The associations between cyberbullying/cyber victimization and emotion attribution to a fictional cyberbully and to a fictional cyber victim in a community sample of preadolescents.

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Abstract. The present study was realized starting from research on emotion processes related to moral reasoning in cyberbullying, using a task of emotion attribution (i.e., positive and negative emotions) to a fictional cyberbully and a fictional cyber victim. Specifically, we investigated whether the involvement in cyberbullying or in cyber victimization was associated with differences in the emotion attribution task. 528 middle school students (282 girls, mean age = 12.58 years, DS = 1.16 years) took part in the study. The results of a MANOVA showed that youths perpetrating cyberbullying, compared to non-involved peers, attributed higher positive emotions and lower negative emotions to the fictional cyberbully. Moreover, youths involved in both cyberbullying and cyber victimization (i.e., the so-called cyberbully-victims) compared to pure cyber victims had higher likeability to attribute positive emotions to a fictional cyber victim. The findings were discussed in light of the role of morality and moral disengagement in both traditional bullying and cyberbullying research, expanding the role of emotion attribution beyond moral emotions. Furthermore, the importance of carefully considering cyber victims' impairments in emotion attribution processes as possible risk factors for the development of a cyberbully-victim condition was advanced.

Keywords: Cyberbullying; Cyber Victimization; Cyberbully-victim; Emotion Attribution; Preadolescence.

1 Introduction

Cyberbullying is a specific form of bullying in which a group or individual intentionally uses technological means to attack selected peer victims; specific manifestations of cyberbullying can be cyber harassment, cyberstalking, spreading of rumours, spreading of private photos/videos, or online intimidation [1]. Even if research has shown some differences between cyberbullying and traditional bullying (i.e., direct, verbal and relational bullying acted in face-to-face contexts), both phenomena are proactive forms of

aggression characterized by high levels of moral disengagement that impairs self-regulatory process during social interactions: youths that act as perpetrators seem not to anticipate neither victims' negative emotionality nor self-condemnation as consequences of their intended behaviours, and thus are more prone to intentionally harass peers without feeling guilty [2-6]. According to this, it was demonstrated that the implementation of cyberbullying behaviours during preadolescence and adolescence is related to lack of empathy and high callous attitude toward others [6-8]. Moreover, a study involving male preadolescents showed that individuals that perpetrated cyberbullying behaviours were more accurate than peers in a task of fear recognition, suggesting that they might use their emotion abilities to accurately choose their victims [9], in line with the "cold cognition" model for interpreting proactive aggression [10].

On the contrary, several socio-emotional impairments characterize youths who are victims of cyberbullying: they have high likeability to show negative emotionality, internalizing and externalizing problems, and deficit in emotion recognition abilities and in the implementation of adaptive emotion regulation strategies [6, 9, 11]; nevertheless, there are evidences that cyber victims are more able than cyberbullies to focus on others' distress and to help others [6]. Lastly, similar to traditional bullying, research identified a specific group of youths that show high rates of both cyberbullying and cyber victimization (i.e., the cyberbully-victims): they present psychological correlates shared with both cyberbullies and pure cyber victims, including low empathic responsiveness, high rates of moral disengagement, and deficit in emotion regulation [6,12].

1.1   The present study

In the present study, we added to the field of research on emotion processes related to moral reasoning in cyberbullying, focusing on a task of emotion attribution (i.e., positive emotionality and negative emotionality) to a fictional cyberbully and a fictional cyber victim. Specifically, we aimed to investigate whether the involvement (vs. the non-involvement) in cyberbullying or the involvement (vs. the non-involvement) in cyber victimization were associated with differences in the emotion attribution task.

Considering literature on the "happy victimizer" task (i.e., a procedure originally used with young children showing that, while understanding that aggression and violence are wrong, they attribute positive emotions to aggressors) [13], and results on attribution of moral emotions obtained in traditional bullying [3-4, 14] and cyberbullying research [5], we argued that youths acting as cyberbullies were more prone than non-involved peers to attribute high levels of positive emotionality and low levels of negative emotionality to both the fictional cyberbully and the fictional cyber victim, as part of the cognitive mechanism that allows them to disengage themselves from moral standards and to misperceive the impact of their behaviour on victims [5]. As for cyber victims, we did not advance specific hypotheses: while their difficulties in emotional processing could orientate us to predict a misperception of others' emotional states, on the contrary, their ability to focus on others' distress could make us hypothesize that they empathize with the fictional cyber victim and attribute her/him low positive emotionality and high negative emotionality. Similarly, the scarcity of literature and the ambiguous profile of cyberbully-victim prevented us to make specific hypotheses.

2 Material and Methods

2.1 Participants and Procedures

A scholastic Institution located in an urban area of Central Italy was contacted to propose a research collaboration in the field of bullying, cyberbullying, and their socio-emotional correlates. Over 660 students were initially contacted and parental written informed consent was obtained for each participant. Exclusion criteria for the inclusion in data analyses were: inaccuracy in completing questionnaire, psychiatric diagnosis or mental injuries, unfamiliarity with Italian language, absence from school during data collection. A total of 528 middle school students (282 girls, mean age = 12.58 years, DS = 1.16 years) was the final sample; over 90.00% of the participants were from a cultural Italian background. Trained assistants administered study questionnaires in the classrooms during school hours.

2.2 Measures

Cyberbullying and cyber victimization. The involvement in cyberbullying was assessed with a 10-item self-report scale developed by Menesini and colleagues [1]. Before the administration of the questionnaire, the definition of cyberbullying was read and widely discussed by trained assistants with students in order to share the same definition of the construct. Using a 5-point Likert-type scale (never, only once or twice, two or three times a month, about once a week, several times a week), students were asked whether they had cyberbullied peers with regard to any of the following behaviour during the previous two or three months: (a) nasty text messages, (b) phone pictures/photos/video of violent scenes, (c) phone pictures/photos/video of intimate scenes, (d) silent/prank phone calls, (e) nasty or rude emails, (f) insults on web sites, (g) insults in instant messaging, (h) insults in chat-rooms, (i) insults on blogs, (j) unpleasant pictures/photos on websites. A similar section investigated the involvement in cyber victimization. Cronbach's alphas in the present study was .73 for the cyberbullying scale and .81 for the cyber victimization scale (the item (d) was removed in both scales in order to improve their reliability). Consistently with prior literature (e.g., [7]), both measures were dichotomously coded: students were classified as "involved" (i.e., 1) if they reported involvement in at least one of the specific behaviours on at least two or three occasions per month; otherwise, students were classified as "non-involved" (i.e., 0). Results of the dichotomization were reported in table 1.

Emotion attribution to a fictional cyberbully and to a fictional cyber victim. We developed the following two scenarios for the purpose of the present study:

Try to think of a girl [of a boy] of your age who frequently cyberbullies her [his] school-mates. She [he] has just done another act of cyberbullying. If you were her [him], how would you feel? Indicate (from 1, "not at all", to 5, "very much") how much each of the following adjectives describes her [him].

4

Try to think of a girl [of a boy] of your age who is frequently cyberbullied by one or more schoolmates. She [he] has just received another act of cyberbullying. If you were her [him], how would you feel? Indicate (from 1, "not at all", to 5, "very much") how much each of the following adjectives describes her [him]:

The adjectives used in each scenario were the emotion labels adopted by Crook and colleagues [15] in their version of the Positive and Negative Affect Scales for Children - PANAS-C: 10 items were related to positive emotionality (i.e., positive affect - PA, for instance, "joyful", "proud", "delighted"; Cronbach's alpha in the present sample = .96 for fictional cyberbully, .87 for fictional cyber victim) and 10 items were related to negative emotionality (i.e., negative affect - NA, for instance, "sad", "guilty", "afraid"; Cronbach's alpha in the present sample = .89 for fictional cyberbully, .81 for fictional cyber victim). To facilitate the process of identification with the fictional characters, the scenarios featured protagonists of the same sex as the respondent student.

Table 1. Involvement in cyberbullying and cyber victimization

		Cyberbullying		
		Involved	Non-involved	
Cyber victimization	Non-involved	13 (2.46 %)	490 (92.80 %)	**503 (95.27 %)**
	Involved	10 (1.89 %)	15 (2.84 %)	**25 (4.73 %)**
		23 (4.36 %)	**505 (95.64 %)**	**528 (100.00 %)**

2.3   Data Analyses

For first, we inspected indices of skewness and kurtosis of the 4 emotion attribution variables (i.e., PA for fictional cyberbully, PA for fictional cyber victim, NA for fictional cyberbully, NA for fictional cyber victim), in order to examine the form of their distributions. Subsequent analysis involved a 2 x 2 (cyberbullying x cyber victimization condition) multivariate analysis of variance (MANOVA) with the 4 emotion attribution variables as dependent variables.

3 Results

The indices of skewness and kurtosis were all in the range [-1.00; +1.00], with the exception of the variable related to the attribution of PA to a fictional cyberbully, that presented high skewness (2.75) and kurtosis (9.20) values. Since the use of the log-transformation variant of this variable in the MANOVA did not result in practically differences compared with the use of the raw variable, we chose to maintain the latter. Main effects of cyberbullying (Pillai's Trace = .06; $F_{(4, 521)} = 7.79$; partial $\eta^2 = .06$; $p < .001$), cyber victimization (Pillai's Trace = .04; $F_{(4, 521)} = 4.73$; partial $\eta^2 = .04$; $p < .001$), and cyberbullying x cyber victimization (Pillai's Trace = .03; $F_{(4, 521)} = 4.16$; partial $\eta^2 = .03$; $p < .01$) in the 4 emotion attribution variables emerged.

As for the attribution of both PA and NA to a fictional cyberbully, there emerged statistically significant differences between the cyberbullying groups (for PA: $F_{(1, 527)} = 11.61$; partial $\eta^2 = .02$; $p < .001$; for NA: $F_{(1, 527)} = 5.78$; partial $\eta^2 = .01$; $p < .05$). According to the Bonferroni-corrected post hoc tests, students involved in cyberbullying (M = 3.27, SD = .90) scored significantly higher than non-involved students (M = 2.36, SD = 1.25) in the attribution of PA to a fictional cyberbully; moreover, students involved in cyberbullying (M = 1.94, SD = .78) scored significantly lower than non-involved students (M = 2.48, SD = 1.09) in the attribution of NA to a fictional cyberbully. Statistically significant differences between either the cyber victimization groups or the cyberbullying x cyber victimization groups did not emerge.

As for the attribution of PA to a fictional cyber victim, there were statistically significant differences between the cyberbullying groups ($F_{(1, 527)} = 21.85$; partial $\eta^2 = .04$; $p < .001$) and between the cyber victimization groups ($F_{(1, 527)} = 15.73$; partial $\eta^2 = .03$; $p < .001$); nevertheless, these effects were qualified by their interaction term ($F_{(1, 527)} = 16.20$; partial $\eta^2 = .03$; $p < .001$): specifically, main effects of cyberbullying were significant for students that were also involved in cyber victimization (Pillai's Trace = .55; $F_{(4, 20)} = 6.02$; partial $\eta^2 = .55$; $p < .01$) but not for those that were non-involved in cyber victimizations (Pillai's Trace = .02; $F_{(4, 498)} = 2.11$; partial $\eta^2 = .02$; $p > .05$). According to the Bonferroni-corrected post hoc tests, students that were involved in both cyberbullying and cyber victimization (i.e., the cyberbully-victim condition; M = 2.26, SD = .74) scored significantly higher than student non-involved in cyberbullying and involved in cyber victimization (M = 1.24, SD = .40) in the attribution of PA to a fictional cyber victim.

Lastly, as for the attribution of NA to a fictional cyber victim, there were no statistically significant differences between groups considering cyberbullying, cyber victimization, or cyberbullying x cyber victimization.

4 Discussion

In the last decades there was a rapid spread in the use of new means of communications (e.g., cell-phone, smartphone) and in the use of new social networks (e.g., blog, online chat, forum). Some youths intentionally adopt these technologies to perpetrate acts of aggression against their peers, resulting in a specific form of bullying that is defined cyberbullying [1]. Within the field of research on emotion processes related to cyberbullying, and considering extant research on moral reasoning in traditional bullying,

the present study aimed to explore whether the involvement (vs. the non-involvement) in cyberbullying and the involvement (vs. the non-involvement) in cyber victimization were associated to differences in an emotion attribution task consisting in evaluating positive and negative emotionality of both a fictional cyberbully and a fictional cyber victim.

According to our hypotheses, youths perpetrating cyberbullying, compared to non-involved peers, attributed higher positive emotionality and lower negative emotionality to the fictional cyberbully. The attribution of positive emotional experience to a fictional character that has implemented a cyberbullying behaviour could originate from a process of identification with their own experience: the attribution of this emotional state could be the manifestation of the satisfaction they had experienced in having reached their goal and could be part of a process in which specific outcome expectations guide behaviour, as suggested by the "cold cognition" approach to proactive aggression [10]. At the same time, in line with research indicating that both traditional bullies and cyberbullies experience lower levels of moral emotions (e.g., guilt and shame) and higher levels of pride [3-5,14], our results could be read in light of the emotion process that promotes moral disengagement and bullying behaviours by escaping negative self-evaluations and self-sanctions [2-6]. Overall, while the cross-sectional nature of our study prevents us to reach causal conclusions, present results further confirm the similarity between traditional bullying and cyberbullying with regard to emotional processes related to moral reasoning. They also extend the role of emotion attribution processes beyond moral emotions, including aspects related to hedonic perception and physiological activation: in addition to containing indicators such as "proud" and "guilty", the scales we used consider indicators such as "joy", "strong", "energetic", "gloomy", and "scared".

An interactive effect between cyberbullying and cyber victimization in the attribution of positive emotionality to a peer that has been victimized emerged. Regardless of the involvement in cyberbullying, this attribution variable was quite low whether youths were not involved in cyber victimization; on the contrary, among youths involved in cyber victimization, the cyberbully-victims (i.e., the specific group involved in both phenomena) had higher likeability to attribute positive emotionality to a fictional cyber victim compared to pure cyber victims (i.e, the victims that were not involved in cyberbullying). We could hypothesize that these youths magnify cybervictim's positive emotionality as a defensive mechanism resulting from their victim condition, and, at the same time, they incur in a mechanism of disengagement from victim sufferance that is in line with their cyberbulling attitude. Moreover, it has been advanced that the ability in understanding others' emotions is an important protective factor that facilitate cyber victims in coping with their negative emotions and prevent their subsequent involvement as cyber perpetrators [6]. Once again, while the cross-sectional nature of our study prevents us to reach such causal conclusions, we advance the utility to further explore the emotion attribution to victims in order to identify those youths that are impaired in the processes of understanding others' emotion states, and that could be particularly at risk of developing bullying behaviours as a consequence of their victimization.

4.1   Limitations and future directions

In addition to the cross-sectional nature of the study, the present findings emerged within the context of other limitations. For instance, the variables were assessed using the same source of information (i.e., students); a future replication should consider assessing the involvement in cyberbullying and cyber victimization using multi-informant approach in order to avoid the risks related to common shared variance. Moreover, as emerged in table 1, the groups involved in cyberbullying or in cyber victimization were quite low in number; even if it is common that the non-involved youths represent the majority of the sample, it is desirable that present findings could be replicated in larger groups, also involving other geographic areas larger than a single scholastic Institution. Lastly, the present study was limited to a specific phase of youth (i.e., the preadolescence), and it did not take into account the role of gender; future studies should also include different developmental stages (e.g., adolescence) and considering the gender differences that may differentiate male and female cyberbullying behaviours. Nevertheless, this study constitutes a stimulus for continuing the in-depth investigation of emotion attribution processes of youths involved in cyberbullying and/or cyber victimization, in order to draw a detailed picture of developmental pathways that lead to the manifestations of these highly maladaptive phenomena.

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