



# Finding a simple formula - a human face as an effective, automatic factor inhibiting cyberbullying



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# The determinants of cyberbullying

- 78% of teens have a cell phone, 95% use the Internet
- Computer mediated communication is devoid of a number of non-verbal characteristics which are important in activation processes inhibiting displays of aggression
- The specifics of adolescence make teenagers particularly susceptible to antisocial behaviour on the Internet
  - unformed personal identity
  - moral relativism and testing of moral principles
  - impulsiveness
  - high egocentrism and weak motivation for decentration
  - strong influence of peers

(Madden et al., 2013; Piaget & Inhelder, 1962; Kohlberg, 1976; Erikson, 1968; Hurrelmann, 1994; Steffgen & König, 2009; Smith et al., 2008)



# Cyberbullying by definition

Cyberbullying is an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself (Smith,2007)





# Growing problem

- between 20% and 40% of young people in their teens becomes victims of cyberbullying
- Cybervictimization is associated with serious mental disorders and difficulties such as depression, emotional disorders, suicide attempts, increase social maladjustment and alcohol drinking

(Tokunaga, 2010, Smith et al. 2014)





# Prevention - focus on cyberbystanders

- the majority of cyberbullying acts is carried out in the presence of bystanders
- disseminating offensive material bystanders enforce the escalation of the cyberbullying phenomenon
- past involvement in the perpetration of violence reinforces aggressive behavior through operant conditioning and modeling

(Kowalski, Limber, Agatston, 2010, Gini et al., 2008, Ybarra & Mitchell, 2004; Walrave & Heirman, 2011; Bandura, 1973)

- **Large audience**
- **Persistence and replicability of the online material**
- **Repetition of the cyberbullying act**

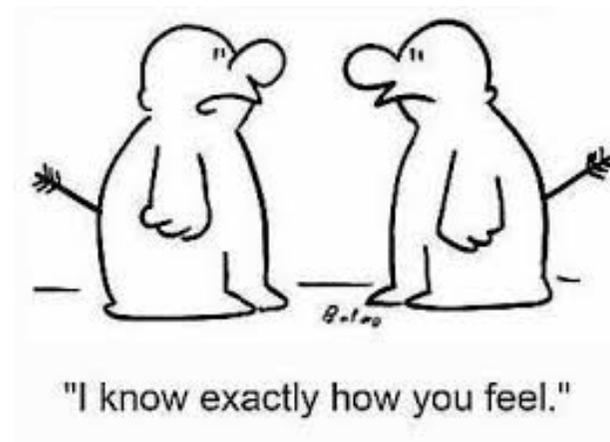




# Empathy

**Empathy is an emotional response requiring “the involvement of psychological processes that make a person have feelings that are more congruent with another's situation than with his own situation”**

(Hoffman, 1987)





# Empathy

- **Reduces aggression, propensity to crime and bullying**
- **Is positively correlated with the regulation of emotions and emotional behaviour**
- **The level of both affective and cognitive empathy is lowered in the case of the perpetrators of cyberbullying**
- **Affective empathy has a particularly significant impact on engaging in peer violence**

(Davies, 1996, Eisenberg, 2000, Ang & Goh 2010, Sutton, Smith, Swettenham, 1999)





# In search of a simple method

- **situationally activated empathy limits cyberbullying**
- **in most of the studies activating empathy it was used complex stimuli suggesting the discomfort of other person**
- **the earliest mechanisms of empathic arousal are the circular reaction and motor imitation**
- **face is perceptually more preferred and accessible than other types of stimuli**
- **its bare exposure can significantly modify behavior**

(Barlińska, Szuster, Winiewski, 2013, Fiske, 2012, Zajonc, 1994)



# Present study

experimental character  
conducted with a web application

## *Participants*

Junior high school students (N = 292, comprising 177 boys and 115 girls) from three Polish districts. Between the ages of 11-17.

## *Procedures*

The study was anonymous and conducted in groups and on school premises. In order to control the access to the website, each participant logged in using a unique, one-time password. Students were randomly assigned to control and experimental groups.



# Activation of complex emphatic mechanisms

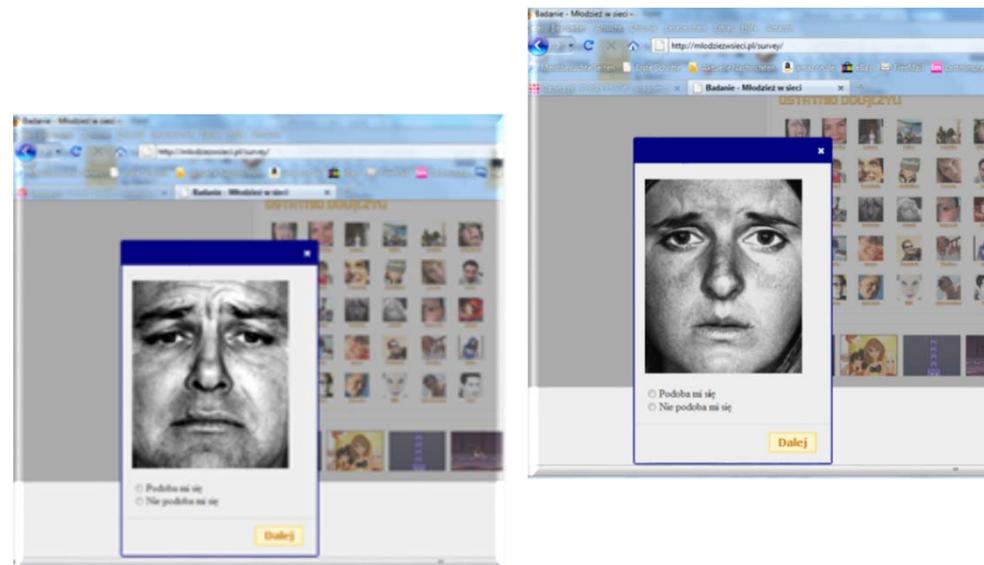
The two-minute film showing the story of a young girl - a pupil who was the victim of cyberbullying. The film showed the course of events and consequences by presenting a cyberbullying victim's behavior. It also included a statement expressing her feelings and experiences.





# Activation of affective empathy

14 faces which expressed sadness (6 male and 8 female faces). Photos came from the Pictures of Facial Affect (POFA) set made by Ekman and Friesen (1976)



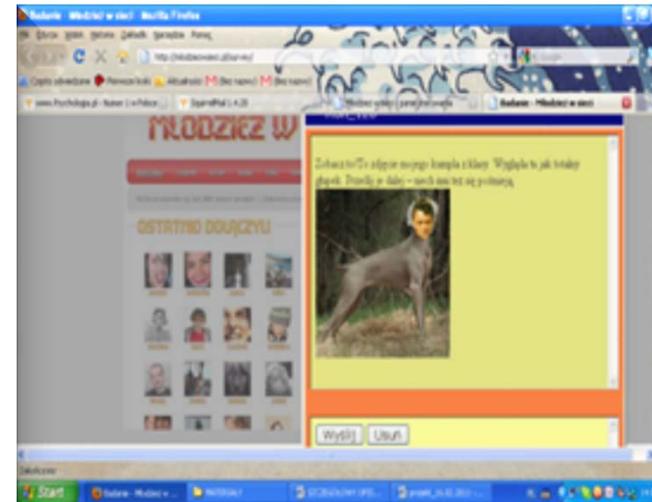
The facade task assigned to the adolescents during the expositions was to determine whether they like the presented faces or not.



# Dependent variable

## Application “Message from a friend”

- a web application similar to a text messenger
- its main element in the form of a picture presented as a message from “a peer”
- participants were asked to choose one way of acting



**Indicator**  
The choice of neutral versus anti-social behavior coded:  
0 – neutral  
1– cyberbullying reinforcing behavior



# The measurement of cyberbullying experience from the perspective of a cyberperpetrator

Questionnaire of The Cyberbullying Experience  
(Barlińska & Wojtasik, 2008)

It consisted of two parts, one for cybervictimization and the other for cyberperpetration. In the study was used cyberperpetration subscale. Responses to individual questions were marked on a five-point scale from "more than 5 times" to "never". The answer "I do not know, I do not remember" was coded as missing.

**Indicator** the frequency of experience as a perpetrator of cyberbullying - the higher the score the more frequent experiences of cyberbullying.



# RESULTS

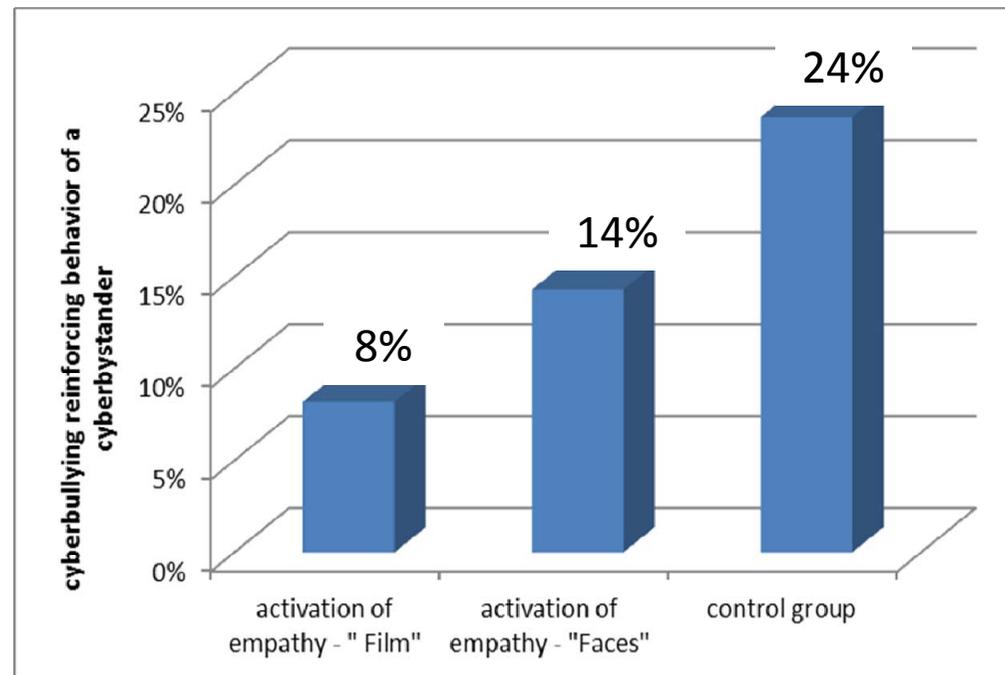
Predictor	B	SE $\beta$	Wald's $\chi^2$	Df	p	OR (95% CI)
Experimental conditions			11.77	2	.003	
Act. of empathy (Faces)	-1.61	.60	7.70	1	<b>.007</b>	<b>.200</b>
Act. of empathy (Film)	-1.16	.44	0.22	1	<b>.009</b>	<b>.314</b>
Exp. cyber perpetrator	.34	.10	3.99	1	<b>.001</b>	<b>1.402</b>
Gender (1 = girls)	-.34	.38	5.41	1	.362	.710
TEST	$\chi^2$		Df		P	
Overall model evaluation						
Likelihood ratio test	95.983		1		.001	
Score test	21.97		4		.001	
Goodness-of-fit test						
Hosmer & Lemeshow	8.61		7		.282	
Cox & Snell $R^2 = 0,08$ ; Nagelkerke $R^2 = 0,14$ .						

On the basis of the obtained relevant odds ratio coefficients, it can be concluded that the probability of a cyberviolence enhancing behavior of a cyberbystander in the activation of empathy conditions (the film presentation) and non-specific empathy (face images) is considerably lower than in the control conditions. While the probability of a cyberbullying reinforcing behavior of a bystander increases with the intensity of the experiences of the Internet violence perpetrators.



# RESULTS

A little over 15.4% ( $n = 45$ ) of the sample selected a behavior that reinforced cyberbullying





# Conclusions

- **activation of empathy plays a significant role in reducing cyberbullying**
- **it is possible to remain with a static exposure of privileged perceptual stimuli (human face) to reduce the spread of violence in the network**
- **results are a prerequisite for creating simple and at the same time effective prevention strategies to limit the negative behavior of young people on the Internet**
- **this kind of manipulation can be useful in designing websites and social networks**



# Acknowledgements





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