# YOUNG NORWEGIANS' EXPERIENCES WITH ONLINE AGGRESSION AND BULLYING

## ROLES, VULNERABILITIES AND CONNECTED FACTORS

### Monica Barbovschi and Elisabeth Staksrud

## Summary

This report presents research about Norwegian adolescents' experiences with online aggression. We examine three different roles that children and young people can experience in these contexts, namely as victim, perpetrator and/or as bystander.

In 2018, 25% of Norwegian children aged 9 to 17 reported that they were treated in a mean or hurtful way online or offline, while 12% said they did this to other children (Staksrud & Ólafsson, 2019). Significantly more older girls reported being victimized, while older boys reported victimizing others more often.

Boys of younger ages reported witnessing online aggression to a higher degree, while older girls reported that they tended to help victims of online aggression more often.

Our findings show that there is a significant overlap between online victimization and perpetration. Almost half of the girls and 67% of the boys report being both a victim and a perpetrator. The findings show that perpetrators may justify the use of violence for power.

We also find that social factors, such as the quality of the family and school environments and peer support were relevant for all types of participants in cyber-aggression. Lower quality and support increased the probability of being involved in aggression. Feeling safe online was also a significant variable in all types of involvement. Lower feelings of safety online increased the probability of involvement in online aggression.

Being a victim of online aggression increases the chances of seeing negative user-generated content (NUGC), especially seeing sites showing suicide-related content and ways to engage in self-harming behaviors. All main roles in online aggression, i.e. victim, perpetrator, and bystander, also reported higher scores for symptoms of emotional stress.

The results show that when examining online aggression, individual and social factors that influence young people's well-being offline should also be considered.

This report includes a final section with recommendations for policy and practice for addressing and preventing online aggression and bullying among young people. The complexity of peer-to-peer online aggression, particularly with regard to the overlap between victimization and perpetration, necessitates a move from individualistic to systemic and socially oriented solutions.

## Sammendrag

I denne rapporten presenteres forskningsfunn om norske barn og unges erfaringer med nettbasert aggresjon. Vi ser på tre roller barn og unge kan ha: offer, utøver og tilskuer.

I 2018 oppga 25 % av norske barn mellom 9 og 17 år at de hadde blitt behandlet på en sårende eller ekkel måte på Internett eller utenfor, mens 12% oppga at de selv hadde behandlet andre barn på denne måten (Staksrud & Ólafsson, 2019). Det var betydelig flere jenter som oppga at de hadde vært i en offerrolle, mens flere gutter oppga at de hadde vært den som var aggresiv mot andre.

De yngste guttene oppga i større grad enn de andre gruppene å ha vært vitne til at andre ble plaget, mens jentene oftere enn guttene svarte at de forsøkte å hjelpe de som ble utsatt for nettbasert aggresjon.

Våre funn viser en stor grad av overlapp mellom offerrollen og utøverrollen når det gjelder erfaringer med digital mobbing og nettbasert aggresjon. Nesten halvparten av jentene og 67% av guttene oppgir å være i både offer- og utøverrollen. Funnene viser også at de barna som utøvde aggresjon mot andre oftere rettferdiggjør bruk av vold for å tilegne seg makt.

Vi finner også at sosiale forhold , slik som hjemme- og skolemiljø, og støtte fra jevnaldrende er relevante faktorer i alle former for nettbasert aggresjon – jo lavere kvaliteten på miljøet og på støtten var, jo høyere sannsynlighet var det for at barn skulle involveres i nettbasert aggresjon. Det å føle seg trygg på nett er en betydelig faktor i alle former for involvering. Jo lavere trygghet, jo høyere sannsynlighet for at man har vært involvert i nettbasert aggresjon.

Det å være offer for nettbasert aggresjon øker sannsynligheten for å ha sett potensielt skadelig brukergenerert innhold. Dette gjelder særlig nettsider med innhold om selvmord eller selvskading. Barn i alle roller, offer, utøver og tilskuer, oppga også høyere nivå av emosjonelle utfordringer sammenlignet med barn som ikke hadde erfaringer med aggressiv atferd på nettet.

Resultatene viser at man for å forstå nettbasert aggresjon må ta høyde for individuelle og sosiale faktorer utenfor nettet som påvirker barn og unges trivsel.

Rapporten inneholder til slutt et kapitel med anbefalinger for policy og praksisfeltet  for å kunne adressere og forhindre nettbasert aggresjon blant barn og unge. Kompleksiteten som ligger til grunn for nettbasert aggresjon, slik som overlappene mellom offer- og utøverroller peker på et behov for løsninger som er sosiale og systematiske heller enn individorienterte.

# Introduction

Children's online aggression and bullying experiences are of great concern for researchers and society at large. Most Norwegian children express that they feel safe online (42% of Norwegian children aged 9-16 state that they *always* feel safe online, compared with the European average of 29%, cf. Staksrud & Ólafsson, 2019). But for some, online peer aggression and bullying experiences pose a risk of harm (25% have been treated in a hurtful or nasty way in the past year, while 15% said this happened online). **In order to provide effective interventions and measures, it is therefore important to understand the predictors and underlying mechanisms that facilitate online aggressive and bullying experiences**.

In this report we present research about Norwegian children's experiences with cyberbullying. **Specifically, we focus on the different roles children and adolescents might have in situations of online peer aggression, as victims, perpetrators and – importantly – bystanders. We also look at how these roles overlap.** The role of bystanders in aggressive incidents is crucial, because they reinforce what constitutes socially accepted behaviour (Schultze-Krumbholz, 2018). Failing to intervene and remaining passive (or subtracting oneself from an unpleasant situation) is interpreted as approval of the behaviour (Paluck & Shepherd, 2012; Salmivalli et al., 1996).

In identifying these roles, we further our understanding about how family and school climates influence children's involvement in aggressive peer behaviour. The report also analyses children's attitudes towards the use of violence in different scenarios and how these relate to different bullying roles.

The analyses include variables related to emotional wellbeing and psychological difficulties, to further illuminate patterns of behaviour, and to provide recommendations for interventions. **Specifically, we seek to understand more about the connected factors and predictors of cyberbullying engagements**, such as:

- Peer support, peer problems and prosocial behaviour, for their protective role against victimisation and perpetration (Kendrick, K., Jutengren, G., & Stattin, H. (2012).

- Family, school and online climates (or environments) as protective factors (Bowes et al., 2010).

- Moral justification (or reasoning) for the use of violence in different contexts, shown to have been connected to peer violence (Perren, Gutzwiller-Helfenfinger, Malti, Hymel, 2012).

- A range of emotional symptoms children experienced (the adapted SDQ), found to be connected with peer victimisation (Rasalingam, Clench-Aas, & Raanaas, 2017).

- Preference for online communication, as this might be preferred by socially anxious individuals (Kamalou, Shaughnessy & Moscovitch, 2016).

- Experience with negative user-generated content online 'NUGC' (such as pro-suicide, self-harm and pro-anorexia), as previous research has found this to be correlated with experiences of cyber-bullying (Staksrud & Ólafsson, 2016).

## Note on methodology

A random stratified sample of 1,001 children aged 9-17 who use the internet, plus one of their parents, was interviewed during Spring/Summer 2018 in Norway (Staksrud, 2018). The data collection was funded by the National State Budget 2017-2018 under the Ministry of Justice and Public Security's Proposition 1S (2016-2017) and Proposition 12 S (2016-1017) Escalation Plan against Violence and Abuse (2017-2021). The data was collected by Ipsos.

- For the entire national sample, 'children' refers to internet-using children aged 9-17. 'Using the internet' includes any devices by which children go online and any places in which they go online.

- The questionnaire included items related to young people being treated in a mean

or hurtful way (online and offline); frequency of being mistreated over the past year; locations or devices where they were mistreated; ways in which they were mistreated (e.g. receiving nasty messages or being excluded from groups or activities) and their feelings about those situations. Children aged 9 to 17 were also asked whom they spoke to when those unpleasant situations occurred.

▪ Furthermore, Norwegian children aged 9 to 17 were asked if they themselves acted in mean or hurtful ways towards other children and about the frequency of their behaviour, on- and offline. Some questions on cyber-bystanders were included in the Norwegian data collection. Young people were asked if they had seen someone being treated in a hurtful or nasty way on the internet in the past year, how they reacted to the situation, and the type of content that was used to mistreat other children (e.g. text, audio, video).

▪ Existing literature (e.g. Craig, Pepler, & Atlas, 2000; Schultze-Krumbholz, 2018) indicates that bystanders play a crucial role in aggressive climates among young people. Our survey included items on whether the child has seen others being treated in a mean or hurtful way online, if they knew how to react, and what action (if any) they took, either to encourage the perpetrator or to help the victim.

In the overall classification of risks, the EU Kids Online framework distinguishes between risks related to content, where children are recipients of mass-distributed content (e.g. pornography) and risks related to conduct, where children are actors in peer interactions and exchanges (e.g. cyberbullying).

**Figure 1: Theoretical model EU Kids Online**
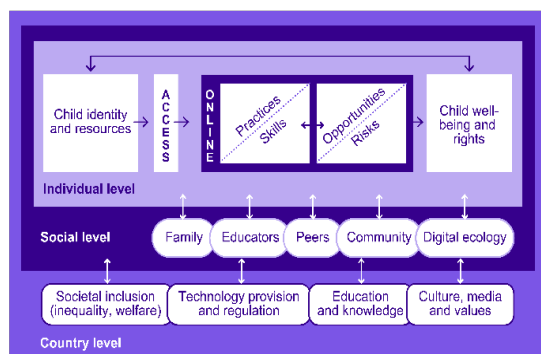


Furthermore, the EU Kids Online theoretical model (see figure 1) relies on Bronfenbrenner's ecological systems theory, which takes into account individual factors related to the child, including factors linked to digital well-being, social factors (e.g. family background), and factors related to media ecology and wider societal conditions (e.g. gender equality factors) (Livingstone et al., 2018).

## Researching bullying and harassment online

The definition of cyberbullying is contested in research (Kofoed & Staksrud, 2019), creating challenges when comparing studies and findings. In the EU Kids Online study, the same definitions were used for data collection in 2010 and 2018. The following working definition was offered to children: "Sometimes children or teenagers say or do hurtful or nasty things to someone and this can often be quite a few times on different days over a period of time, for example. This can include:

▪ teasing someone in a way this person does not like

▪ hitting, kicking or pushing someone around

▪ excluding someone from certain activities.

When people are hurtful or nasty to someone in this way, it can happen:

▪ face-to-face (in person)
▪ by mobile phone (texts, calls, video clips)
▪ on the internet (email, instant messaging, social networking, chatrooms).

Notably, as stated in the EU Kids Online 2020 report (Smahel et al., 2020), this definition does not differentiate between sporadic acts of aggression and repeated ones, which would constitute the commonly accepted definition of bullying (Olweus, 1994). It is therefore important to note that children were also asked, in a follow up question, how often the aggressive treatment happened to them, which enables the distinction between occasional acts of aggression and repeated bullying victimisation.

# Summary of main findings: Norwegian young people and their involvement in aggressive and bullying incidents

In 2018, 25% of Norwegian children aged 9 to 17 reported that they were treated in a mean or hurtful way by others online or offline. This represents a decrease in the level of these experiences compared to the 31% who reported this in 2010 (Staksrud & Ólafsson, 2019). With regards to online victimisation, 14% declared they experienced it at least a few times in the past year (while 3% experienced it at least every month). Figure 2 below shows the age and gender distribution for experiencing online victimisation.

**Figure 2: Age and gender distribution of victim role in online aggression (9-17 years-old, four groups)**
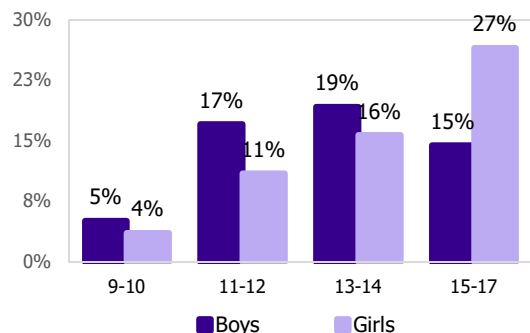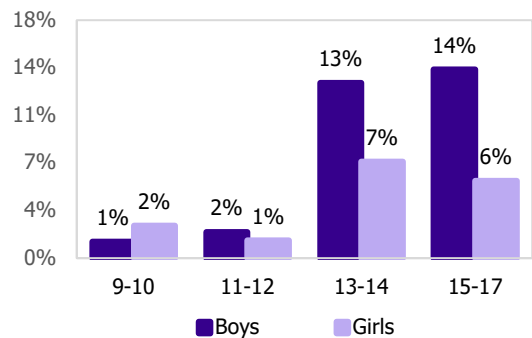


EU Kids Online 2018: QF20: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? (n=895). QF21b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=899).

Boys of younger ages reported higher levels of cyber-victimisation (e.g. 17% of boys aged 11-12, versus 11% of the girls same age). Notably, more girls in the 15-17 age range reported experiencing online victimisation.

With regards to mistreating others, 12% of Norwegian children aged 9 to 17 said they treated someone in a mean/ hurtful way face to face or online during the past year (Staksrud & Ólafsson, 2019), while 6% of all children said they did this online. Figure 3 shows the age and gender distribution for online perpetration.

**Figure 3: Age and gender distribution of perpetrator role in online aggression (9-17 years-old, four groups)**



QF28: In the PAST YEAR, have you EVER TREATED someone else in a hurtful or nasty way? (n=857). QF29b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often have you TREATED someone else in any of the following ways?] (n=889).

Although it appears that more boys (than girls) in the 13-14 and 15-17 age groups reported this behaviour towards others, these differences are based on few observations and therefore need to be interpreted with caution.

Norwegian children were also asked a series of questions about seeing others being mistreated online, 32% of Norwegian children aged 9 to 17 said they saw someone being treated in a mean/ hurtful way face to face or online in the past year (Staksrud & Ólafsson, 2019).

**Figure 4: Age and gender distribution of bystander role in online aggression (9-17 years old, four groups)**
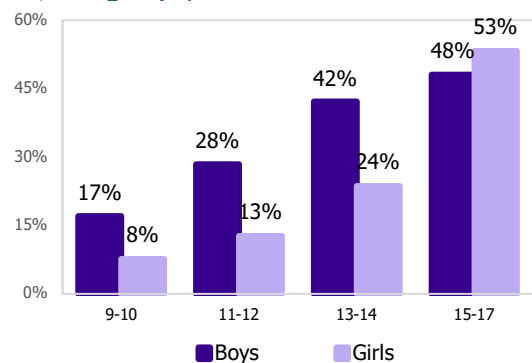


Qm2_1: In the PAST YEAR, have you witnessed somebody else being treated in such a way? [Sometimes, you can WITNESS SOMEBODY ELSE being treated in a hurtful or nasty way ON THE INTERNET.] (n=850).

Of all children, almost 30% saw someone being mistreated online in the past year. More boys of younger ages reported such experiences, whereas older girls report witnessing cyber-aggression in higher numbers (53% versus 48% of 15-17 years old boys). Children who witnessed online aggression were asked follow-up questions, including how they reacted to seeing others being mistreated. They could choose between supporting the aggressor, doing nothing, or trying to help the victim. The latter summed up 47% of the responses (of children who witnessed aggression online).

Figure 5 below shows the age and gender distribution of the 'helpful bystander' behaviour.

**Figure 5: Age and gender distribution of helpful bystander role in online aggression (9-17 years-old, four groups)**



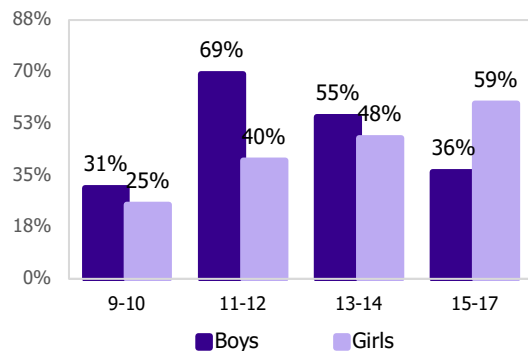Qm2_4: It is possible to react in various ways to what happened. Select the option which best describes what you did (I tried to help the victim) (n=250)

Considerably more younger boys (than girls) tried to help the victim, especially in the 11-12-year-old age group. However, for older adolescents the situation was reversed. More girls aged 15-17 reported having tried to help the victim than boys (59% of girls versus 36% of boys).

> **Children who are cyber-bullied are more likely to cyber-bully. others**

# The cyberbullying triad and the overlap between victim, perpetrator and bystander

**Main points about the cyberbullying triad presented in this section:**

· Roles in cyber-aggression are interconnected.

· There is a 67% chance for boys and 47% chance for girls to become cyber-aggressors if they themselves have been victims of online aggression at least monthly in the past year.

· Girls try to help the victims of online aggression more often, regardless of whether they themselves have been bullied online or not. In contrast, boys only try to help if they themselves have been victims.

· The fewer the witnesses to the incident of online aggression, the more likely children are to intervene to help the victim (no gender or age differences).

Research shows that the roles in cyber-aggression are often interconnected, and the term bully-victim has been coined to describe the overlap between being a victim of online aggression and becoming a perpetrator in response, and vice-versa (Gámez-Guadix, Gini, & Calvete, 2015). Figure 6 below shows the overlaps between the three roles: victim, perpetrator and bystander.

**Figure 6: Overlap of roles in the cyber-aggression triad**
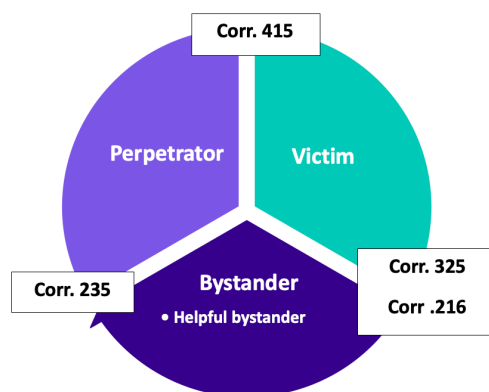


EU Kids Online 2018: Victim online (n=899); Perpetrator online (n=889). Bystander(n=850) Helpful bystander (n=250). Correlations significant at p<.01.

- All three main roles, i.e. victim, perpetrator and bystander had moderate positive correlations[1];

- However, **the helpful bystander role** (trying to help the victim in an aggressive incident) unsurprisingly **correlated only with being a victim** of online aggression and not with being a perpetrator.

The following two figures (7 and 8) further explain some of the relations between the three roles in cyberbullying incidents, i.e. the correlation between being a victim and perpetrator of online aggression, and the correlation between being a victim of online aggression and trying to help other cyber-victims (i.e. helpful bystander). Figure 7 illustrates the overlap between victim and perpetrator roles in aggressive and bullying incidents online (predicted probabilities).

**Figure 7: Predicted probabilities for Norwegian children to mistreat others online in relation to how often they themselves have been treated in a mean way online in the past year (9 to 17 years-old, boys versus girls)**
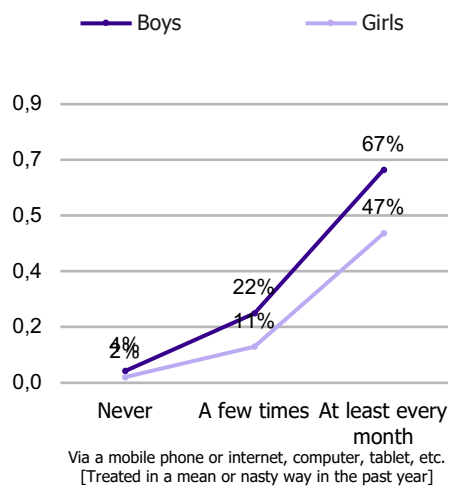


EU Kids Online 2018: QF20: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? (n=895). QF21b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=899). QF28: In the PAST YEAR, have you EVER TREATED someone else in a hurtful or nasty way? (n=857). QF29b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often have you TREATED someone else in any of the following ways?] (n=889).

- Notably, if someone has been treated in a mean or hurtful way online "only" a few times in the past year, they have a 15% chance of mistreating others in the same way online

(boys more than girls, with a 22% chance versus 11%).

- However, if the aggressive incidents happen monthly or more often, the predicted probabilities of children being aggressive towards others online increase significantly- 67% for boys and 47% for girls - if they themselves have been mistreated every month or more often.

Next, we wanted to research the connection between having been mistreated online and trying to help other victims of online aggression (i.e. helpful bystander), again differentiating between boys and girls. Figure 8 shows this relation.

**Figure 8: Predicted probabilities for Norwegian children to help others in bullying incidents online in relation to how often they themselves have been treated in a mean way online in the past (9 to 17 years-old, boys versus girls)**



EU Kids Online 2018: QF28: In the PAST YEAR, have you EVER TREATED someone else in a hurtful or nasty way? (n=857). QF29b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often have you TREATED someone els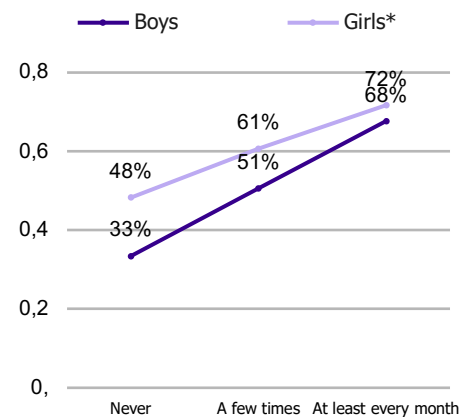e in any of the following ways?] (n=889). Qm2_1: In the PAST YEAR, have you witnessed somebody else being treated in such way? [Sometimes, you can WITNESS SOMEBODY ELSE being treated in a hurtful or nasty way ON THE INTERNET.] (n=850) Qm2_4: It is possible to react in various ways to what happened. Select the option which best describes what you did (I tried to help the victim) (n=250). Note: The asterisk * means the relationship was not significant.

- For girls, the relationship was not significant, meaning they tried to help the victims, regardless whether or how often they had been bullied themselves online (a chance of helping others between 0.48 and 0.72).

- However, boys tried to help only if they themselves had been victims of online aggression and bullying (a boy who has been mistreated a few times has a 51% chance of helping others, while a boy who has been bullied at least monthly has a 68% chance of helping).

---

[1] r values between .235 and .415, significant at p<0.01.

Finally, research shows that the higher the number of perceived witnesses to a cyberbullying or online aggression incident, the less likely it is that young people will intervene (Brody & Vangelisti, 2016). The same trend was observed amongst Norwegian children: **the fewer the witnesses, the more likely children are to intervene to help the victim.** Those who were sole witnesses to an event had an 82% probability of intervening. Those who were in a small group (themselves and 2-5 more people) have a 72% chance of intervening. The probability decreases further, to only a 22% chance of intervening where the event was witnessed by far more people.

> The higher the number of witnesses the less likely children are to help victims of an online aggression incident

## Roles in online aggression and peer relationships

**Main points about peer relationships presented in this section:**

- Lower levels of (reported) peer support were connected to more online victimization, but also to more online perpetration.

- Another measure of peer relationships (i.e. experiencing peer relationship problems) yielded similar results: more peer problems resulted in more online victimization.

- Experiencing peer problems resulted in more online perpetration for younger children only (9 to 12 years old).

- Higher levels of prosocial behaviour resulted in a higher propensity to help others (no age or gender differences).

Research has demonstrated that the quality of peer and friends' support can protect against bullying victimization and perpetration (Kendrick, K., Jutengren, G., & Stattin, H. (2012). Therefore, we have also included questions in the analysis about the perceived quality of children's peer relationships. Two dimensions which measure these were selected

for the analyses 1) the peer support they benefited from and 2) the amount of peer problems they experienced. Finally, a prosocial behaviour scale was used to assess the likelihood of children to help others in a cyber-aggression incident.

Peer support was composed of three items measured on a 4-point scale from "not true" to "very true":

- My friends really try to help me
- I can count on my friends when things go wrong
- I can talk about my problems with my friends [How true are the following things for you?]

Peer problems, however, were negatively conceptualised out of five items, measured on a 4-point scale:

- Other people my age generally like me (reversed)
- Other children or young people pick on me
- I am usually on my own, I generally play alone or keep to myself
- I have at least one good friend (reversed)
- I get on better with adults than with people my own age [How true are these things of you?]

The prosocial behaviour scale was composed of five items measured on a scale from 1 to 4 (not true to very true):

- I am helpful if someone is hurt, upset or feeling ill;
- I try to be nice to other people, I care about their feelings;
- I often volunteer to help others (e.g., parents, carers, teachers, children);
- I usually share with others (food, games, pens etc.);
- I am kind to younger children [How true are these things of you?]

Firstly, experiencing low levels of peer support was connected with being a victim of online aggression. Figure 9 below shows this relationship:

**Figure 9: Predicted probabilities for Norwegian children to be treated in a hurtful or nasty way online in the past year in relation to the perceived quality of their peer support (9-12 versus 13-17 years old)**
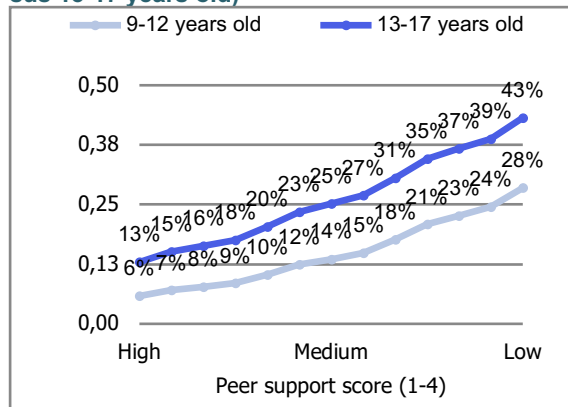


EU Kids Online 2018: QF20: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? (n=895). QF21b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=899).

- There is a 43% chance for a 13-17-year-old with the **lowest reported level of support to become a victim of online aggression**, while a 9-12-year-old has a 28% probability to experience hurtful or nasty treatment online.

- Conversely, those with the **highest levels of peer support are the least likely to experience cyber-victimisation** (6% for a 9-12-year-old and 13% for a 13-17-year-old, respectively).

Secondly, the relationship between lacking peer support and the probability of acting in a hurtful/mean way towards others online was similar, but stronger (compared to the relationship between peer support and being a victim of online aggression). This tendency was strongest amongst younger children who experienced low levels of peer support (figure 10).

> Less peer support is linked to more experiences of aggression online

**Figure 10: Predicted probabilities for Norwegian children to treat others in a hurtful or nasty way online in the past year in relation to the perceived quality of their peer support (9-12 versus 13-17 years old)**
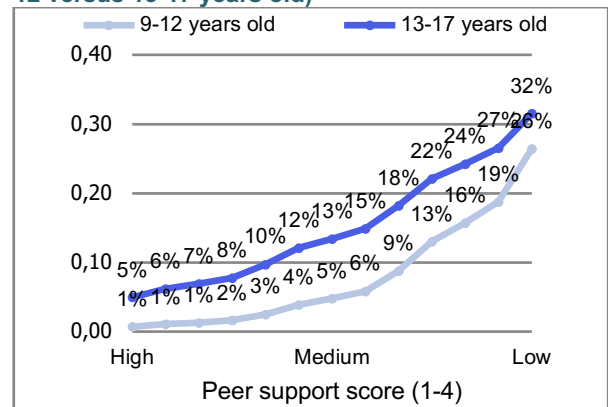


EU Kids Online 2018: QF28: In the PAST YEAR, have you EVER TREATED someone else in a hurtful or nasty way? (n=857). QF29b: Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often have you TREATED someone else in any of the following ways?] (n=889).

Furthermore, experiencing peer problems had a similar relationship with both roles in online aggression:

- Reporting a **high score for peer problems resulted in an increased chance of being cyber-victimised**: 83% for 9-12-year-olds; 58% for 13-17-year-olds.

- However, reporting **high peer problems resulted in an increased chance of mistreating others online for the 9-12-year-olds only** (a 25% chance for those reporting high scores of peer problems, versus 5% for those reporting average scores). There was no significant relation between peer problems and mistreating others online for those aged 13-17.

Finally, a prosocial behaviour scale was used to predict the likelihood of children aged 9-17 intervening to help the victim in instances of cyber-aggression. There was **a positive significant relation between the prosocial behaviour score and the propensity towards helping others.** A young person with a high prosocial score had a 56% chance of acting in a helpful way towards a victim of online aggression (compared to a 38% chance of someone with an average prosocial score). No significant age or gender differences were found.

# Roles in online aggression, family, school and online environments

<div style="border:1px solid #7030A0; padding:10px;">

**Main points related to family, school and online environments presented in this section:**

· Lower levels of (reported) quality of home and school environments resulted in a higher chance of being victims and perpetrators of online aggression.

· Both relationships (reported quality of family/ school environments versus experiencing aggression / mistreating others) were stronger for boys than for girls (albeit significant for both boys and girls).

· Children engaged in any capacity in online aggression (i.e. victim, perpetrator, bystander, helpful bystander) feel less safe online.

</div>

Warm family relationships and positive home environments were found to help buffer children from the negative outcomes associated with peer victimization (Bowes et al., 2010). Moreover, school and class climates (or classroom effects) were found to be important in children's experiences of aggression and victimization (e.g., Ahn, Garandeau, & Rodkin, 2010), at the same time a morally disengaged environment was a significant predictor of individual bullying (Gutzwiller-Helfenfinger & Alsaker, 2010).

The EU Kids Online survey asked children about their family and school environments (e.g. feeling safe at home, being listened to at home; feelings of belonging to the school, feeling safe at school). **Results show that children who did not report positive feelings towards their home and school environments were slightly more likely to be involved in online peer aggression, both as perpetrators and victims.**[2] The bystander role only correlated negatively with a less supportive school environment.[3] These relations are illustrated in the following figures (Figure 11 and Figure 12).

**Figure 11: Predicted probabilities for Norwegian children to be treated in a hurtful or nasty way online in relation to the quality of their family environment (9 to 17 years-old, boys versus girls)**
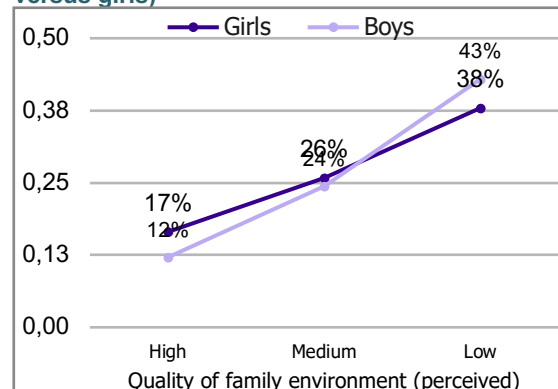


EU Kids Online 2018: QF20-21: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=699).

The relationship was similar for boys and girls: **the lower the perceived quality of their home environment** (e.g. how safe they feel in the place where they live, and whether someone listens to them when they have something to say), **the higher probability of being mistreated.** For example, a boy reporting a high-quality family environment has a 12% chance of experiencing online aggression versus a boy reporting a low-quality environment, with a 42% chance of experiencing this.

The relationship was similar with regard to the **quality of the school environment – a lower quality predicts higher chances of being subjected to online aggression**, for both boys and girls. This is in line with previous research confirming the supportive role of a positive school climate as a buffer against peer bullying (Gutzwiller-Helfenfinger & Alsaker, 2010).

<div style="border-top:2px solid #7030A0; border-bottom:2px solid #7030A0; padding:10px; text-align:center; color:#7030A0;">

Less supportive family, school and online climates are connected to more online aggression experiences

</div>

---

[2] r values between -.101 and -.184, at p<.001.

[3] r =-.170, at p<.001.

**Figure 12: Predicted probabilities for Norwegian children to be treated in a hurtful or nasty way online in the past year in relation to the quality of their school environment (9 to 17 years-old, boys versus girls)**
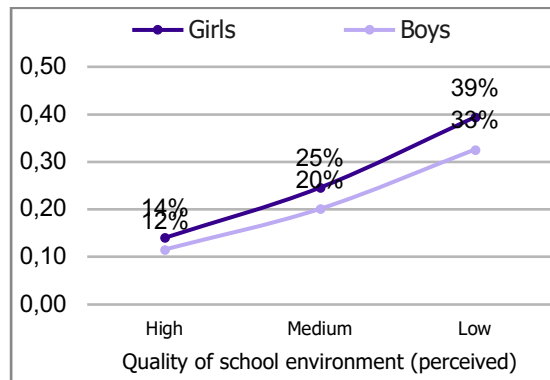


EU Kids Online 2018: QF20-21: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=699).

The intensity of both relationships (the quality of family/school environments versus involvement in aggression as a perpetrator or victim) was stronger for boys than for girls.

Finally, children were also asked how safe they feel online. **All roles in online aggression** (i.e. victim, perpetrator, bystander and helpful bystander) **had weak negative correlations with feeling safe online.**[4] In other words, children engaged in any capacity in online aggression feel less safe online than those who are not involved. Interestingly, this relationship was also true for perpetrators of cyber-aggression.

Furthermore, **the safer children feel online, the lower their odds of mistreating others online** (1% for the 11-12-year-olds and 4% for the 13-14-year-olds). However, the reverse is also true, **children reporting the lowest levels of online safety also have higher chances of engaging in cyber-aggression towards others** (a 38% chance for 11-12-year-olds and a 52% chance for 13-14-year-olds).

# Roles in online aggression and negative user-generated content (NUGC)

**Main points related to NUGC presented in this section:**

- Young people of all ages (11-17) who are cyber-victims have higher chances of encountering at least one type of negative user-generated content (NUGC), compared to those who don't experience online victimisation.

- The relationship between cyber-victimisation and seeing NUGC exists even when young people experienced online aggression "only" a few times (i.e. at least monthly).

- Young people in all three participant roles in online aggression (i.e. victim, perpetrator and bystander) are at least twice as likely to see self-harm or suicide related content com-

Online exposure to negative user-generated content (abbreviation NUGC) is not uncommon. 35% of all adolescents aged 12 to 17 and more than half of girls aged 14 to 17 have visited sites where people discuss or show ways to hurt or otherwise harm themselves physically (self-harm) (Staksrud & Ólafsson, 2019).

In a systematic review of links between cyberbullying (both victimisation and perpetration) and self-harm and suicide ideation, John et al. (2018) have found that **cyber-victims are at a greater risk (than non-victims) for both self-harm and suicidal behaviours**, while cyber-perpetrators are at risk of suicidal behaviours and suicidal ideation (compared with non-perpetrators).

Previous research based on the 2010 EU Kids Online data, found a correlation between cyberbullying experiences and having experience with pro-suicide sites online (Staksrud & Ólafsson, 2016). It is therefore relevant to look at the potential connection between cyberbullying experiences – both as a victim and as a perpetrator – and potential harmful or negative user-generated content.

---

[4] P values between -.074 and -.122, at p<0.05.

The Norwegian questionnaire had several items about young people (aged 11 to 17) encountering online NUGC in the past year, namely:

- Ways of physically harming or hurting themselves
- Ways of committing suicide
- Ways to be very thin
- Hate messages that attack certain groups or individuals (e.g., people of different religion, nationality, or sexuality)
- Their experiences of taking drugs
- Gory or violent images, for example of people hurting other people or animals

For all these items, adolescents were asked if it was their intention to see the content in question or not. For the items related to self-harm and committing suicide, 24% and 33% of adolescents respectively, said it was their intention to see such content. The general findings from the study show how:

- Around one third of Norwegian adolescents have seen websites where people discuss ways of physically harming themselves, older girls significantly more than boys.

- Furthermore, one quarter of Norwegian adolescents have seen websites where people discuss ways of committing suicide, older adolescents (15-17 years-old) more than younger ones (11-13). For more details, basic age and gender distributions can be found in both the Norwegian 2018 report (Staksrud & Ólafsson, 2019) and the international EU Kids Online 2020 report (Smahel et al., 2020).

In this report we further investigate the **connections between experiences of online aggression (as a victim) and experiences with NUGC.** Figure 13 below shows the predicted probabilities for young people (ages 11 to 17) encountering NUGC according to whether they have experienced online victimisation or not.

**Figure 13: Predicted probabilities for adolescents encountering at least one type of negative user-generated content in relation to having been treated in a mean or hurtful way in the past year (11 to 17 year-olds)**
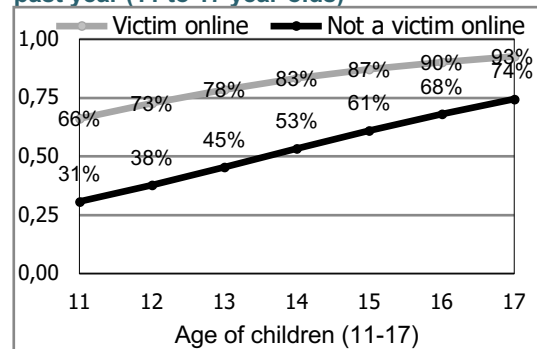


EU Kids Online 2018: QF50 In the PAST YEAR, have you seen online content or online discussions where people talk about or show any of these things? (n=666). EU Kids Online 2018: QF20-21: In the PAST YEAR, has anyone EVER treated you in such a hurtful or nasty way? Via a mobile phone or internet, computer, tablet, etc. [In the PAST YEAR, how often did this happen in any of the following ways?] (n=699).

- A positive significant relationship was revealed: at all ages (11 to 17), **young people who experienced online victimisation were more likely to encounter NUGC.** The differences were greater amongst younger children. An 11-year-old who has not experienced cyber-aggression has a 30% chance of encountering at least one type of NUGC compared to the almost 70% chance of a peer of the same age who has been cyber-victimised.

- Furthermore, **the relationship exists even when the child has been a victim of online aggression "only" a few times** (those victimised either occasionally or at least monthly report seeing content about self-harm and suicide more often).

Next, we identified the proportion of adolescents within the three bullying roles who had seen self-harm and suicide related content. Figure 14 below shows the main scores for both categories for the three roles in cyber-aggression (each one compared with its base non-involvement category). Notably, **all three participant roles have at least twice as high rates of seeing self-harm or suicide related content, compared to non-participants** (e.g. 61% of perpetrators in aggressive incidents have seen ways of hurting themselves versus 29% of those who have not treated others in a hurtful or nasty way online).

**Figure 14: Distribution of seeing self-harm and suicide-related content within the three roles in cyber-aggression (victim, perpetrator, bystander vs the base categories of no involvement in these roles)**
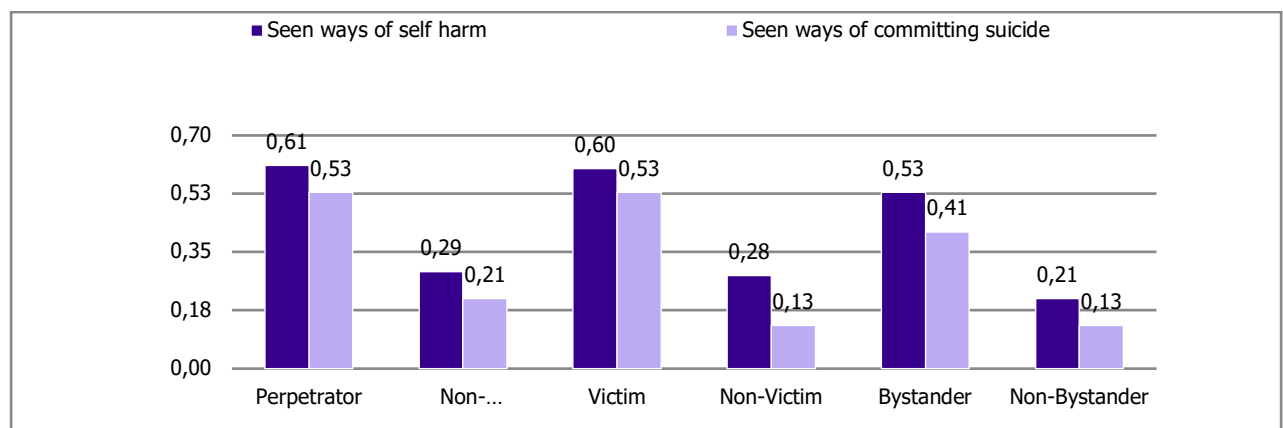


Notes: Figure generated from the 2018 EU Kids Online Norwegian Dataset

# Roles in online aggression and attitudes towards violence

> **Main points about attitudes towards violence:**
>
> · Children and young people who participate as perpetrators in online aggression have the highest scores both for justification of the use of violence for protection, and for power.
>
> · Only the perpetrator role was correlated with the acceptance of the use of violence for power.
>
> · Participation as victim and bystander had moderate scores for the justification of violence for protection.
>
> · Helpful bystanders justify the use of violence less than those who do not help.

Moral disengagement theory (Bandura, 2002) has been used to explain associations of morality with both face to face peer aggression (bullying) and cyber-aggression (Pornani & Wood, 2010). In other words, those involved in aggression use different moral justifications for their actions. Aggression and bullying have been found to be associated with certain kinds of moral reasoning (hereby justification of the use of violence). This is because it helps individuals to avoid feeling guilty (Arsenio, Gold, & Adams, 2006; Malti, Gasser, & Gutzwiller-

Helfenfinger, 2010). As one of the pillars at work in moral disengagement, cognitive restructuring was considered by Bandura (2012) to be used by individuals in order to reframe negative or immoral behaviour in a more positive way through (a) moral justification (seeing the behaviour as warranted, appropriate, or performed in the service of a higher moral purpose) (cf. Hymel & Bonanno, 2014). However, bully-victims might also use moral justifications for their actions. Perren et al. (2012) claim that early experiences of unfair treatment (being victimised) may increase sensitivity towards fairness. Finally, moral disengagement has been linked to passive bystander roles - the more children disengage, the less likely they are to intervene to help the victim (Bonanno & Hymel, 2014).

**EU Kids Online research showed that one of the strongest motivations for children bullying others is revenge for something another child did** (Görzig, 2011; Staksrud, 2013). Similarly, in 2018, revenge was one of the strongest reasons for Norwegian children to act aggressively towards others online (41% of children who reported treating other peers in a hurtful or nasty way in the past year did it for revenge). Other reasons included "it just happened" (31%) and "it was fun" (21%) (Staksrud & Ólafsson, 2019). The questionnaire included a set of items related to the justification of the use of violence (some of them related to retaliation for something the other child did), to which adolescents answered on

a 5-point scale from "strongly agree" to "strongly disagree". The items had the following opening question: [How strongly do you agree or disagree with the following statements?]

a) It is OK to use violence against someone if they start to fight with you first
b) It is OK to use violence against someone if they insult your friends or your family
c) It is OK to use violence because violence is fun
d) It is OK to use violence because this is how people respect you
e) It is OK to use violence if someone makes fun of you or insults you because of your religion, your origin or the colour of your skin
f) It is OK to use violence to solve the problems of the world
g) It is OK to commit terrorist acts.
h) It is OK to use bombs to fight injustice.

A factor analysis of these items revealed two dimensions which explained 63% of the total variance. One dimension grouped the items a, b and e and was related to self-protection, protection of friends and family and reaction to injustice. The other dimension grouped all the remaining items. For the purpose of brevity, the first dimension was named 'Use of violence for protection" and the second dimension was named 'Use of violence for power, status and order'. These two dimensions of justification of the use of violence were entered into analyses with the three roles in cyberbullying. Scores of justification of violence were calculated for the binary categories of involvement in online aggression (1) as perpetrator (2) as victim, (3) as bystander and (4) as helpful bystander (all compared with the non-involvement baseline - NI). Figure 15 reports the mean scores for both dimensions of the justification of violence for these roles.

**Figure 15: Roles in online and face to face aggression (perpetrator, victim, bystander and helpful bystander versus non-involvement) and both types of the justification of violence (for protection and for power)**
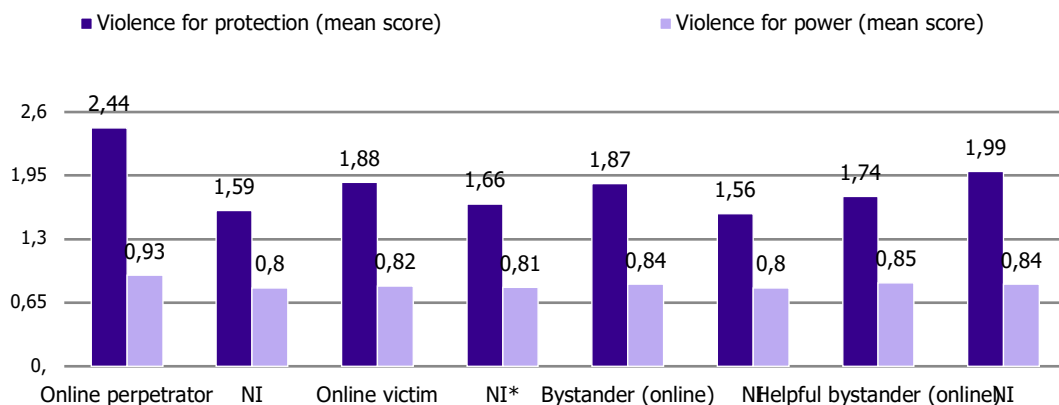


**Notes:** For each category, scores for the binary variable were calculated, e.g. involvement in online aggression as perpetrator versus no involvement (NI). * means no significant difference was found from base category.

The following was observed:

- Children and young people who participate as **perpetrators in online aggression had the highest scores for violence for power, status and order** (low correlations, r values of .160-200, at p<.001).

- **Participation as perpetrator in online aggression also had the highest scores for violence for protection**, suggesting that at least for those involved in

cyber-aggression as both bullies and victims, this might be one of the main moral justifications young people resort to.

- These particularities are in line with previous research suggesting that victims and perpetrators have different cognitive schemas for justifying violence (e.g. reactive versus proactive aggression) (Calvete & Orue, 2010).

- The **victim and bystander roles had moderate scores for the use of violence for protection**, in line with previous research which suggests victims might

experience more sensitivity towards justice and fair treatment (Perren et al., 2012). These experiences of unfair treatment (being victimised, noticing others being victimised) might explain why victims tend to score highly with regard to the justification of violence for self-protection.

- The **helpful bystander role correlated negatively with the use of violence for protection**.

---

Young people who mistreat others online primarily justify the use of violence for power, status and restoring order

---

## Roles in online aggression and emotional symptoms

Main points about emotional symptoms:

- Children and young people who participate as perpetrators in online aggression had the highest scores for negative emotional symptoms.

- All roles in online aggression had higher scores for emotional symptoms (compared to non-involvement - NI categories)

Peer victimization has been identified as a risk factor for depressive symptoms (Burke, Sticca & Perren, 2017); conversely, depressive symptoms have been identified as a risk factor for later victimisation (Reijntjes et al. 2010). Therefore, Norwegian children were asked about a range of emotional symptoms they might experience. A 4-point scale (1- not true;

4-very true) was used to measure the following:

- I worry a lot;
- I am nervous in certain new situations; I easily lose confidence;
- I get a lot of headaches, stomach aches or sickness;
- I am often unhappy, sad or tearful;
- I have many fears and I am easily scared. [How true are these of you?]

Emotional symptoms were observed for all roles in online aggression, compared with non-involvement in the respective roles. The following was observed (see figure 16 for details):

- **All roles in online aggression had higher scores for emotional symptoms** compared with the base category of non-involvement in the respective role (NI).

- **Participation as perpetrator in online aggression had the highest score for emotional symptoms** (compared with the base non-involvement category).

---

Young people involved in online aggression have higher emotional symptoms than those who are not involved

---

**Figure 16: Roles in online and face to face aggression (perpetrator, victim, bystander and helpful bystander versus no involvement) and their scores for emotional symptoms**
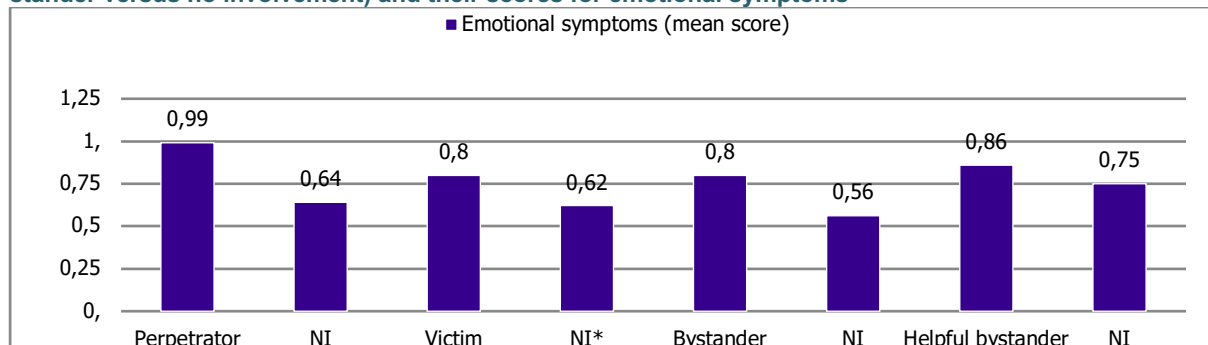


**Notes**: For each category, scores for the binary variable were calculated, e.g. involvement in online aggression as perpetrator versus no involvement (NI). Bystander and helpful bystander roles were asked only about participation in online experiences. All differences from base categories (NI) were significant at p<.01.

# Predicting roles in online aggression

**Main points in this section:**

- Common predictors for all main roles in online aggression (i.e. victim, perpetrator, bystander) include reporting emotional and experiencing less safety online.

- A supportive family environment was a negative predictor for being a perpetrator and bystander in aggressive online incidents. However, being a victim was correlated with a less supportive family climate.

- A lack of peer support predicted being a cyber-victim. However, both a lack of peer support and experiencing peer relationship problems were connected to being a cyber-perpetrator.

- Justifying the use of violence for protection was a predictor for all main roles, whereas justifying the use of violence for power, status and maintaining order was characteristic of the perpetrator role only.

- Preferring online communication was a common predictor for all main roles in online aggression.

- The prosocial behaviour score was a positive predictor for young people's propensity to help the victims of cyber-aggression. However, its effect was cancelled by the number of witnesses to the event, i.e. the higher the number, the less likely children were to intervene.

Regression models were computed for all roles in online aggression, taking into account the following independent variables:

- age, gender;
- preference for online communication;
- justification of the use of violence;
- peer support;
- quality of the family environment;[5]
- young people's feelings of safety online;
- emotional symptoms score.

For the helpful bystander role, the Prosocial scale and the number of witnesses to the online aggressive incident were used. Tables 1, 2, 3, and 4 in the Annex present the regression models for each role.

Throughout different stages of the model, being a girl, the justification of violence for protection, preference for online communication, feeling less safe online and a lack of peer support predicted being a victim in online aggression incidents. In the final model, the significant **factors predicting the likelihood of young people being cyber-victimised** were: (**a**) **a preference for online communication** (this increased the probability by 13%); and, **(b) a lack of online safety** (which raised the chance of being victimised by 40%). Finally, **older children who reported more emotional problems** were slightly more likely to be victims (a 5% increase).

Being a perpetrator in incidents of online aggression, being a boy, the justification of violence for power, status and restoring order, as well as a preference for online communication, lower feelings of safety online and a lower quality of family environment were significant in different stages of the model. In the final model, the significant **factors predicting the likelihood of young people being cyber-perpetrators** were: **(a) being a boy, (b) justification of the use of violence for power, status and order** (2,5 times more likely to be perpetrators) **(c) preference for online communication; and (d) lack of online safety** (increased the chance of being a perpetrator by 58%). Finally, **older children who report more emotional problems** were slightly more likely to be perpetrators (by 3,6%). Interestingly, the factor which mattered most in the model was the feeling of a lack of safety online.

> Lack of online safety is a common predictor for all main roles in cyber-aggression

Being a witness to online aggression was characterised by older age, the justification of violence for protection, preference for online communication, feelings of less safety online and more emotional symptoms.In the final model, the significant **factors predicting the likelihood of young people being bystanders** were: **(a) being older, (b) justification of the use of violence for protection** (48% more

---

[5] The quality of school environment correlated strongly with the quality of the family environment, which caused multicollinearity problems in the model.

likely to be witnesses) **(c) preference for online communication (d) lack of online safety** (increased chance of being a witness by 30%) and **(e) more emotional symptoms** (increased odds by 4,9%).

Finally, we looked at predictors of helpful behaviour in an online aggression incident (i.e. helping the victim of cyber-aggression). In the first model, a younger age and being a girl predicted such behaviour (twice as likely for a girl to help than for a boy). In the second step, the prosocial behaviour score was added, and this resulted in a 65% higher chance for a young person being helpful (at every addition on the scale). However, **when the number of witnesses to the cyber-aggression incident was added, this lowered the chance of intervening by 42%.** Finally, **the number of witnesses also "cancelled" the effect of prosocial behaviour,** as this became insignificant in the final model. Our results are consistent with previous research which noticed the effect of the number of bystanders or witnesses (Brody & Vangelisti, 2016).

## Conclusions

This report presents research about young Norwegians' experiences with online aggression and different roles in peer-to-peer incidents. These include the victim, perpetrator and/or bystander roles. The first section details the age and gender distribution for these three roles and the helpful bystander role, i.e. trying to help a victim in an aggressive incident online.

The next section presents overlapping roles in cyber-aggression. Between 47% and 67% of young people aged 9-17 are likely to be bully-victims, treating others in a hurtful or mean way online if they have been victimised themselves or vice versa (Gámez-Guadix, Gini, & Calvete, 2015).

The following sections deal with a series of individual and social factors which influence involvement in cyber-aggression including emotional symptoms, the quality of peer relationships, prosocial behaviour, family and school climates, feelings of safety online, attitudes towards violence and encountering negative user-generated content (NUGC).

**In general, poorer-quality online, family and school environments, peer relationships and emotional well-being, increase the chances of young people being involved in cyber-aggression both as victims and perpetrators**. A tendency for negative experiences to overlap, in this case experiencing cyber-bullying and encountering suicide and self-harm sites was also confirmed by our study (see John et al., 2018).

In the final section, prediction models are computed for all four roles in online aggression. We show that:

Girls are more likely to be cyber-victims, as are those who prefer online communication, who feel less safe online and who report more emotional symptoms. Justification of violence for protection and lack of peer support are also significant in different stages of the model.

Boys are more likely to be cyber-perpetrators, as are those who prefer online communication, who justify the use of violence for power, who feel less safe online and who report more emotional symptoms. A supportive family climate was also significant in the model.

Older children are more likely to witness (or be bystanders to) online aggression, as are those who justify the use of violence for protection, who prefer online communication, who feel less safe online and display more emotional symptoms.

Girls try to help cyber-victims even if they themselves have not have been victimised online. Boys only try to help if they have been victims themselves.

Finally, our results confirm previous research about the "bystander effect". Being a helpful bystander was predicted solely by the number of witnesses. More witnesses decreased the likelihood of young people intervening on behalf of the victim. In earlier stages, being a girl and younger were also significant. Displaying prosocial behaviour was significant but its effect was cancelled in the final model.

# Recommendations for policy and practice

1. This report presents research findings from Norway about young people's experiences with bullying and aggression online. Our research invites the field to look at the different roles children and youth can have in bullying and aggressive communication, as bullies, victims and bystanders. Importantly our findings confirm previous research pointing to how roles in cyber-aggression are interconnected. There is a 67% chance for boys and 47% chance for girls to become cyber-aggressors if they themselves have been victims of online aggression at least monthly in the past year. We also find how factors such as age, gender, agency, home and school environments can give explanatory power when trying to understand which children and youth are at risk of harm from bullying and online aggression. Against this background, **acknowledging the complexity of peer-to-peer online aggression**, such as the overlap of victimisation and perpetration, **we recommend a move from individualistic solutions and towards systemic and socially oriented solutions**

2. Both individual and social factors connected to online aggression (experienced in any capacity) reveal a tendency of "less is less", the lesser the resources, the more aggression young people experience online. This includes factors such as psychological or attitude traits, or social conditions such as family, school and online climates, and the quality of peer relationships. **Paying attention to foster nurturing social climates, in addition to building individual resilience and emotional intelligence is crucial**.

3. There is a significant overlap between online victimisation and perpetration. This seems to be partly linked to the justification of the use of violence for **self-protection** by victims, perpetrators and bystanders alike. Justifying the use of violence for **power** was only relevant in the case of perpetrators. Practitioners should look into how young people rationalize the use of violence for protective and self-aggrandizing purposes and **help them develop and internalize alternative strategies for coping and protection**.

4. Feeling safe online was a key variable that was significant in all types of involvement. While most Norwegian children express feelings of being safe online, **the lower the feeling of safety online, the higher the likelihood of having been involved in online aggression**. Importantly, the safer children feel online, the lower their odds of mistreating others online (1% for the 11-12-year olds and 4% for the 13-14-year olds). While lower feelings of safety online can result from online aggression and bullying experiences, **policy should enable practitioners and others to help ensure and cultivate children's digital and proactive coping skills, thus empowering them online**.

5. Peer support is relevant for all types of participants in cyber-aggression: the lesser the quality and the support from peers, the higher the chances of being involved in aggression. **Educators and others working with groups of children should seek to cultivate a supporting and respectful atmosphere and** help to provide practical guidelines and rules for what is acceptable peer-to-peer communication. In addition, we recommend that schools regularly check not only for bullying experiences, but also if children feel safe in the different environments in which they interact.

6. As we know from previous research **online aggression and bullying can spiral from "regular" communication** intended for testing boundaries. This can lead to bully-victim roles for all parties. The capacity to explore misunderstandings and "humour" should be developed as interpersonal communication skills and **practical tools for early**

**conflict resolution strategies between peers**.

7. Practitioners should pay attention to the bystander effect and train young people to recognise and intervene in situations where victimisation occurs, especially when wide audiences are involved. **Preparing young people to team up and stand up for one another against aggressive behaviour** and not to just assist passively **might make the difference between someone developing resilience or experiencing significant harm**.

8. Many children and youth report emotional problems and harm after experiences with digital bullying and aggression. We also know that digital bullying predicts and is connected to other negative online risk experiences. Practitioners should be informed about the balance between resilience and vulnerability, as some individual (e.g. emotional symptoms, sensation-seeking) and social conditions (lack of peer support, less supportive school environments) converge in the digital landscape to produce threatening online spaces where young people experience a lack of online safety. In order to make targeted and effective interventions that can help the victims and deter the perpetrators more effort is needed to **identify those children that are at risk of harm, and those who are not.**

9. Being a victim of online aggression increases the chances of seeing negative user-generated content (NUGC), especially seeing sites showing suicide-related content and ways to engage in self-harming behaviour. All main roles in online aggression, i.e. victim, perpetrator and bystander, reported higher scores for emotional symptoms (compared to non-involvement). Practitioners working with vulnerable children and children that have been or are involved in online aggression, **should pay attention to the potential use of harmful user generated content by bullies and victims**.

10. Finally, the connection between experiences of online aggression and home, school (specifically unsafe homes and unsafe school environments as reported by young people) and online environments raises concern. In our research (also pertaining to other risks such as active sexting), aggressive and unwanted behaviour were predicted in less safe home and school environments. In order to help children and youth rather than criminalize them, policy interventions should **consider the complexities of online risk experiences and behaviour among children and youth, rather than treating the online environment and bullying as isolated incidents of deviant and aggressive individual behaviour**.

# References

- Arsenio, W. F., Gold, J., & Adams, E. (2006). Children's conceptions and displays of moral emotions. In M. Killen & J. Smetana (Eds.), Handbook of moral development (pp. 581–609). Mahwah, N.J.: Lawrence Erlbaum.
- Bonanno, R. A., & Hymel, S. (2014, March). Witnessing bullying and moral disengagement: A formula for behaving badly. Paper presented at the biennial meeting of the Society for Research on Adolescence, Austin, Texas.
- Bowes, L., Maughan, B., Caspi, A., Moffitt, T. E., & Arseneault, L. (2010). Families promote emotional and behavioural resilience to bullying: Evidence of an environmental effect. Journal of Child Psychology and Psychiatry, 51, 809-817.
- Brody, N. & Vangelisti, A.L. (2016) Bystander Intervention in Cyberbullying, Communication Monographs, 83(1): 94-119, DOI: 10.1080/03637751.2015.1044256
- Bandura, A. (2002). Selective moral disengagement in the exercise of moral agency. Journal of Moral Education, 31(2), 101–119.
- Burke, T., Sticca, F., & Perren, S. (2017). Everything's Gonna be Alright! The Longitudinal Interplay among Social Support, Peer Victimization, and Depressive Symptoms. Journal of youth and adolescence, 46(9): 1999-2014.
- Calvete, E., & Orue, I. (2010). Cognitive schemas and aggressive behavior in adolescents: the mediating role of social information processing. Span J Psychol., 13(1):190-201. doi: 10.1017/s1138741600003772.
- Craig, W. M., Pepler, D., & Atlas, R. (2000). Observations of bullying in the playground and in the classroom. School Psychology International, 21, 22-36. https://doi.org/10.1177/0143034300211002
- Görzig, A. (2011). Who bullies and who is bullied online? A study of 9–16 year old internet users in 25 European countries EU Kids Online. London: LSE. http://eprints.lse.ac.uk/39601/1/Who%20bullies%20and%20who%20is%20bullied%20online%20%28LSERO%29.pdf
- Hymel, S., & Bonanno, R.A. (2014). Moral Disengagement Processes in Bullying. Theory into practice, 53(4): 278-285.
- John, A., Glendenning, A. C., Marchant, A., Montgomery, P., Stewart, A., Wood, S., Lloyd, K., & Hawton, K. (2018). Self-Harm, Suicidal Behaviours, and Cyberbullying in Children and Young People: Systematic Review. Journal of medical Internet research, 2018-04-19, Vol.20 (4), 129-141.
- Kofoed, J., & Staksrud, E. (2019). 'We always torment different people, so by definition, we are no bullies': The problem of definitions in cyberbullying research. New Media & Society, 21(4), 1006-1020. doi:10.1177/1461444818810026
- Livingstone, S., Haddon, L., Görzig, A. & Ólafsson, K. (2011). Risk and safety on the internet: The perspective of European children. Full findings. London: EU Kids Online, LSE. Available at: http://eprints.lse.ac.uk/33731/1/Risks%20and%20safety%20on%20the%20internet%28lsero%29.pdf
- Livingstone, S., Mascheroni, G., & Staksrud, E. (2018). European research on children's internet use: assessing the past and anticipating the future. New Media and Society, 20(3): 1103-1122.
- Kamalou, S., Shaughnessy, K., & Moscovitch, D. (2016). Does Level of Safety Matter? Online vs. Offline Safety Behaviours in Social Anxiety. Personality and individual differences, 101: 487-487.
- Kendrick, K., Jutengren, G., & Stattin, H. (2012). The protective role of supportive friends against bullying perpetration and victimization. Journal of adolescence (London, England.), 2012, Vol.35 (4), p.1069-1080
- Malti, T., Gasser, L., & Gutzwiller-Helfenfinger, E. (2010). Children's interpretive understanding, moral judgments, and emotion attributions: Relations to social behaviour. British Journal of Developmental Psychology, 28(2), 275–292.
- Olweus, D. (1994). Bullying at school: Basic facts and effects of a school based intervention program. Journal of Child Psychology and Psychiatry, 35(7), 1171–90. https://doi.org/10.1111/j.1469-7610.1994.tb01229.x
- Paluck, E. L., & Shepherd, H. (2012). The salience of social referents: A field experiment on collective norms and harassment behavior in a school social network. Journal of Personality and Social Psychology, 103, 899-915. https://doi.org/10.1037/a0030015
- Perren, Sonja ; Gutzwiller-Helfenfinger, Eveline ; Malti, Tina ; Hymel, Shelley (2012). Moral reasoning and emotion attributions of adolescent bullies, victims, and bully-victims. British journal of developmental psychology, 30 (4): 511-530.
- Pornari, C. D., & Wood, J. (2010). Peer and cyber aggression in secondary school students: The role of moral disengagement, hostile attribution bias, and outcome expectancies. Aggressive Behavior, 36(2): 81–94.
- Rasalingam, A., Clench-Aas, J., & Raanaas, R. K. (2017). Peer Victimization and Related Mental Health Problems in Early Adolescence: The Mediating Role of Parental and Peer Support. The Journal of early adolescence, 2017-10, Vol.37 (8): 1142-1162.
- Reijntjes, A., Kamphuis, J., Prinzie, P., & Telch, M. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. Child abuse & neglect. 34. 244-52. 10.1016/j.chiabu.2009.07.009.
- Salmivalli, C., Lagerspetz, K. M. J., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. Aggressive Behavior, 22, 1-15.

https://doi.org/10.1002/(SICI)1098-2337(1996)22:1<1::AID-AB1>3.0.CO;2-T

- Schultze-Krumbholz, A., Hess, M., Pfetsch, J., & Scheithauer, H. (2018). Who is involved in cyberbullying? Latent class analysis of cyberbullying roles and their associations with aggression, self-esteem, and empathy. Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 12(4), Article 2. https://doi.org/10.5817/CP2018-4-2
- Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S., & Hasebrink, U. (2020). EU Kids Online 2020: Survey results from 19 countries. EU Kids Online. Available at: https://www.hf.uio.no/imk/english/research/projects/eu-Kids-online-IV/publications/2020/eukids2020report_final.pdf
- Staksrud, E. (2013). Digital mobbing: Hvem Hvor, Hvordan, Hvorfor – og hva kan voksne gjøre? Oslo: Kommuneforlaget. Staksrud, E. (2018). EU Kids Online Norway [data collection]. Department of media and communication, University of Oslo.
- Staksrud, E., & Ólafsson, K. (2016). Hva kjennetegner europeiske barn som har erfaring med nettsider hvor folk diskuterer måter å ta sitt eget liv på? Suicidologi, 21(2), 36-43.
- Staksrud, E. & Ólafsson, K. (2019). Tilgang, bruk, risiko og muligheter. Norske barn på Internett. Resultater fra EU Kids Online-undersøkelsen i Norge 2018. EU Kids Online and Department of media and communication, University of Oslo.https://www.hf.uio.no/imk/forskning/prosjekter/eu-kids-iv/rapporter/

# Annex

**Table 1. Logistic regression predicting the victim role in online aggression (all children 9-17 years old)**

| | Step 1 | | | Step 2 | | | Step 3 | | | Step 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) |
| Constant | -2,536(0,91) | 7,806** | | -3,807(0,985) | 14,943*** | 0,022 | -0,026(1,38) | 0,000 | 0,975 | -0,009(1,416) | 0,000 | |
| Age | 0,05 (0,06) | 0,699 | 1,052 | 0,029(0,062) | 0,213 | 1,029 | 0,024(0,064) | 0,139 | 1,024 | -0,131(0,076) | 2,996 | 0,877 |
| Girls compared with boys | 0,38(0,21) | 3,086 | 1,463 | 0,6(0.24) | 6,257* | 1,821 | 0,607(0,251) | 5,842* | 1,836 | 0,042(0,286) | 0,022 | 1,043 |
| Use of violence for personal and family protection | | | | 0,279(0,133) | 4,373* | 1,322 | 0,263(0,14) | 3,515 | 1,300 | 0,158(0,146) | 1,172 | 1,171 |
| Preference for online communication | | | | 0,184(0,055) | 11,306** | 1,202 | 0,159(0,056) | 7,97** | 1,172 | 0,126(0,058) | 4,736* | 1,134 |
| Family environment (perceived) | | | | | | | -0,064(0,21) | 0,091 | 0,938 | 0,115(0,217) | 0,279 | 1,122 |
| Safety online (perceived) | | | | | | | -0,561(0,168) | 11,201*** | 0,570 | -0,482(0,174) | 7,700** | 0,618 |
| Peer support scale (perceived) | | | | | | | -0,426(0,17) | 6,277* | 0,653 | -0,261(0,174) | 2,254 | 0,770 |
| Age by Emotional problems Scale | | | | | | | | | | 0,053(0,012) | 18,212*** | 1,054 |
| **Nagelkerke R Square** | 0,010 | | | 0,057 | | | 0,115 | | | 0,162 | | |
| **-2 Log likelihood** | 556,296[a] | | | 538,626[a] | | | 516,034[a] | | | 497,217[a] | | |

Notes: Gender 0 = boys, 1 = girls, * p < .05, ** p < .01, *** p < .001.

## Table 2. Logistic regression predicting the perpetrator role in online aggression (all children 9-17 years old)

| | Step 1 | | | Step 2 | | | Step 3 | | | Step 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) |
| Constant | -3,684(1,354) | 7,399** | | 1,589(14,894) | 17,489*** | | 0,266(2,165) | 0,015 | | 0,1(2,172) | 0,002 | |
| Age | 0,097(0,09) | 1,166 | 1,102 | 0.01(0,94) | 1,146 | 1,106 | 0,091(0,099) | 0,851 | 1,096 | -0,001(0,111) | 0,000 | 0,999 |
| Girls compared with boys | -0,767(0,345) | 4,938* | 0,465 | -0,532(0,321) | 2,216 | 0,584 | -0,692(0,384) | 3,244 | 0,500 | -1,055(0,438) | 5,812* | 0,348 |
| Use of violence for power, status and restoring order | | | | 1,111(0,421) | 6,695** | 3,037 | 0,947(0,447) | 4,483* | 2,577 | 0,945(0,45) | 4,412* | 2,572 |
| Preference for online communication | | | | 0,329(0,81) | 16,564*** | 1,389 | 0,319(0,087) | 13,515*** | 1,375 | 0,301(0,087) | 12,03*** | 1,352 |
| Family environment (perceived) | | | | | | | -0,658(0,28) | 5,51** | 0,518 | -0,534(0,28) | 3,640 | 0,586 |
| Safety online (perceived) | | | | | | | -0,899(0,26) | 12,013*** | 0,407 | -0,864(0,264) | 10,745*** | 0,422 |
| Peer support scale (perceived) | | | | | | | -0,379(0,241) | 2,481 | 0,684 | -0,296(0,241) | 1,513 | 0,744 |
| Age by Emotional problems Scale | | | | | | | | | | 0,035(0,018) | 3,875* | 1,036 |
| **Nagelkerke R Square** | 0,027 | | | 0,122 | | | 0,225 | | | 0,239 | | |
| **-2 Log likelihood** | 295,362a | | | 272,391a | | | 246,335a | | | 242,545a | | |

Notes:  Gender 0 = boys, 1 = girls, * p < .05, ** p < .01, *** p < .001.

**Table 3. Logistic regression predicting the bystander role in online aggression (all children 9-17 years old)**

| | Step 1 | | | Step 2 | | | Step 3 | | | Step 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) |
| Constant | -4,149(0,724) | 32,868*** | | -5,91(0,821) | 51,779*** | | -4,944(1,147) | 18,595*** | | -5,414(1,184) | 20,911*** | |
| Age | 0,26(0,048) | 29,393*** | 1,297 | 0,25(0,05) | 25,471*** | 1,284 | 0,236(0,05) | 22,046*** | 1,267 | 0,122(0,057) | 4,641* | 1,130 |
| Girls compared with boys | -0,029(0,169) | 0,029 | 0,972 | 0,259(0,188) | 1,890 | 1,296 | 0,204(0,194) | 1,103 | 1,226 | -0,23(0,221) | 1,083 | 0,794 |
| Use of violence for power, status and restoring order | | | | 0,391(0,11) | 12,568*** | 1,478 | 0,423(0,113) | 13,897*** | 1,526 | 0,393(0,117) | 11,329*** | 1,482 |
| Preference for online communication | | | | 0,212(0,046) | 20,939*** | 1,236 | 0,21(0,047) | 19,74** | 1,233 | 0,192(0,048) | 15,76*** | 1,212 |
| Family environment (perceived) | | | | | | | 0,118(0,177) | 0,441 | 1,125 | 0,275(0,188) | 2,136 | 1,316 |
| Safety online (perceived) | | | | | | | -0,406(0,139) | 8,479** | 0,667 | -0,339(0,142) | 5,673* | 0,713 |
| Peer support scale (perceived) | | | | | | | 0,053(0,144) | 0,136 | 1,055 | 0,195(0,15) | 1,697 | 1,215 |
| Age by Emotional problems Scale | | | | | | | | | | 0,048(0,011) | 19,111*** | 1,049 |
| **Nagelkerke R Square** | 0,027 | | | 0,122 | | | 0,225 | | | 0,239 | | |
| **-2 Log likelihood** | 295,362a | | | 272,391a | | | 246,335a | | | 242,545a | | |

Notes:  Gender 0 = boys, 1 = girls, * p < .05, ** p < .01, *** p < .001.

**Table 4. Logistic regression predicting the chances of a bystander helping in online aggression (all children 9-17 years old)**

| | Step 1 | | | Step 2 | | | Step 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | B | Wald | Exp(B) | B | Wald | Exp(B) | B | Wald | Exp(B) |
| Constant | 1,809(0,989) | 3,343 | | 0,002(1,127) | 0,000 | | 2,043(1,387) | 2,169 | |
| Age | -0,157(0,067) | 5,591* | 0,854 | -0,139(0,061) | 5,08* | 0,871 | -0,092(0,073) | 1,586 | 0,912 |
| Girls compared with boys | 0,667(0,282) | 5,583* | 1,948 | 0,437(0,271) | 2,601 | 1,548 | 0,513(0,314) | 2,662 | 1,670 |
| Prosocial behaviour scale | | | | 0,506(0,254) | 3,967* | 1,659 | 0,314(0,296) | 1,121 | 1,369 |
| Number of witnesses to the online aggression | | | | | | | -0,537(0,105) | 26,428*** | 0,584 |
| **Nagelkerke R Square** | 0,066 | | | 0,154 | | | 0,236 | | |
| **-2 Log likelihood** | 285,512a | | | 272,237a | | | 254,601a | | |

Notes:  Gender 0 = boys, 1 = girls, * p < .05, ** p < .01, *** p < .001.