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Adolescents' Ethnic Hate Speech Exposure and Ethnic Bullying Perpetration: The Moderating Role of Tolerance Towards Diversity and Gender

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Abstract

Information and Communication Technologies have become powerful tools for adolescents, but they have enabled a huge number of online risks, such as being exposed to Online Hate Speech (OHS). High exposure to hateful content has been linked to despicable offline actions, including hate crimes. However, there is a lack of studies considering the associations with certain specific forms, such as the perpetration of bullying. The purpose of this study was to fill this gap in the literature by analysing the associations between exposure to OHS targeting ethnic minorities and ethnic bullying perpetration, and considering the potential moderating role of tolerance towards diversity and of gender. Participants were 960 high school students (53.6% females; M_{age} = 15 years, SD = 0.59). Data were collected in January/February 2020, before the first lockdown due to the Covid-19 pandemic. Findings suggest that being exposed to ethnic OHS is significantly, but weakly, associated with traditional ethnic bullying perpetration. Moreover, this association is moderated by tolerance towards diversity and by gender. In particular, for male adolescents, at low and middle levels of tolerance, higher ethnic OHS exposure is not associated with a higher tendency to perpetrate bullying toward peers with a different ethnicity. For females, instead, tolerance is not a moderator in the relationship between ethnic OHS exposure and ethnic bullying perpetration. Results are discussed in terms of their practical implications.

Keywords: online ethnic hate speech; ethnic bullying; tolerance towards diversity; adolescents

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Introduction

Nowadays, digital technologies are changing human conduct, values, and beliefs, as well as promoting the development of a new social reality. In particular, the use of Information and Communication Technologies (ICTs) has become an essential part of adolescents' everyday life, and youths' time spent on the Internet and Social Network Sites (SNSs) has consistently increased over the years (Hawdon et al., 2019). In Europe, for instance, 87% of people aged from 16 to 24 years are users of SNSs (Eurostat, 2020). Still, in the US, 90% of teens aged 13–17 are users (AACAP, 2018). On the positive side, ICTs diffusion allowed adolescents to find, create and share information

and knowledge more easily than ever before. However, the freedom and openness of exchanges have also permitted the publication of contents that are harmful, violent, and hateful towards people, thus also exposing youngsters to several risky online contents. Therefore, questions have been raised about how such exposure might affect people's well-being, attitudes, beliefs, and behaviours. Currently, Online Hate Speech (from now OHS) exposure has been found positively related to people's negative attitudes (Soral et al., 2018), online aggressive behaviors, such as cyberbullying (Bae, 2021), and traditional bullying (Blaya et al., 2022). Beyond the current state of the art, here we aim at analysing the link between exposure to OHS and traditional bullying perpetration, and its moderators. This proposal is focused on a specific type of OHS, namely the one targeting ethnic minorities, and takes into account the degree of tolerance towards minorities and the gender as possible moderators in the relationship between exposure to Online ethnic Hate Speech and perpetration of traditional bullying.

Hateful content directed against ethnic minority groups is one of the most common forms of OHS (e.g., OHCHR, 2021). The Council of Europe, indeed, defined OHS as "all forms of expression which spread, incite, promote or justify racial hatred, xenophobia, anti-Semitism or other forms of hatred based on intolerance, including intolerance expressed by aggressive nationalism and ethnocentrism, discrimination and hostility towards minorities, migrants and people of immigrant origins" (Council of Europe, 1997, p. 107). Despite that, there is currently no standard or consensus-based definition of OHS among scholars (Fulantelli et al., 2022). Some definitions are grounded on the targets of the phenomenon, which are people who belong to a minority group (e.g., ethnic minorities, or people from the LGBTQI+ community), others focused on the consequences of OHS exposure, and few include the intentionality of the act (Kansok-Dusche et al., 2022).

To clearly define OHS is essential for its investigation, but it is not easy since it shares several characteristics with other cyber-aggressive phenomena, such as cyberbullying (Fulantelli et al., 2022). OHS is something different from cyberbullying: even if both have the intention to harm a person or group by using ICT tools, OHS often indicates a single act, whereas cyberbullying refers to a repeated activity (Smith et al., 2008; Wachs, Wright, Vazsonyi, 2019). Additionally, even if, similarly to bias-based cyberbullying, OHS can be directed to a specific person, it is usually based on prejudicial opinions about diverse social groups and expresses inter-group hostility (Sponholz, 2018). In this regard, according to a recent study, while being discriminated for individual characteristics is connected to cyberbullying experiences, but not to cyberhate experiences, group-based discrimination is connected with both cyberhate and cyberbullying (Bedrosova et al., 2022).

If all people are at risk when online, adolescents are even more at risk. Firstly, because of the time they spent online: in the US, for instance, 97% of teens have access to a smartphone and 45% of them state they are online "almost constantly" (Anderson & Jiang, 2018). Secondly, they usually have fewer psychological skills than adults to defend themselves from OHS aggression, such as critical thinking or resilience. Thirdly, they are the preferred target of hate groups and online supporter recruitment organizations (Oksanen et al., 2014). According to the literature, the risk of OHS exposure among adolescents is also increasing because the number of hateful contents is growing (Harriman et al., 2020; Hawdon et al., 2019). In this regard, an international study has estimated that 49% of adolescents in Europe, North America, and Asia had witnessed OHS at least once in one single year (Wachs et al., 2019). Moreover, a recent systematic review shows that adolescents (aged 12–18) exposed to OHS ranged from a minimum of 26% to a maximum of 63% (Kansok-Dusche et al., 2022).

Exposure to ethnic OHS is currently a topic of interest, since the pervasiveness of the phenomenon, together with its negative consequences, has been progressively documented. For instance, ethnic OHS exposure can directly and negatively impact minority adolescents' well-being and psychological adjustment (Sinclair et al., 2012). Moreover, a recent study shows that OHS victimization experiences are positively associated with depression (Wachs et al., 2022). Ethnic OHS exposure may also have social consequences, endorsing expressions of intolerance, discrimination, and aggressions against members of different minority groups (e.g., iHub Research & Ushahidi, 2013; Keipi et al., 2017; Näsi et al., 2015; Tsesis, 2002). Following Social Learning Theory (Bandura, 1969), adolescents exposed to hateful and hostile prejudicial contents and conducts are more likely to acquire negative models of behaviors, through observational learning and consequently emulating the discriminatory hostile conducts witnessed, in both online and offline contexts. Additionally, chronic exposure to ethnic OHS can affect attitudes and behaviors toward minorities by promoting prejudice and desensitization processes. For example, Soral and colleagues (2018) found that hostile messages, after consistent repetition, would result in decreased consideration for the victims due to sensitization processes, and increased stereotypes, prejudice, and distancing commitments. Similar results have been found by Fasoli and colleagues (2016) concerning exposure to homophobic labels, which was associated with increased dehumanization of homosexuals, and physical

distancing from them. Despite this, research concerning the associations between OHS exposure and perpetration, and attitude changes is still at the beginning (i.e., Fasoli et al., 2016; Soral et al., 2018).

Prejudicial practices of violence can also take the form of offline ethnic bullying, a form of prejudicial aggression characterized by the intentionality to harm an ethnically different peer, the reiteration in time of this detrimental conduct, and a power imbalance, which may be simply the consequence of belonging to a majority versus a minority ethnic-cultural group (Olweus, 1993; Xu et al., 2020). Following previous considerations, it can be supposed that adolescents who are exposed to ethnic OHS would more likely become bullies, in particular against ethnic peers, both as a result of modelling processes and based on negative attitudes towards peers with a different ethnicity. However, research on these associations is lacking. Among other aspects, in fact, a recent systematic review (Kansok-Dusche et al., 2022) has considered the associations between OHS and offline school bullying (not ethnic in particular) finding only two studies (Blaya & Audrin, 2019; Blaya et al., 2022) within the search results. Nevertheless, the findings seem to indicate that OHS and bullying tend to co-occur in the experience of perpetrators, showing small to moderate associations.

Research on OHS and offline ethnic bullying is not only limited by the lack of studies, but also by the non-consideration of possible intervening, and potentially protective variables, such as tolerance towards people of different ethnic origins. Tolerance has been defined as a positive feeling toward minorities as well as an understanding and validation of equality between immigrants and non-immigrants (Cote & Erickson 2009; van Zalk et al., 2013). The importance of considering tolerance in addition, or as an alternative to prejudice, has been underlined by those researchers suggesting that tolerance and prejudice are not simply opposite constructs since they can be weakly related, or not at all (Klein & Zick, 2013; Verkuyten et al., 2020). In particular, following Verkuyten and colleagues (2020), the added value of considering tolerance in research about intercultural relations is that it permits people to accept others, regardless of differences between and disagreements with their values or beliefs, or despite prejudices towards them.

In line with this theorization, it can be possible to hypothesize that adolescents with high levels of tolerance might not engage in ethnic bullying, even when they are repeatedly exposed to hateful content against people from cultures whose customs and traditions are different. Contrariwise, exposure to ethnic OHS may have an effect in increasing ethnic bullying perpetration for adolescents who are less tolerant towards diversity. Nevertheless, as previously mentioned, to our knowledge, no study has considered the possible role of tolerance in moderating the relationship between exposure to ethnic OHS and forms of face-to-face violence, such as traditional ethnic bullying perpetration. As such, a focus on this relation may advance the literature and knowledge on these issues and may give additional tips to promote adequate interventions to decrease them.

Another important, yet overlooked, aspect that may moderate the association between OHS and offline bullying perpetration, together with tolerance, is gender. Indeed, the literature suggests that both OHS (Cowan & Khatchadourian, 2003) and traditional bullying (Vandebosch & Van Cleemput, 2009) are more common in boys than in girls. A typical justification for gender differences is that females are more sensitive to the consequences of OHS and bullying perpetration on victims since, from an early age, they are more likely to be socialized to be aware of other people's necessities (Cross & Madson, 1997; Inman & Baron, 1996). These concerns for others may promote a higher sensitivity to the negative impact of OHS on victims' lives, reducing, a priori, their tendency to perpetrate hateful contents and bullying, regardless of their specific levels of tolerance. Differently, for male adolescents highly exposed to online hateful contents, showing a higher level of tolerance might constitute a protective factor against ethnic bullying perpetration. Thus, specific attention on the role of gender and its interaction with tolerance may be additional factors to consider when studying these topics.

To summarize, research has suggested the possible association between exposure to OHS and face-to-face violent behaviors, such as bullying perpetrated towards ethnic minority peers during adolescence. However, to our knowledge, no study has considered this relationship along with the potential moderating role of tolerance and of gender. Hence, our study is aimed at giving a unique exploratory contribution to the knowledge on these issues by testing a model of moderation between the mentioned variables. In particular, we hypothesized that (**H1**) exposure to ethnic OHS would be positively related to ethnic bullying perpetration; (**H2**) that this association would be stronger for adolescents with low levels of tolerance; (**H3**) that this association would be weakened or absent for females; and (**H4**) that this association would be weakened for males with higher levels of tolerance.

Methods

Participants and Procedure

Overall, 1,310 students were recruited for the study. Participants were nested in 58 classes of 13 Secondary Schools in Tuscany (Italy) and attended Lyceum, Technical, or Vocational high schools (grade 9th).

Participating schools were recruited through a voluntary census. Specifically, the call for participation was extended to all high schools in four Tuscany (Italy) provinces: Lucca, Florence, Prato, and Pistoia. The call invited high schools to take part in a three-years longitudinal study with at least two 9th-grade classes. Indeed, data of the present study were collected within the National PRIN project 2017 "Prejudicial bullying involving ethnic groups: Understanding mechanisms and translating knowledge into effective interventions". This project was aimed at analysing the processes underlying prejudicial ethnic bullying, and to design and validate an evidence-based intervention to counter it at school. All the schools that asked to participate in the project were included. Each school participated with a minimum of 3 to a maximum of 8 classes.

The present study took into account data from the first survey provided by the PRIN project. The complete survey included several questionnaires measuring both traditional bullying, traditional ethnic bullying, cyberbullying, ethnic cyberbullying, and some other related aspects.

Before the study implementation, institutional Ethical Committee approval was obtained. Moreover, initial approval from the School Principal and the Class Council of the participating schools was requested. Once permission was gained, informative letters were sent to all students and their parents, explaining the study aims and requesting the parents' consent for their child's participation. Participants' anonymity was ensured, excluding the collection of sensible data, such as first name, last name, or school-register number.

The survey was conducted in January/February 2020, before the Covid-19 pandemic, and subsequent restrictions on people's daily life. Trained assistants administered the questionnaires to students within their classrooms, during school hours.

On the day of data collection 1,152 students were at school, but, since 192 students did not have parental permission, data were retrieved from 960 students. Participants were nested in 13 schools and 53 classes. From each school, a minimum of 44 to a maximum of 122 students filled out the questionnaires. Of the participants, 437 (45.5% of the whole sample) were males, while 514 (53.6% of the whole sample) were females (9 students did not answer the question on gender). The students' mean age was 15 years old with a standard deviation of .59 (MAX_{age} = 19 years old, MIN_{age} = 12 years old). Most of the participants were Italians (82% of the whole sample), having both parents born in Italy. The remaining 172 students (18% of the whole sample) had an immigrant background, with at least one parent born abroad. The students with a different ethnic or culture of origin had parents coming from various countries of the world such as China (4.3%), Albania (4.2%), Romania (2.3%), and Morocco (1.8%).

We considered as members of an ethnic minority group only students with at least one parent born abroad, thus, only students from the first and the second generation of immigrants. Conversely, we considered as Italians all third generation of immigrant students (i.e., students with both parents born in the host country but at least one foreign-born grandparent; Palladino et al., 2020). This methodology was adopted in recent studies (e.g., Vervoort et al., 2010; Walsh et al., 2016), and it is supported by the evidence that in countries that do not follow the *ius soli* principle, such as in Italy, both the first and second generation of immigrant students do not have the host country citizenship.

Of the 960 high-school students who participated in the study, 508 filled out the questionnaire on paper, while 452 completed it online, using school computers.

Measures

Online Ethnic Hate Speech Exposure

We built an *ad hoc* scale to measure: Online ethnic Hate Speech *Exposure* (OeHS *Exposure*). Indeed, currently, *Exposure* to OHS is usually assessed via a single item measuring how many times participants have been exposed

to OHS content in the past 3, 6, or 12 months (e.g., Soral et al., 2018; Wachs et al., 2022). This is an important limitation because "the complexity of OHS demands an assessment based on multiple-item scales" (Kansok-Dusche et al., 2022, p. 12). Therefore, we built an ad hoc multiple-item instrument to assess the construct. Specifically, the OeHS *Exposure* scale assesses the different nuances of exposure to ethnic OHS, distinguishing, for instance, between an exposure that occurs casually while "scrolling" the SNs home page, and the type of exposure resulting from being tagged on an OHS post. It is composed of 4 items that ask how often, on Social Networks (such as Instagram, FaceBook or Tic Toc), students have: (1) *seen posts or stories against people of different ethnicity and/or country of origin*; (2) *seen a friend liking posts or stories against people of different ethnicity and/or country of origin*; (3) *seen a friend supporting posts or stories against people of different ethnicity and/or country of origin by means of comments*; (4) *received, or seen a friend sharing online posts or stories against people of different ethnicity and/or country of origin*. Each item included in the scale was evaluated along a 5-point scale from *never* to *always* (i.e., 1 = *never*; 2 = *almost never*; 3 = *sometimes*; 4 = *often*; 5 = *always*). The score of each participant was calculated by summing the score of each OeHS *Exposure* scale item. Within our data, Confirmatory Factor Analysis (CFA) showed good fit indices, except for Chi Squared *p*, which is especially sensitive to sample size ($\chi^2 = 12.498$, $p < .001$, CFI = .980, RMSEA = .076, SRMR = .019). The OeHS *Exposure* scale showed decent reliability, $\alpha = .76$, 95% CI [.73, .78].

Ethnic Bullying Perpetration

We built an *ad hoc* scale to measure traditional (offline) ethnic bullying. Specifically, we used an adaptation of the Florence Bullying and Victimization Scales (Palladino et al., 2016, 2020), administering to the students only the 4 items to measure bullying. The items ask how often, in the previous couple of months, students had physically, verbally, and/or indirectly attacked someone (i.e., *I made fun of someone…*) "*because of him/her ethnicity/origins*". A definition of bullying introduced the scale: "A child is bullied when another child or a group of children: says bad and unpleasant things to him/her; makes fun of him/her; calls him/her with offensive names; ignores or completely excludes him/her from their group; hits, kicks, pushes him/her; threatens him/her; tells lies or spreads stories about him/her. In bullying situations, these facts happen more than one time. It is always bullying even when a boy/girl is teased repeatedly and maliciously. It is not bullying when two boys and/or girls of almost the same strength fight with each other.". The scale was evaluated along a 5-point scale, from 1 *never* to 5 *several times per week* (i.e., 1 = *never*; 2 = *only one or two times*; 3 = *two/three times per months*; 4 = *once a week*; 5 = *several times per week*). The score of each participant was calculated by summing the score of each item of the scale. Within our data, robust CFA showed good fit indices, except for Chi Squared *p*, which is especially sensitive to sample size ($\chi^2 = 6.241$, $p = .044$, CFI = .942, RMSEA = .047, SRMR = .044). The ethnic bullying scale showed decent reliability, $\alpha = .75$, 95% CI [.78, .80].

Tolerance Towards Diversity

Tolerance was measured with four items, which were rated on a four-point Likert scale (1 = *do not agree at all*; 2 = *do not particularly agree*; 3 = *almost agree*; 4 = *agree completely*). The items were modified from the original tolerance subscale of the Tolerance and Prejudice Scale (van Zalk et al., 2013) to be suited in measuring tolerance towards people with different ethnicity who live in Italy. Each item measured the degree of participants' agreement with a specific belief about people with different ethnicity, such as: *People with different ethnicity/origins are good for the Italian economy*, and *Italian culture is improved thanks to the people with different ethnicity/origins who come to Italy*. The participants' tolerance towards diversity was calculated by summing the score of each item included in the tolerance subscale. Within our data, CFA showed good fit indices, except for Chi Squared *p*, which is especially sensitive to sample size ($\chi^2 = 9.056$, $p = .011$, CFI = .991, RMSEA = .061, SRMR = .016). The Tolerance scale showed decent reliability, $\alpha = .73$, 95% CI [.71, .76].

Analytic Plan

Firstly, we used Little's test analysis to verify whether missing values occurred completely at random (MCAR). Our missing data were MCAR, as indicated by the non-significant Little's test ($\chi^{2(21)} = 24.258$, $p = .281$).

Secondly, we looked at the distribution of continuous variables to check their symmetry. Since Ethnic Bullying was non-normally distributed, for the following analyses we normalized the scores recalculating them on a logarithmic basis (Keene, 1995). Both Tolerance (Residuals distribution: Q1 = −1.511; Q3 = 1.489) and OeHS *Exposure* (Residuals distribution: Q1 = −2.318; Q3 = 2.682), instead, were normally distributed. Thirdly, since the participants of the

present study were nested in schools and classrooms, preliminary analyses were conducted to verify the potential effects of these two cluster variables in explaining the variance of ethnic bullying perpetration. To this aim, a linear random-intercept mixed model (Singmann, & Kellen, 2019) was run with full-information maximum likelihood (ML) estimation. The model was run with ethnic bullying as the outcome variable and classes and schools as the cluster variables. Specifically, we entered classes on level 2 and schools on level 3. Mixed procedure is employed to handle complex situations, in which experimental participants are nested in hierarchies. The estimation of the Intraclass Correlation Coefficient (ICC) indicated that there was significant between-class variability to support the inclusion of class-level effects in a mixed model on ethnic bullying perpetration (ICC = .145). Conversely, there was not sufficient between-school variability to warrant consideration of school-level effects in the same mixed model (ICC = .004). As Heck et al. (2013) suggested, indeed, an ICC of .05 is required to justify the inclusion of a cluster variable in a multilevel analysis.

Thirdly, a series of linear random-intercept mixed models with full-information maximum likelihood (ML) estimation were run and compared considering ethnic bullying as an outcome variable and classes as cluster variable. Specifically, at each step, we compared a simpler model to a more complex one to verify whether the hypothesized model (from now, Model 5) was also the best model, namely the more parsimonious one. Indeed, when the predictive powers of the two models are equal, we should prefer the simpler model (the one with fewer predictors). In detail, we tested and compared the following five models: (1) Model 1, including only the OeHS *Exposure* as a predictor of Ethnic Bullying; (2) Model 2, including both OeHS *Exposure* and Tolerance as the main effects; (3) Model 3, adding to Model 2 the interaction term OeHS *Exposure* X Tolerance to explore whether the tolerance towards diversity moderated the relationship between OeHS *Exposure* and Ethnic Bullying; (4) Model 4, including OeHS *Exposure*, Tolerance, and Gender as main effects; (5) Model 5, adding the interaction term OeHS *Exposure* X Tolerance X Gender to verify if changes in ethnic bullying perpetration were moderated by the interplay between tolerance towards diversity and gender. The triple interaction of Model 5 means that the independent variable (OeHS Exposure), and the two moderators (Tolerance and Gender), interact in their totality by generating several different effects on the dependent variable (Ethnic Bullying Perpetration). In all the run models, the continuous predictors have been centered calculating the difference between each individual's score and the overall (*grand mean centering*). We used grand mean centering to compare individuals to one another across the entire sample, without placing each individual in a relative position on predictors within their cluster. We made this choice since each predictor is measured at the individual level, and because we not expected differences in the relation between ethnic OHS exposure, tolerance and ethnic bullying accountable to the classes where students were nested. Moreover, the grand mean centering is the most common method used to center predictors (Bickel, 2007).

To compare the four models of ethnic bullying and select the most statistically supported one, we used Akaike weights, ranging from 0 to 1, and representing the probability of a model to predict new data (Wagenmakers & Farrell, 2004). For descriptive purposes, and because it is suitable for linear mixed models, we also reported the explained variance of each model using conditional R^2. To perform the mixed models, we used the R Studio software (R Core Team, 2020) and the package "lme4" (Bates et al., 2014). Package ggplot2 in R Studio was employed to graphically explore the interaction effects (Wickham et al., 2016).

Results

Descriptive Statistics

Descriptive statistics and bivariate associations between continuous variables are reported in Table 1.

Table 1. *Descriptive Statistics of Continuous Variables: Mean, Associated Standard Deviations, and Pearson's r Bivariate Correlations.*

	N	*M (SD)*	1.	2.	3.
1. Gender	950		—	—	—
2. Ethnic Bullying	937	1.41 (0.12)	−.086**	—	—
3. Tolerance	928	12.51 (2.39)	.242**	−.182**	—
4. OeHS Exposure	890	8.32 (3.42)	−.068*	.179**	−.098*

Note. N = Sample size; *p < .01; **p < .001; *SD* = Standard Deviation.

As shown on Table 1, Ethnic Bullying was moderately (Cohen, 1988) associated with both OeHS *Exposure* (r = .179; p < .001) and Tolerance (r = −.182; p = < .001). Moreover, OeHS *Exposure* was weakly and negatively associated with Tolerance (r = −.098; p = .004).

Linear Mixed Models

The results of the models' comparison can be found in Table 2.

Table 2. *Akaike Weights and Conditional R^2 for Compared Models on Ethnic Bullying.*

	Akaike Weights	R^2
Model 1, OeHS Exposure	< .001	.162
Model 2, OeHS Exposure, Tolerance	< .001	.176
Model 3, OeHS Exposure X Tolerance	.004	.208
Model 4, OeHS Exposure, Tolerance, Gender	< .001	.184
Model 5, OeHS Exposure X Tolerance X Gender	.996	.231

As shown in Table 2, Akaike weights provided support for Model 5, the model including the three-way interaction OeHS *Exposure* X Tolerance X Gender as a predictor of Ethnic Bullying. Specifically, Model 5 (the best model) contained 99% of the total explanation that can be found in the full set of assessed models. The parameters of Model 5 are reported in Table 3. The model 5 was almost symmetrically distributed (model's residuals: Q1 = −0.257; Q3 = 0.024).

Table 3. *Mixed Model Predicting Ethnic Bullying*.

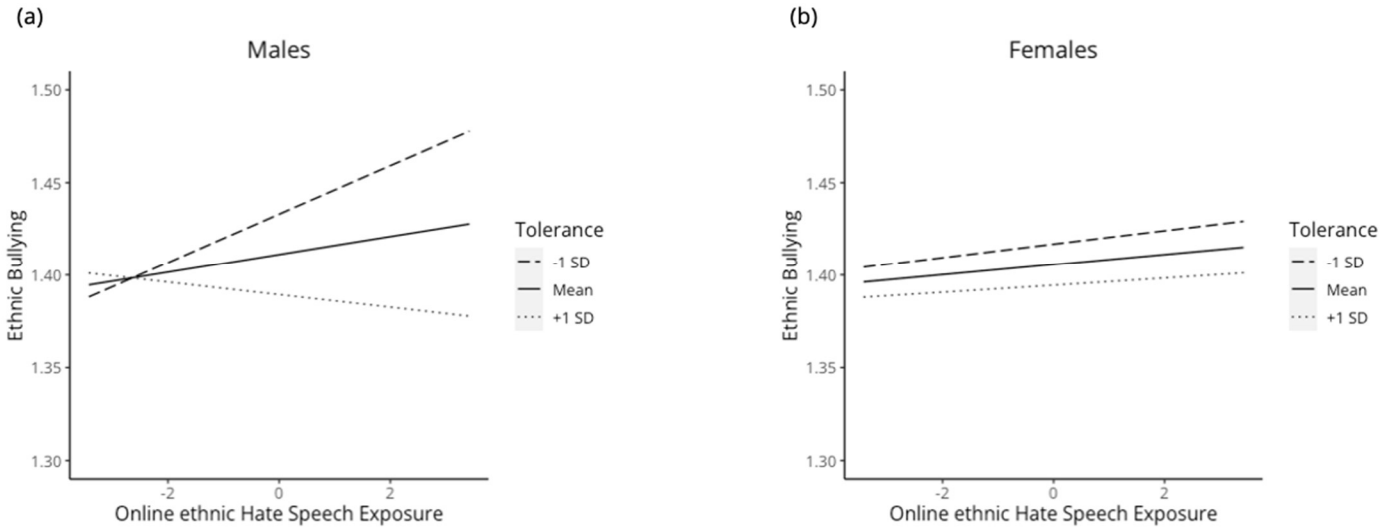
Effect	Estimate	*SE*	*p* Value
Fixed effects			
Intercept	1.415	0.008	< .001
OeHS Exposure	0.003	0.001	.002
Tolerance	−0.006	0.002	< .001
Gender (F–M)	−0.013	0.008	.098
OeHS Exposure X Tolerance	−0.002	< 0.001	< .001
OeHS Exposure X Gender (F–M)	−0.003	0.002	.225
Tolerance X Gender (F–M)	0.006	0.003	.049
OeHS Exposure X Tolerance X Gender (F–M)	0.003	< 0.001	.003

Note. Number of observations = 851; Number of groups: 58; F = Female; M = Male.

As seen in Table 3, the three-way interaction included in the best model was significant with B = 0.003, SE = 0.001, p < .001. Thus, Model 5 suggested that the degree of participants' Tolerance towards diversity moderated the relationship between OeHS *Exposure* and Ethnic Bullying, conditional on Gender.

More specifically, Figure 1, panel (a), with every increase in one standard deviation in OeHS *Exposure*, a male-low tolerant (1 *SD* below the mean) students' frequency of perpetrating ethnic bullying increased by 0.013 standard deviations (B = 0.013, p < .001), while a male-mean tolerant students' frequency of perpetrating ethnic bullying increased by .004 standard deviations (B = 0.004, p = .003). Conversely, with every increase in one standard deviation in OeHS *Exposure*, a male-high tolerant (1 *SD* below the mean) students' frequency of perpetrating ethnic bullying not significantly increased (B = −0.003, p = .218). Regarding females, Figure 1, panel (b), no moderated effects of Tolerance on the relation between OeHS *Exposure* and ethnic bullying have been found. Indeed, independently from the levels of tolerance, at the increase of the OeHS *Exposure*, the levels of ethnic bullying remained stable (low tolerance: B = 0.004, p = .116; medium tolerance: B = 0.002, p = .177; high tolerance: B = 0.001, p = .809).

Figure 1. *Graphical Representations of Estimated Parameters Derived From Model 5 Split by Gender: (a) Males' Results; (b) Females' Results.*



Discussion

ICT has become a pervasive, powerful communication tool for adolescents (Lo Cricchio et al., 2021). However, while it has facilitated fast information sharing and exchanges, it has also enabled a huge number of online risks, such as being exposed to OHS. Of all forms of hateful online content, ethnic OHS is one of the most common, and, unfortunately, it is not a harmless matter. High exposure to ethnic OHS seems to be linked to prejudice increase through the mediating role of desensitization (Soral et al., 2018). Moreover, based on Social Learning Theory (Bandura, 1969), and research on cyber-offending (Nodeland & Morris, 2020), it has been suggested that through observational learning adolescents exposed to hateful content may implement negative behaviors in real life. Despite this awareness, few studies have considered the associations between being exposed to ethnic OHS and the perpetration of a specific form of offline harassment during adolescence, such as ethnic bullying perpetration (Blaya & Audrin, 2019; Blaya et al., 2022). The purpose of this study was to fill this gap in the literature by analyzing these associations and also taking into consideration the potential moderating role of tolerance towards diversity and of gender.

Our findings confirm our hypothesis, suggesting that being exposed to ethnic OHS is positively, although weakly, associated with ethnic bullying perpetration. These results supported previous studies indicating that being bystanders and being perpetrators of online and offline aggressions are correlated (Blaya & Audrin, 2019; Blaya et al., 2022). A possible justification may be that adolescents who frequently witnesses OHS may develop a higher tendency to perceive hateful content aimed at peers with different ethnicity as normative, and consequently are more likely to perpetrate bullying. Furthermore, these findings can likewise be explained through Bandura's theory (1969), by which adolescents adopt and reproduce violent behavior through observational learning. However, the association between ethnic OHS exposure and ethnic bullying perpetration resulted to be moderated both by adolescents' tolerance towards diversity and by gender. In particular, in males with low or medium levels of tolerance, ethnic OHS exposure was associated with higher levels of traditional bullying perpetration than in males with high levels of tolerance. Contrariwise, ethnic OHS exposure resulted not having a link to ethnic bullying perpetration among all females and males with high levels of tolerance towards diversity. Based on the coefficients, also the impact of the moderators on the association between ethnic OHS exposure and ethnic bullying perpetration is small. Nevertheless, these results endorse our hypothesis that tolerance and gender must be considered as intervening factors in the relationship between ethnic OHS exposure and ethnic bullying perpetration, possibly because being high in tolerance allows at-risks males, highly exposed to ethnic OHS, to accept others, assume a value orientation towards difference, and not engage in ethnic bullying perpetration.

No relations have been found between ethnic OHS exposure and ethnic bullying perpetration among females, independently from their level of tolerance towards diversity. A possible explanation of this result could be the relatively low incidence of ethnic bullying perpetration among girls. Since ethnic bullying is less normative among girls regardless of other factors (Travlos et al., 2021), exposure to OHS may not enhance these conducts among females as it does for males. Still, there may be other possible factors and skills, which can contain and moderate the negative effects of being exposed to ethnic OHS for girls. For example, as previously explained, one aspect

refers to girls' higher sensitivity to others' necessities as compared to boys (Cross & Madson, 1997; Inman & Baron, 1996). Literature has underlined that they are characterized by higher levels of concern for others, which may promote higher sensitivity to the negative impact of OHS on victims' lives, and a decreased propensity to perpetrate hateful content and bullying, irrespective of their levels of tolerance. Moreover, our findings can be also referred to the transmission of gender stereotypes, in which masculinity is related to high aggressiveness and competitiveness during adolescence. Maybe, for boys, being exposed to hateful content may be linked to a legitimation of the expression of prejudicial negative behaviors, except for those who are simultaneously characterized by a high tolerance towards diversity (Jalón & Seoane, 2011).

Last, according to the study by Ekehammar et al. (2003), females display higher implicit prejudices towards ethnic minorities than males, whereas, males show higher explicit prejudices than females. Since implicit attitudes are unconscious, fast, and automatic, it is possible that in a self-report measure of tolerance towards diversity, females result less precise in reporting their explicit beliefs towards ethnic minorities than males. Maybe for this reason, independently from the levels of tolerance, no association has been found between ethnic OHS exposure and ethnic bullying perpetration among females. However, to our knowledge, only Ekehammar et al. (2003) have explored these aspects and found these results. Future studies in this field must assess tolerance towards diversity using measures suited to catch implicit attitudes too.

Limitations

As with any study, several shortcomings limit the interpretability of the present findings. First, it is important to underline that our data were collected just before the Covid-19 pandemic, after which the general incidence of discrimination towards people with a different ethnicity is increased (Bhanot et al., 2021). In addition, the upsurge in ICT use that has occurred since the spread of Covid-19 (Yang et al., 2020) may have influenced both ethnic OHS exposure and users' reactions after exposure. Hence, post-Covid studies that provide other empirical evidence about the consequences of ethnic OHS Exposure on aggressive behaviors are currently needed. Second, the study involved adolescents of Italian schools and this could hinder the generalizability of the results. Third, in our analyses we did not have considered the potential effects of other covariates such as age or migration status. Since research on OHS among adolescents has provided evidence of its importance (e.g., Celik, 2019; Machackova et al., 2020), future research should include participants from different ages and cultural contexts. Fourth, the cross-sectional design of the research limits the causal interpretations that might be drawn from the results. It would be stimulating to set up further longitudinal studies following the same participants for an extended period of time, to evaluate certain trends and variations in the considered variables. In fact, casual effects among ethnic OHS exposure, and ethnic bullying have not been clarified yet. Additionally, it is likely that rather than being one the cause of the other, ethnic OHS and ethnic bullying share general common risk factors, similar to the general risk factors that, according to literature, explain both OHS and cyberbullying (Bedrosova et al., 2022). Fifth, the present study tests the moderating role of tolerance in the relationship between ethnic OHS exposure and ethnic bullying perpetration. However, a previous study identified a direct negative relationship between OHS exposure and prejudice (Soral et al., 2018). Since tolerance and negative prejudice are moderately correlated (van Zalk et al., 2013), it seems reasonable to suppose that tolerance, rather than a moderator, may be a mediator in the relationship between ethnic OHS exposure and ethnic bullying. Despite that, differently from prejudice, tolerance implies the development of the abstract reasoning necessary to understand principles such as equality. For this reason, tolerance should be less affected than prejudice by mere exposure to hateful content. Moreover, a recent study involving adolescents found cross-sectional correlations, but no longitudinal associations between ethnic OHS exposure and xenophobia (Stefanelli et al., 2023). Thus, it is possible to suppose that ethnic OHS exposure does not predict tolerance too. Despite that, future longitudinal studies should test the possible mediating effect that tolerance might have in the relationship between ethnic OHS exposure and ethnic bullying perpetration, fixing this gap in the literature. Furthermore, longitudinal data might also clarify the processes theoretically explaining the relationship among these variables. Indeed, whether tolerance mediates or moderates the effect of OHS exposure on ethnic bullying perpetration over time, it is plausible to assume that social learning processes characterize the relationships among the three variables. Differently, if tolerance mediates or moderates the effect of ethnic bullying perpetration on OHS exposure over time, we might hypothesize that politicization processes underlie them.

Limitations characterize the tested models too. Indeed, we know that beyond gender, also age, socio economic status, or migration background are potentially associated with adolescents' involvement in online hate speech

(Kansok-Dusche et al., 2022) and bullying (Álvarez-Garcia et al., 2015). Hence, future research should more comprehensively integrate existing literature on control variables beyond gender, and control these variables in their empirical models.

Concerning the moderate-moderation hypothesis we made, it is important to underlie that the literature on replication crisis suggests that most of the studies that report interactions seem to be underpowered (e.g., Sommet et al., 2022). This gets even worse with attenuated interactions (Blake & Gangestad, 2020), such as the one identified in the present study. Nevertheless, the moderate-moderation hypothesis has a sound theoretical basis. Indeed, previous findings suggested that OHS and traditional bullying are associated (Blaya et al., 2022). Moreover, according to the literature, prejudice against minorities is linked to both ethnic bullying involvement (Caravita et al., 2020) and OHS exposure (Soral et al., 218). As already discussed, given the gender differences in both negative attitudes toward ethnic minorities (Ekehammar et al., 2003) and bullying involvement individuated by research, gender also is a very probable moderator of the three-way interaction linked to ethnic bullying. Thus, despite the results from the present study should be taken with caution, and replication studies are strongly recommended, they can be considered a basis for future research in this field.

Last, but not least, some limitations affect the continuous measures of the study. Firstly, the self-report nature of the measures may have increased the possibility of inflated associations, for instance, due to potential social desirability bias. For example, there might be the risk that one's appraisals of tolerance are not representative of others' experiences. Corroborating adolescents' self-reports in future studies with data from other informants would contribute to the literature in this regard. Moreover, since OHS and cyberbullying share several predictors and consequences (Fulantelli et al., 2022), it is possible that by filling out the questionnaire students referred to ethnic cyberbullying exposure instead of OeHS *Exposure*. Future studies should provide an extended definition of the investigated phenomenon before asking about the frequency of exposure. Despite that, according to a recent systematic review, there is currently no standard definition of OHS (Kansok-Dusche et al., 2022). Another limitation arises from the measurement of tolerance. To assess this dimension, indeed, we administered the van Zalk and colleagues' Scale (2013). It is one of the most widely used questionnaire for measuring tolerance, probably for its simplicity and shortness, but also for its validity. Nevertheless, we are aware that this measure particularly emphasizes pro-diversity beliefs, whereas being tolerant has been conceived as more than simply having pro-diversity attitudes since people might tolerate what they disapprove of or criticize (Verkuyten et al., 2023). So, future studies must consider a measure able to also catch other dimensions of being tolerant. Finally, limitations characterize the measurement of traditional ethnic bullying too: although some of the items included in the scale describe behaviors that can only occur offline (e.g., to beat someone because of their different ethnicity/origins), others describe behaviors that can also occur online (e.g., to make fun of someone because of their different ethnicity/origins). Thus, it is possible that the traditional ethnic bullying measure captured also the online ethnic bullying mode. In this regard, according to the literature, there is an overlap between bullying and cyberbullying and the two phenomena often co-occur (Pichel et al., 2021). Students themselves argue that cyberbullying can be a result of offline relationship problems (Lazarus et al., 2017). Furthermore, adolescents use to move between the digital and the online world continuously and are often active in both simultaneously. For these reasons, although a definition of bullying introduces the ethnic bullying scale we adopted, the students may have filled out the questionnaire referring not only to offline situations.

Conclusion and Practical Implications

The current study focused on the associations between being exposed to ethnic OHS and ethnic bullying in the offline context. Additionally, we were interested in testing for the moderating role of tolerance towards diversity and of gender. Findings confirmed our hypothesis and suggested that being exposed to ethnic OHS is positively associated with ethnic bullying perpetration. Moreover, they suggested that ethnic OHS and cyberbullying co-occur only in males with low or medium levels of tolerance towards diversity. Other than its theoretical importance, these results have obvious applied implications. As a main point, the results seem to suggest that a non-violent and non-toxic online environment should be considered as an important factor in preventing offline negative behaviors during adolescence, and in particular, ethnic bullying perpetration. Additionally, the present study showed that tolerance might prevent male adolescents from becoming ethnic bullying perpetrators. Consequently, it appears imperative that intervention programs would aim at increasing youths' awareness concerning how the online environment influences their behaviour in real life, and at stimulating their level of tolerance towards others.

All actors who may intervene and play a role—parents, school staff, policymakers, and providers of social media—must work in synergy to ensure the protection of youths from hateful online content. On the one hand, they must identify and remove hateful content, thus lowering the risks of adolescents' exposition towards them. On the other hand, they should promote proper social skills in adolescents (i.e., social competence, democratic, and intercultural skills, tolerance) to face the challenges that cascade from being exposed to ethnic OHS, and in so reducing all linked negative consequences.

Conflict of Interest

The authors have no conflicts of interest to declare.

Authors' Contribution

Maria Grazia Lo Cricchio: writing—original draft preparation, writing—review & editing. **Federica Stefanelli:** formal analysis, data curation, writing—original draft preparation. **Ersilia Menesini:** conceptualization, methodology, project administration, funding acquisition. **Annalaura Nocentini:** conceptualization, methodology, writing—review and editing, project administration.

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