Empathy Suppressing the Facilitative Effects of Anonymity on Cyberbullying

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Studies on bullying in youth have provided evidence suggesting anonymity being associated with higher rates of bullying while empathy is associated with inhibiting it. The purpose of the proposed study is to test whether priming empathy suppresses the facilitative effects of anonymity on cyberbullying participation. Approximately 500 adolescents, aged 14-17, from a district school board will be recruited for the study. Participants would view an empathy eliciting video and then decide whether to post a hurtful message about another peer or delete the message; the posting will either be anonymous or public. It is expected that empathy will mitigate the effects of anonymity, overall reducing participation in cyberbullying. For those primed with empathy who still participate in cyberbullying, reaction time is expected to be longer due to executive decision-making processes being activated, while those who decide to delete will have faster reaction times due to the executive processes.

Olweus (1993) defines bullying as repeated negative and aggressive actions by one or more individuals where there is an imbalance of power or strength. When defining cyberbullying, most researchers have defined it broadly as bullying through electronic communication media (Li, 2008). Cyberbullying is predicted by a number of factors, such as intentions to harm, moral disengagement, positive attitudes towards cyberbullying, as well as lack of social, empathic and coping skills (DeSmet, Bastiaensens, Van Cleemput, Poels, & Vandenbosh, 2016).

Bystanders of cyberbullying can be grouped into assertive bystanders, who take action to stop the bullying, or participating bystanders, who pass on the information and contribute to the cyberbullying cycle (Cappadocia, Pepler, Cummings, & Craig, 2012). For both online and face-to-face bullying, bystanders are key to the continuation and harmful impact of the bullying activity. In one study, 217 middle school students read a story describing cyberbullying or face-to-face bullying (Gini, Pozzoli, Borghi, & Franzoni, 2008). In the stories, bystanders either acted pro-socially, negatively, or ignored the situation. The students were then asked how safe they would feel if other students at their school experienced these bullying scenarios. Most students reported that the bystanders who did nothing or participated in bullying were acting antisocially. Students also reported they would feel decreased levels of safety at school if bystanders did not positively intervene in bullying. This effect was also observed in cyberbullying that occurred off school property.

The goal of the proposed study is to examine two key influences of cyberbullying behaviour by assessing the contrasting effects of anonymity and empathy. For both cyberbullying and face-to-face bullying, empathy is a key deterrent (Machackocc & Pfetsch, 2016). Individuals with higher levels of empathy are more likely to act pro-socially (Ramsoy, Skoy, Macoveanu, Siebner & Forgaard, 2015). In contrast, research on online anonymity has demonstrated that individuals are more likely to post negative content when they believe their identity is hidden (Wright,

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The current proposed study would examine the established relationships of empathy and anonymity separately and together to understand which factor plays a stronger role in affecting bullying behaviour.

**Empathy and Cyberbullying**

Empathy consists of two different components. Cognitive empathy is the ability to understand the attitudes, emotions, and intentions of others. Affective empathy is the ability to readily sense and experience the emotions of others (Barlinska, Szuster, & Winiewski, 2015). Both forms of empathy are highly correlated and are present in both online and face-to-face bullying situations (Machackoce & Pfetsch, 2016). In an fMRI study, affective empathy resulted in increased activity in the limbic system, which is involved in emotional processing (Nummenmaa, Hirvonen, Parkkola, & Hietanen, 2008). Furthermore, affective empathy has shown increased activation in the somatic, sensory, and motor regions of the brain, indicating a full-bodied emotional experience. Cognitive empathy was also shown to engage mirror neurons which lead to cognitive mirroring, involving brain activation to experience the similar emotions of the other individual (Nummenmaa, Hirvonen, Parkkola, & Hietanen, 2008). Together, these findings suggest that others’ emotional states are a strong cue for our own emotional understanding, and activate the brain regions associated with these feelings. These cognitive processes can be associated with the strong effect of empathy on bullying behaviour.

The findings from the fMRI study demonstrating the cognitive changes associated with cognitive and affective empathy are further supported by studies on behavioural reaction times in empathetic individuals in social situations. In a study by Ramsoy and colleagues (2015), participants were given a prisoner’s dilemma, in which they had the choice to cooperate with or defect on their partner. Cooperating entails statements of innocents for both the individual and their partner, while defecting is stating that the partner is guilty. If both partners cooperate, the reward is higher. If the individual defects and the other cooperates the rewards are higher for the participant who defected. Those with a high Empathy Quotient (EQ) decided to cooperate faster than individuals with low EQs. For those who defected, low EQ participants decided to defect faster than high EQ participants. Individuals primed with empathy make quicker prosocial choices than those not primed with empathy. Overall, these results demonstrate that empathy affects the speed at which individuals decide to cooperate in socially-driven situations.

Several correlational and experimental studies have shown that empathy is associated with reduced bullying behaviour and increases positive bystander behaviour. In a study conducted by Machackova and Pfetsch (2016), students aged 12-18 filled out self-report measures on their online bullying activity, and then filled out the Basic Empathy Scale. The researchers found that empathy strongly predicted bullying and supportive bystander behaviours online. Those with higher empathy scores engaged in less cyberbullying behaviour and were more likely to report standing up for victims when witnessing cyberbullying. Similarly, Abbott and Cameron (2014) asked students aged 11-13 to read bullying scenarios and answer how they would respond if they were in a similar situation. The researchers had the students fill out the Bryant’s Index of Empathy for Children and Adolescents, which is a questionnaire that measures empathy within children and adolescents. The research found that individuals who scored high on the empathy scale were more likely to report assertive bystander behaviour online, decreased participation in bullying, and decreased initiation of bullying.

Freis and Gurung (2013) conducted an analysis using Facebook’s messaging system to
test whether there is a relationship between empathy and the type of conversations individuals have online. Participants were instructed to communicate with two confederates on Facebook about a randomly chosen topic. During the conversation, one of them began verbally insulting the other. The study found that participants who had previously scored high on an empathy measure were more likely to either change the topic of conversation back to the original topic, or stand up for the victim. On the contrary, those who scored very low on the empathy measure were more likely to join in on the bullying or to refrain from intervening. Overall, these correlational analyses between empathy and cyberbullying have shown a significantly strong association between reduced cyberbullying with higher levels of empathy.

In order to study the relationship between empathy and cyberbullying experimentally, Barlinska, Szuster and Winiewski (2013) primed individuals with empathy and then placed them in a cyberbullying situation. Participants watched a short film that documented the cognitive, emotional and behavioural effects of cyberbullying on a young girl. This video had been shown to reliably induce feelings of empathy in participants. After watching the video, participants were given the choice to either participate in cyberbullying by sharing a rude message about a peer which was sent to them online with the class, or delete the message. The message was originally made by the researchers and comprised of a photo of a young man’s face on a dog’s body and a rude, mocking message written underneath it. The results showed that when primed with empathy, students aged 12 to 17 years old were less likely to participate in cyberbullying compared to controls who posted messages with their name attached. The researchers then repeated this procedure, but with an added time manipulation. The students were either provided cyberbullying opportunity immediately after watching the video or after a one-week delay (Barlinska, Szuster, & Wineiowski, 2015). The results showed that the empathy priming reduced the participation in cyberbullying condition. Those who had a one-week delay showed similar levels of cyberbullying as the no empathy control students. Overall, both correlational and experimental studies have shown that high levels of empathy are associated with reduced levels of cyberbullying behaviour (Freis & Gurung, 2013).

Anonymity and Cyberbullying

Anonymity is among one of the strongest factors associated with increased motivation for cyberbullying (Wright, 2013). It is associated with increased confidence of a bully because it decreases the likelihood of getting caught by an authority figure, and makes it more difficult for a victim to retaliate (Wright, 2013). Wright (2013) found that those who believed they were anonymous online showed higher disregard for the real-life implications of cyberbullying, more confidence in not being reprimanded, and more overall cyber aggression, even when not directed at an individual. Similar studies have found that anonymity is strongly related to positive attitudes about cyberbullying for the same reasons (Barlett, Gentile, & Chew, 2016). For example, individuals who know they are anonymous online believe they are not causing as much harm and are not causing any long-term effects. Barlett (2016) also found that anonymity strongly correlates with the number of messages sent online and with the aggressive content in those messages. When an individual believes they are anonymous, the number of messages and their level of aggression increases compared to controls who post messages with their name attached. These effects are also seen in subsequent cyberbullying behaviour, since beliefs of anonymity have also been found to predict future cyberbullying activity (Barlett et al., 2016).

Overall the findings discussed from multiple studies show consistent patterns of
cyberbullying behaviour when empathy and anonymity are manipulated. Those with higher levels of empathy, or those primed with feelings of empathy, show more prosocial behaviour and are less likely to engage in bullying behaviour (Barlinska, Szuster, & Wineiwski, 2015). Anonymity, in contrast, lead to increased levels of individuals supporting or engaging in bullying behaviour (Barlett et al., 2016).

The Current Study

Both empathy and anonymity show effects on cyberbullying behaviour. The purpose of the proposed study is to identify these effects and analyse which process shows more significant changes in behaviour. Within the literature, bullying factors such as anonymity, are reviewed individually. This proposed study will compare two of the factors linked most consistently to bullying in order to understand which yields the strongest effect on bullying behaviour. It is hypothesized that empathy is stronger due to its cognitive basis; anonymity isn’t cognitive at all as far as we know. If this is the case, empathy will suppress the increasing effect of anonymity on bullying. This proposed study will examine four hypotheses. It is expected that empathy will be associated with reduced participation in cyberbullying and that posting anonymously will be associated with an increase cyberbullying participation. It is also expected that empathy priming will mitigate the effects of anonymity, overall reducing participation in cyberbullying. Lastly, those primed with empathy who still participate in cyberbullying will have slower reaction times due to decision-making processes being activated, while those who decide to delete the message will have significantly faster reaction times.

Methods

Participants

Approximately 500 participants aged 14 to 17 from a district school board would participate in this study. A participation rate of 80% is required from each class within each school to allow for even gender, ethnicity, and socioeconomic ratios.

Measures

Empathy manipulation. A film showing a teenage girl being cyberbullied will be shown to the students (Barlinska et al., 2013). The film explains her thoughts, feeling, and behaviours in response to being cyberbullied. This film has been shown to induce emotional and physiological changes congruent with feelings of empathy (Barlinska et al., 2013). During the video and the rest of the study session, participants will be separated by dividers surrounding their computers. This is to deter students from influencing each other’s answers. It is also to assist in maintaining focus throughout the study.

Anonymous cyberbully behaviour manipulation. To assess cyberbullying behaviour, the ‘Message from a Peer’ paradigm will be used (Barlinska et al., 2013). In this procedure, the students will be given an individualized code and password to log into an online communication website created by the researchers. Once they have logged in, they will see messages from other classes who have done the experiment and messages from their peers in the class; however, these messages were created by the researchers. Participants will be told that all the messages they share on the website will be seen by everyone in the class. They will also be told that any private messages will be deleted after five minutes of being opened on the site.

Before entering the online communication website, the public posting group and the anonymous group will each read a message explaining the task. The only difference between the two messages is that the experimental group is informed of their anonymity (Appendix A), while the control group is informed of a lack of anonymity.
The first message read by the participants on the site will contain a photo of a student, whom they are deceived to believe is from a different grade, with his face on a dog’s body. The photo will be captioned with a rude and hurtful message about the boy. The participants will then have the choice to either delete the message, ignore the message, or share the message with the rest of the class.

Procedure

After obtaining consent from a district school board, the researchers will contact high schools for permission to conduct the study. The school board and each individual school will receive a letter of information regarding the purpose, procedure, and expected results of the study. The schools will be informed of the previous research conducted on the effects of increasing empathy towards bullying victims in order to persuade participation. The students will be sent home with a letter of information and a parental consent form, sealed within an envelope stating that it only to be opened by parent/guardian in order to avoid the students learning the purpose of the study. Parents will be informed about the purpose and procedure of the study and will be asked to avoid sharing this information with the child before the study occurs. A short demographic questionnaire will also be sent home with the students in order to obtain information about age, gender, socioeconomic status, ethnicity and grade. On the day of the study, student assent will be collected as well with a letter of information that has a deceptive purpose. The students will be told that the study is the effect of visual stimuli on online communication. Confidentiality and compensation will also be explained to the participants within the student information letter. The participants will be deceived to believe that their posting on the website is visible to the whole class, when in actuality their screen is being recorded and only the researcher has access to their activity on the site.

On the day of the study, the students will be brought into a computer lab within the school and will be randomly assigned to a computer. The researcher will assign computer spots randomly to deter students from sitting beside their friends who may affect their behaviour in the study. To start, participants will receive basic instructions about the study, specifically to not communicate with each other and to remain focused on the task. They will be reminded of their confidentiality, their ability to resign from the study at any time, and the compensation at the end of their participation. Next, participants will log into the computer and the video will open with the instructions for what to pay attention to while watching. Students will be randomly assigned to one of two conditions. The control group will watch a neutral video following a girl going to school on a normal day. They will be given instructions to focus on the background information within the film; such as on the colour of the walls, the outfits of people, or the time on a clock. The experimental group will watch the empathy video and will be told to focus on the girl’s thoughts, feeling and behaviours. Both groups will be filling out a questionnaire at the end of the video. These questions are not part of the statistical analysis; they are to motivate the students to focus on the video. The questionnaire will open as soon as the video ends. This process should take approximately 20-25 minutes to complete.

Once the questionnaire is submitted, the computer messages will appear. Once they have clicked “I agree” they will be brought to the website and the ‘Message from a Peer’ will appear. The participants then have five minutes on the website to either post or delete the message and to interact with the fake messages on the website. Only five minutes is allocated for this section in order to avoid students from realizing that the messages on the board are fake and not from their class mates sitting around them. The computer screens will be recorded and coded by the researcher. The time it takes for each participant to decide whether
to post or delete the message will be recorded during the five minutes they are on the website. This will be used to test whether empathy simply slows down the negative behaviour or eliminates.

After the five minutes are over the students will be asked to log off from the computers and will be debriefed. The students will be told the true purpose of the study and will be asked to sign a new student assent form. The students will also be sent home with an information package about resources in their community that are available if they or someone they know is being bullied.

Proposed Analyses

**Cyberbullying Behaviour.** The effects of empathy and anonymity on posting behaviour will be computed using a Cross tab and Chi Square Analysis, with males and females being computed separately in order to see if there are any significant gender differences in effect size. Empathy, anonymity and deleting the message will be coded on binary scales (i.e. 0 and 1). Ignoring the message will be coded the same as deleting.

First, the main effects will be computed, finding the effects of empathy and anonymity on posting separately. It is predicted that both empathy and anonymity will show main effects. Next, the relationship between anonymity and posting will be studied within the no-empathy and empathy groups separately. It is predicted that the empathy group will show a weak relationship between posting and anonymity, or no relationship at all. This will be compared to the no-empathy group, which is predicted to have a maintained relationship between anonymity and posting as seen in the main effect.

**Response time.** A two by two analysis of variance will be computed to analyse response time between the four groups, with males and females again analysed separately to distinguish any gender differences. The analysis will separate individuals who posted the message from individuals who deleted the message. Both empathy and anonymity are between-subject variables with two levels: the control and experimental groups. Response time will be coded in seconds as a score between 0-300. First, Levene’s test of homogeneity of variance will be computed, followed by both main effects and an interaction. It is predicted that for posting behaviour, both empathy and anonymity will show main effects. It is proposed that empathy will initiate executive decision making, causing the individual to take longer to make the decision to post the abusive message. It is also predicted that the results for deleting behaviour will show that both empathy and anonymity show main effects with no interaction. It is proposed that individuals primed with empathy will make the pro-social decision faster than those not primed with empathy.

**Limitations**

There are several limitations to this study, including a possible difficulty in recruiting participants. School boards are hesitant to allow researchers to conduct studies within schools. The proposed study would be taking up class time which may deter schools from participating. Furthermore, parents may not want to allow their child to be a part of a bullying study for various reasons, including that their own child would not be a part of any bullying behaviour.

**Implications**

If empathy is shown to suppress bullying behaviour, government funding could be put towards interventions that focus on increasing empathy among students in bullying situations. Empathy has short term effects on bullying behaviour; therefore, developing an intervention that works towards consistently primed empathy could be key in decreasing bullying behaviour online (Barlinska, Suzster...
Similarly, if anonymity is found to be a stronger factor in bullying behaviours on the internet, this information could be used to change messaging processes online. If anonymity was no longer available, then individuals would be less motivated to act antisocially. Furthermore, if students are taught that their actions can have the same consequences online as they do offline, this could decrease the association anonymity has with bullying online that was concluded earlier (Wright, 2013). Overall, understanding the factors that influence bullying behaviour is necessary for developing effective, cost efficient interventions.

**Conclusions**

The results from the proposed study will assist with structuring interventions for cyberbullying. Knowing the key factors that influence bullying behaviour will allow for more useful, cost efficient prevention and intervention plans. The study will test the hypotheses that empathy and anonymity have opposing effects on cyberbullying, but that when paired, empathy will mitigate the effects of anonymity due to its higher-order cognitive functioning (Nummenmaa, Hirvonen, Parkkola & Hietanen, 2008).

**References**


Appendix A

“This website is anonymous and everything you share will be posted without your name attached. Any message that is opened on the site will be deleted after 5 minutes of being read. Any information that is ‘shared’ will be seen by the whole class and all the following participants of the study. Before continuing please press I agree to participate at the bottom of this message.”
Appendix B

“This website is not anonymous and everything you share will be posted alongside your name. Any message that is opened on the site will be deleted after 5 minutes of being read. Any information that is ‘shared’ will be seen by the whole class and all the following participants of the study. Before continuing please press I agree to participate at the bottom of this message.”