.6, 65.9]	31.2 [26.8, 35.6]	7.5 [5.0, 10.0]
Romania	336	50.8	13.76	1.56	68.2 [63.2, 73.1]	24.7 [20.1, 29.3]	7.1 [4.4, 9.9]
Slovakia	470	52.8	14.13	1.44	72.6 [68.5, 76.6]	24.5 [20.6, 28.4]	3.0 [1.4, 4.5]
<b>Total</b>	<b>4461</b>	<b>50.3</b>	<b>14.10</b>	<b>1.42</b>	<b>59.5 [58.1, 61.0]</b>	<b>35.1 [33.7, 36.5]</b>	<b>5.3 [4.7, 6.0]</b>

## SEARCHING FOR CYBERHATE

**Table 2.** Items used to measure constructs and descriptive statistics.

Items	Answering scale	Source	Transformation	Descriptive statistics
<b>Cyberhate instruction</b>				
<i>In this survey, cyberhate refers to online contents that target individuals or communities on identified or supposed characteristics based on religion, origin, colour of skin or culture. Discrimination is about people feeling they are treated unfairly because of their physical or personal characteristics. This could be for example because of their physical appearance, their religion, where they come from or how they speak.</i>				
<b>Cyberhate exposure (outcome variable)</b>				
<i>In the PAST 12 MONTHS, have you EVER seen hateful or degrading messages or comments online, against people or certain groups of people? (This could for example be Muslims, Migrants, Jews, Roma, etc.)</i>	0 = no, 1 = yes	EUKO network <sup>48</sup>	We recoded the responses into one variable with three categories (0 = no exposure, 1 = unintentional exposure, 2 = intentional exposure).	See Table 1.
<i>Have you specifically searched for sites or contents that were disseminating hateful or degrading messages or comments online, against people or certain groups of people?</i>	0 = no, 1 = yes			
<b>Sensation seeking (dispositional factor)</b>	1 = not true; 4 = very true	Slater <sup>24</sup>		Spearman-Brown rho = .85, M = 1.58, SD = 0.78
<i>How true are these things of you?</i>				
- <i>I do dangerous things for fun</i>				
- <i>I do exciting things, even if they are dangerous</i>				
<b>Proactive and reactive normative beliefs about aggression (dispositional factor)</b>	1 = strongly disagree, 5 = strongly agree	EUKO network <sup>31</sup>		Proactive NBA (P-NBA): $\omega = .91$ , M = 1.46, SD = 0.85 Reactive NBA (R-NBA): $\omega = .85$ , M = 2.27, SD = 1.19
<i>How strongly do you agree or disagree with the following statements?</i>				
- <i>It is OK to use violence because violence is fun (P-NBA)</i>				
- <i>It is OK to use violence because this is how people respect you (P-NBA)</i>				
- <i>It is OK to use violence to solve the problems of the world (P-NBA)</i>				
- <i>It is OK to commit terrorist acts (P-NBA)</i>				
- <i>It is OK to use bombs to fight injustice (P-NBA)</i>				

## SEARCHING FOR CYBERHATE

- 
- *It is OK to use violence against someone if they start to fight with you first (R-NBA)*
  - *It is OK to use violence against someone if they insult your friends or your family (R-NBA)*
  - *It is OK to use violence against someone if they insult your friends or your family (R-NBA)*

### **Perceived discrimination (risk experiences)**

*Do you sometimes feel that you are treated badly because of the following?*

- *Because of where my family is from*
- *Because of my skin color*
- *Because of my religion*

1 = never, 5 = very often

EUKO network, based on the Everyday Discrimination Scale<sup>62,63</sup>

A dichotomous variable was computed 0 = none, 1 = at least one form

None 82.6%, at least one form 17.4%.

### **Cyberhate perpetration (risk experiences)**

*In the PAST 12 MONTHS, have you EVER sent hateful or degrading messages or comments online against someone or a group of people?*

0 = no, 1 = yes

EUKO network<sup>48</sup>

No 93.0%, yes 7.0%.

### **Time spent online (digital-use factors)**

*About how long do you spend on the internet during a regular weekday (school day)?*

1 = little or no time, 9 = about 7 hours or more

EU Kids Online IV network<sup>58</sup>

M = 5.00  
SD = 2.09

### **Digital skills (digital-use factors)**

*On a scale from 1 to 5 where 1 is 'Not at all true of me' and 5 is 'Very true of me', how true are these of you?*

1 = not true of me, 5 = very true of me

Helsper et al.<sup>63</sup>

$\omega = .88$ ,  
M = 4.04,  
SD = 0.81

- *I know how to save a photo that I find online*
  - *I know how to change my privacy settings (e.g., on a social networking site)*
  - *I find it easy to check if the information I find online is true*
  - *I find it easy to choose the best keywords for online searches*
  - *I know which information I should and shouldn't share online*
  - *I know how to remove people from my contact lists*
  - *I know how to create and post online video or music*
  - *I know how to edit or make basic changes to online content that others have created*
  - *I know how to install apps on a mobile device (e.g., phone or tablet)*
-

SEARCHING FOR CYBERHATE

- I know how to keep track of the costs of mobile app use
- I know how to make an in-app purchase

**Table 3.** Results of Multinomial Logistic Regression Predicting Intentional and Unintentional Exposure to Cyberhate.

	Intentional exposure (Reference category: Unintentional exposure)				Intentional exposure (Reference category: No exposure)				Unintentional exposure (Reference category: No exposure)			
	<i>B (SE)</i>	<i>p</i>	<i>OR</i>	<i>95% CI</i>	<i>B (SE)</i>	<i>p</i>	<i>OR</i>	<i>95% CI</i>	<i>B (SE)</i>	<i>p</i>	<i>OR</i>	<i>95% CI</i>
Intercept	<b>-3.95 (0.93)</b>	<b>&lt;.001</b>			<b>-9.10 (0.89)</b>	<b>&lt;.001</b>			<b>-5.04 (0.40)</b>	<b>&lt;.001</b>		
Age	0.02 (0.06)	.747	1.02	[0.91, 1.14]	<b>0.21 (0.06)</b>	<b>&lt;.001</b>	<b>1.24</b>	<b>[1.11, 1.38]</b>	<b>0.20 (0.03)</b>	<b>&lt;.001</b>	<b>1.22</b>	<b>[1.16, 1.28]</b>
Gender: Male <sup>a</sup>	0.33 (0.16)	.041	1.38	[1.01, 1.89]	-0.04 (0.16)	.822	0.97	[0.71, 1.32]	<b>-0.36 (0.07)</b>	<b>&lt;.001</b>	<b>0.70</b>	<b>[0.60, 0.81]</b>
Time spent online	0.05 (0.04)	.201	1.05	[0.97, 1.13]	0.09 (0.04)	.024	1.09	[1.01, 1.18]	0.04 (0.02)	.047	1.04	[1.00, 1.08]
Digital skills	0.00 (0.12)	.977	1.00	[0.80, 1.26]	<b>0.41 (0.11)</b>	<b>&lt;.001</b>	<b>1.51</b>	<b>[1.21, 1.89]</b>	<b>0.41 (0.05)</b>	<b>&lt;.001</b>	<b>1.51</b>	<b>[1.36, 1.67]</b>
Sensation seeking <sup>b</sup>	<b>0.30 (0.09)</b>	<b>&lt;.001</b>	<b>1.36</b>	<b>[1.14, 1.61]</b>	<b>0.59 (0.09)</b>	<b>&lt;.001</b>	<b>1.80</b>	<b>[1.51, 2.15]</b>	<b>0.28 (0.05)</b>	<b>&lt;.001</b>	<b>1.33</b>	<b>[1.20, 1.47]</b>
Normative beliefs: Proactive	<b>0.45 (0.09)</b>	<b>&lt;.001</b>	<b>1.57</b>	<b>[1.32, 1.87]</b>	0.00 (0.09)	.995	1.00	[0.84, 1.19]	<b>-0.45 (0.06)</b>	<b>&lt;.001</b>	<b>0.64</b>	<b>[0.57, 0.71]</b>
Normative beliefs: Reactive <sup>b</sup>	-0.07 (0.08)	.388	0.94	[0.80, 1.09]	<b>0.21 (0.08)</b>	<b>.006</b>	<b>1.24</b>	<b>[1.06, 1.44]</b>	<b>0.28 (0.04)</b>	<b>&lt;.001</b>	<b>1.32</b>	<b>[1.23, 1.43]</b>
Cyberhate perpetration: Yes <sup>a</sup>	<b>1.22 (0.21)</b>	<b>&lt;.001</b>	<b>3.39</b>	<b>[2.23, 5.17]</b>	<b>2.16 (0.39)</b>	<b>&lt;.001</b>	<b>8.69</b>	<b>[3.95, 19.12]</b>	<b>0.94 (0.32)</b>	<b>.006</b>	<b>2.56</b>	<b>[1.35, 4.85]</b>
Perceived discrimination: Yes <sup>a</sup>	0.32 (0.18)	.066	1.38	[0.98, 1.95]	<b>0.60 (0.18)</b>	<b>.001</b>	<b>1.83</b>	<b>[1.29, 2.59]</b>	<b>0.28 (0.10)</b>	<b>.004</b>	<b>1.32</b>	<b>[1.10, 1.60]</b>
Country <sup>c</sup>												
Flanders	-0.34 (0.25)	.173	0.72	[0.44, 1.16]	-0.59 (0.25)	.019	0.56	[0.34, 0.91]	-0.25 (0.12)	.035	0.78	[0.62, 0.98]
Finland	-0.26 (0.29)	.366	0.77	[0.44, 1.36]	<b>-1.04 (0.29)</b>	<b>&lt;.001</b>	<b>0.36</b>	<b>[0.20, 0.63]</b>	<b>-0.78 (0.13)</b>	<b>&lt;.001</b>	<b>0.46</b>	<b>[0.36, 0.59]</b>
France	-0.59 (0.39)	.133	0.56	[0.26, 1.20]	<b>-1.54 (0.39)</b>	<b>&lt;.001</b>	<b>0.22</b>	<b>[0.10, 0.46]</b>	<b>-0.95 (0.13)</b>	<b>&lt;.001</b>	<b>0.39</b>	<b>[0.30, 0.50]</b>
Italy	0.18 (0.31)	.562	1.20	[0.65, 2.21]	-0.54 (0.31)	.079	0.58	[0.32, 1.07]	<b>-0.72 (0.13)</b>	<b>&lt;.001</b>	<b>0.49</b>	<b>[0.38, 0.63]</b>
Poland	0.25 (0.25)	.318	1.28	[0.79, 2.10]	-0.16 (0.25)	.524	0.85	[0.52, 1.39]	<b>-0.41 (0.13)</b>	<b>.002</b>	<b>0.66</b>	<b>[0.51, 0.86]</b>
Romania	0.36 (0.29)	.211	1.43	[0.82, 2.52]	-0.55 (0.28)	.054	0.58	[0.33, 1.01]	<b>-0.91 (0.15)</b>	<b>&lt;.001</b>	<b>0.40</b>	<b>[0.30, 0.55]</b>
Slovakia	0.11 (0.32)	.728	1.12	[0.60, 2.09]	<b>-0.89 (0.31)</b>	<b>.004</b>	<b>0.41</b>	<b>[0.22, 0.76]</b>	<b>-1.00 (0.13)</b>	<b>&lt;.001</b>	<b>0.37</b>	<b>[0.28, 0.48]</b>

Note. Model  $\chi^2(32) = 1018.31 - 1083.55$  (across imputations),  $p < .001$ . Pseudo- $R^2 = .21$  (Cox & Snell),  $.26$  (Nagelkerke). Results significant at  $p < .01$  are in bold.

<sup>a</sup> Dichotomous variable.

## SEARCHING FOR CYBERHATE

<sup>b</sup> Linearity of logit assumption violated for prediction of unintentional exposure.

<sup>c</sup> Czechia was used as reference.