International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 13, Issue 3, 2020

Traditional Bullying and Cyberbullying in Adolescents: The Roles of Cognitive Empathy and Affective Empathy

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This research examined the relationship between traditional bullying and cyberbullying in adolescents based on the roles of cognitive and affective empathy among 975 Indonesian high school students. The data was analysed using an independent samples t-test, the Pearson product-moment test and multiple linear regression. The findings revealed that males are more likely to be involved in both traditional bullying and cyberbullying than females, and that the level of cognitive and affective empathy of males was lower than that of females. Bullying was negatively correlated with cognitive and affective empathy, while cyberbullying was negatively correlated with affective empathy. In addition, affective empathy significantly predicted traditional bullying; with each single unit increase in traditional bullying, affective empathy decreased by .357. Affective empathy also predicted cyberbullying; with each single unit increase in cyberbullying, affective empathy decreased by .028. The results emphasised the importance of considering affective empathy when designing intervention programs for the prevention of bullying.

Key words: *Adolescent, affective empathy, cognitive empathy, cyberbullying, traditional bullying.*

Introduction

Bullying is an act of violence which needs to be overcome in Indonesia. Recent research conducted by Yusuf et al. (2019), who used data from the 2015 Indonesian Global School-

based Health Survey (GSHS) found that 19.9% of school adolescents are victims of bullying. This data shows that the prevalence of Indonesian adolescents who experience bullying is relatively high. Bullying is a phenomenon found not only in Indonesia, but also in other nations and affects adolescents around the world. School bullying can be defined as any unwanted, intentional, and aggressive actions repeatedly perpetrated by a stronger student or a group of students toward another student that cause harm to the victim (Olweus, 1993). There are several forms of bullying, including traditional bullying, classified as physical (hitting, kicking, pushing), verbal (naming, insulting, teasing), relational (isolating, denying friendship, spreading rumors) (Bradshaw et al., 2015; Hadisi et al., 2019) and cyberbullying. Cyberbullying is aggressive behaviour carried out through the internet or electronic devices such as mobile phones; some examples of this are: making abusive or threatening comments, accessing and misusing personal information, and disseminating personal information (Kowalski et al., 2014).

Bullying has a negative impact on both victims and perpetrators. Victims of bullying are at a high risk of experiencing mental health problems such as depression, anxiety, and poor learning achievement (Reijntjes et al., 2010). Even though the perpetrators of bullying gain power and status among peers (Vaillancourt et al., 2003), they are vulnerable to drug abuse, learning failure, mental health problems and higher levels of violent behaviour later in life (Ttofi et al., 2011). Some adolescents who regularly bully appear to understand social norms and moral expectations that lead them to social skills and moral judgments (Gini et al., 2011). However, their social skills and moral judgments appear to be related to low levels of empathy for victims' suffering (Gini et al., 2011). Therefore, perpetrators are seen as aggressive people who ignore relational goals and use their social knowledge and skills for personal gain through bullying (Polman et al., 2007). These types of traits can foster bullying behaviour because of a lack of sensitivity to the suffering of victims and a lack of empathy (Beauchaine & Hinshaw, 2016).

It is widely accepted that empathy plays a significant role in preventing antisocial or violent behaviour (Longobardi et al., 2019; Jolliffe & Farrington, 2006) and fostering pro-social behaviour in childhood and adolescence (van Noorden et al., 2015). Van der Graaff et al. (2018) also found a similar positive relationship between empathy and pro-social behaviour. The construct of empathy has been defined variously, but an inclusive definition conceptualises empathy as an emotional response to another person's emotional state or situation, which is in harmony with the other person's emotional state or situation (Eisenberg & Strayer, 1987). Thus, empathy is a multi-dimensional construction, which consists of cognitive and affective components (Davis, 1994). Cognitive empathy is the ability to recognise and understand the emotional state or perspective of others, while affective empathy is characterised by the ability to share the emotional state of others or experience feelings of concern for others (Davis, 1994; Chiu & Yeh, 2017).

The relationship between bullying behaviour and empathy in adolescents is often examined. Recent research shows a negative relationship between bullying behaviour and affective empathy in adolescents, while there is no significant relationship between cognitive empathy and bullying behaviour (Zych & Llorent, 2018). This negative relationship between affective empathy and bullying is also found in other studies (Antoniadou & Kokkinos, 2018; Kokkinos & Kipritsi, 2017; López-Pérez et al., 2015; Jolliffe & Farrington, 2006). Furthermore, among male students, a significant relationship is found between low affective empathy and physical bullying, while among female students, a significant relationship is found between low affective empathy and relational bullying (Jolliffe & Farrington, 2006). A systematic review by van Noorden et al. (2015) found mixed results related to the relationship between cognitive empathy and bullying. Some researchers found that perpetrators have a high level of cognitive empathy, so they are able to understand and manipulate other students psychologically (Jolliffe & Farrington, 2006). However, other researchers stated that cognitive empathy decreases when the level of bullying behaviour increases (van Noorden et al., 2015).

Researchers also found that low empathy is related to cyberbullying (Del Rey et al., 2016; Baldry et al., 2015) and not to the desire to help victims of cyberbullying (Nickerson et al., 2015). Cyber bullies have low empathy, because they cannot see the victim's reaction (Campbell et al., 2013) and have less guilt towards the victim compared to traditional bullies, because they consider their behaviour harmless (Raskauskas & Stoltz, 2007). Several studies found that cyber bullies have lower affective empathy scores than those who are not involved in it, indicating that affective empathy could be a possible protective factor against cyberbullying behaviour (Renati et al., 2012; Steffgen et al., 2011). However, several other studies found that cyber bullies do not have lower affective empathy scores than those who are not involved in cyberbullying (Kokkinos et al., 2014).

In terms of gender differences, females have higher levels of empathy and are less likely to get involved in bullying, while males have lower levels of empathy and are more likely to bully others (Kokkinos & Kipritsi, 2017; Christov-Moorea et al., 2014; Jolliffe & Farrington, 2011). When the components of empathy are examined, the results of several studies showed that female's cognitive and affective empathy scores are higher than males, and female's affective empathy scores are higher than her cognitive empathy scores (Jolliffe & Farrington, 2006; Christov-Moore et al., 2014; Bojana et al., 2016; Antoniadou & Kokkinos, 2018). Jolliffe and Farrington (2011) found that low affective empathy, but not cognitive empathy, is correlated to bullying by males. Result from a research by Endresen and Olweus (2001) found a negative correlation between bullying behaviour and affective empathy for both males and females. Caravita et al. (2009) suggested that high levels of affective empathy play a significant role in preventing bullying only among adolescent males; moreover, both males and females who have high levels of cognitive empathy are less likely to be involved in bullying.

Although findings from a few studies have indicated that low empathy is related to traditional bullying and cyberbullying, further empirical research is needed to find a more complex relationship between these variables. The dynamic relationship between affective empathy, cognitive empathy, and bullying among participants of different genders remains to be explored. Bullying by males and females must be examined separately, because previous research has stated that the mechanism against antisocial behaviour is different for male and female (Farrington & Painter, 2004). Combining male and female into one category of bullying will not reveal the effect of empathy on bullying, because research results consistently show that females have higher levels of empathy than males (Kokkinos & Kipritsi, 2017; Christov-Moorea et al., 2014; Jolliffe & Farrington, 2006). Therefore, the purpose of this research is to examine the relationship between traditional bullying, cyberbullying and two components of empathy, namely cognitive and affective empathy among high school adolescents. Another aim of the research is to examine the contribution of cognitive empathy and affective empathy in the prediction of traditional bullying and cyberbullying. Based on a review of the related literature on the interrelations between traditional bullying, cyberbullying, cognitive empathy, and affective empathy, the hypotheses of this research are: 1) Males will exhibit significantly higher levels of traditional bullying and cyberbullying, and females will demonstrate higher levels of cognitive empathy and affective empathy; 2) Traditional bullying and cyberbullying will be negatively correlated with affective empathy; and 3) Students who score higher in traditional bullying and cyberbullying will score lower in affective empathy.

Methodology

Participants

Information for this research was obtained from 975 adolescents, comprised of 47.89% male (n = 467) and 52.11% (n = 508). The research participants were aged between 15 and 17 years old (M = 16.06, SD = 0.88). At the time of the research, 35.90% (n = 350) of the participants attended the tenth grade of high school; 21.64% (n = 211) were in eleventh grade, and the remaining 42.46% (n = 414) were in twelfth grade. They were recruited during the 2019–2020 school year from three high schools, located in in East Java, Indonesia. All participants were Indonesian; no participants presented cognitive, sensory-motor, or linguistic impairments. They came from all social classes (lowest, middle, and upper), and social status was not a controlled variable.

Procedure

Schools were contacted first, and the research objectives were presented to the principals. At the time of research, students were informed of the purpose of the study. Verbal and written instructions about research procedures were explained to students and they were convinced

about the confidentiality of the research. Consent forms for parents were also distributed to students and returned the following day. Self-report questionnaires about empathy and bullying were given in the classroom by researchers and class teachers and worked on for one hour (45) in the classroom. Researchers and class teachers were willing to answer questions from students.

Measures

Measures in this research included established self-report surveys to assess traditional bullying, cyberbullying, and empathy. Three measurement instruments were adapted, namely: The Interpersonal Reactivity Index (IRI), the Adolescent Peer Relations Instrument (APRI), and the Cyberbullying and Online Aggression Survey.

Empathy. Participants worked on the Interpersonal Reactivity Index (IRI) (Davis, 1983). This questionnaire consists of 28 items designed to measure four separate but inter-related components of empathy: (1) Perspective taking, the tendency to take psychological perspectives from others; (2) Fantasy, the tendency to imaginatively transform themselves into characters in novels, films, and dramas; (3) Empathic concern, the tendency to experience feelings of warmth and care for others; (4) Personal distress, a tendency to feel uncomfortable when witnessing other people's negative experiences. Each sub-scale in this test consists of 7 items. Participants can determine the extent to which each sentence in the test matches their situation on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). In this research, Cronbach's alpha for all questionnaires was 0.824.

Traditional Bullying. Bullying behaviour from participants was measured by an Adolescent Peer Relations Instrument (APRI) (Parada, 2000), which measured three forms of bullying (verbal, relational, and physical). APRI consists of 36 items, 18 for bullies and 18 for victims of bullying. The items needed in this research were 18 items to measure bullying behaviour, namely physical (6 items), verbal (6 items) and social (6 items). All items are measured on a 6-point Likert scale (1 = Never, 2 = Sometimes, 3 = Once or twice a month, 4 = Once a week, 5 = Several times a week, 6 = Every day). Cronbach's alpha for all questionnaires was 0.92.

Cyberbullying. The Cyberbullying and Online Aggression Survey (Hinduja & Patchin, 2009) was used to measure participants' cyber bullying behaviour. The scale consists of 14 items, each of which has five answers (Never, once or twice, several times, often, and every day). This scale measures two dimensions, namely: (1) Cyberbullying victims and (b) cyberbullying perpetrators. Items 1-9 measure cyberbullying victims and items 10-14 measure cyberbullying perpetrators. The scale needed in this research was the scale of cyberbullying perpetrators. Cronbach's alpha for cyberbullying perpetrators was 0.96 in this study.

Data Analyses

In this research, an independent samples t-test was used to describe the research variables. Pearson Product-moment correlation was conducted to examine the relationship between traditional bullying behaviour, cyberbullying, and cognitive and affective empathy. Multiple linear regression was conducted to investigate the factors that predict traditional bullying and cyberbullying.

Results

Gender Differences

An independent sample t-test was performed to assess whether traditional bullying, cyberbullying, and cognitive and affective empathy scores differed significantly between males and females. The mean traditional bullying score differed significantly between males (M = 58.13, SD = 9.27) and females (M = 53.37, SD = 5.17), t (973) = 10.014, $p < .05$, two-tailed. The mean cyberbullying score differed significantly between males (M = 12.90, SD = 2.30) and females (M = 12.47, SD = 1.10), t (973) = 3.738, $p < .05$, two-tailed. The mean cognitive empathy score differed significantly between males (M = 35.37, SD = 5.08) and females (M = 36.77, SD = 4.74), t (973) = − 4.458, $p < .05$, two-tailed. The mean affective empathy score differed significantly between males (M = 29.53, SD = 5.48) and females (M = 32.23, SD = 5.74), t (973) = -7.506, $p < .05$, two-tailed.

Correlations

A Pearson correlation was carried out in order to examine the relationship between traditional bullying, cyberbullying, cognitive empathy, and affective empathy. Results showed that the correlation between cognitive empathy and affective empathy was significant and positive. The correlations between traditional bullying and both cognitive empathy and affective empathy were significant and negative. A significant negative correlation was found between affective empathy and cyberbullying. However, cognitive empathy did not correlate significantly with cyberbullying. The results are shown in Table 1.

Table 1: Correlations between traditional bullying, cyberbullying, cognitive and affective empathy

Variable	1	2	3	4
1. Traditional Bullying		.461**	-.094**	-.247**
2. Cyberbullying			-.011	-.073*
3. Cognitive Empathy				.491**
4. Affective Empathy				

Note: ** $p < 0.01$, * $p < 0.05$.

Prediction of Traditional bullying and Cyberbullying

Multiple linear regression analyses were performed to evaluate how well traditional bullying and cyberbullying could be predicted by both cognitive and affective empathy. With regards to traditional bullying, affective empathy significantly predicted traditional bullying, $\beta = -.265$, $t(974) = -7.427$, $p < .05$. Affective empathy also explained a statistically significant proportion of variance in traditional bullying, $R^2 = .062$, $F(1, 974) = 32.20$, $p < .05$, suggesting a small effect (Cohen,1988). The results indicate that a negative relationship exists between affective empathy and traditional bullying; with each single unit increase in moral disengagement, affective empathy will decrease by .357. Although cognitive empathy correlated significantly and negatively with traditional bullying, cognitive empathy did not predict traditional bullying (see Table 2).

Table 2: Linear regression for cognitive and affective empathy predicting traditional bullying

	B	*SE*	*β*	*t*	*p*
Cognitive Empathy	.056	.056	.036	1.002	.317
Affective Empathy	-.357	.048	-.265*	-7.427	.000

Note: *$p < 0.05$.

With regards to cyberbullying, affective empathy predicted cyberbullying, $\beta = -.089$, $t(974) = -2.429$, $p < .05$. Affective empathy also explained a statistically significant proportion of variance in cyberbullying, $R^2 = .006$, $F(1, 974) = 3.014$, $p < .05$, suggesting a small effect (Cohen,1988). The results indicate that a negative relationship exists between affective empathy and cyberbullying; with each single unit increase in moral disengagement, affective empathy will decrease by .028. Cognitive empathy did not predict cyberbullying (see Table 3).

Table 3: Linear regression for cognitive and affective empathy predicting cyberbullying

	B	*SE*	*β*	*t*	*p*
Cognitive Empathy	.012	.013	.032	.883	.377
Affective Empathy	-.028	.011	-.089*	-2.429	.015

Note: *p < 0.05.

Discussion

Bullying is a disturbing social phenomenon from which a significant number of adolescents suffer. It has negative consequences such as depression, low self-esteem, and poor learning achievement later in lives of the victims (Reijntjes et al., 2010) and offending later in lives of the perpetrators (Ttofi et al., 2011). Previous studies found that low affective empathy is related to higher levels of bullying perpetration, while there is no significant relationship between cognitive empathy and bullying perpetration (Zych et al., 2018; Zych & Llorent, 2018) and that affective empathy is among the strongest predictors of bullying perpetration (Stavrinides et al., 2015). However, there are still many gaps in knowledge regarding traditional bullying and cyberbullying in adolescents in general and their relation to cognitive empathy and affective empathy. The present study was conducted to fill these gaps in knowledge by discovering the dynamic relationships between traditional bullying, cyberbullying and a number of variables, namely cognitive and affective empathy, and investigating their predictive utility on traditional bullying and cyberbullying behaviours of high school adolescents.

Regarding gender differences, the findings of this study find that, in general male students are more likely to involve in traditional bullying and cyberbullying than females, and this finding is in line with results from previous studies (e.g. Jolliffe and Farrington 2006; Ladd 2005). In terms of empathy, the results support previous studies which find that female students have a greater feeling of empathy than males (Kokkinos & Kipritsi, 2017; Christov-Moorea et al., 2014; Jolliffe & Farrington, 2006). When the components of empathy are measured, female students have higher cognitive and affective empathy than male students. Females' affective empathy that is higher than males' affective empathy makes them more able to feel and experience other people's emotional states than just understanding other people's feelings. Again, these are consistent with previous findings (Jolliffe & Farrington, 2006; Christov-Moore et al., 2014; Bojana et al., 2016; Antoniadou & Kokkinos, 2018). However, differing from the earlier findings that claim females' affective empathy scores is higher than their cognitive empathy scores (Reniers et al., 2011: Christov-Moore et al., 2014; Bojana et al., 2016; Antoniadou & Kokkinos, 2018), the present study finds that females' affective empathy is lower than their cognitive empathy.

The result of this present study is consistent with previous findings demonstrating that both cognitive and affective empathy are negatively related to traditional bullying (Del Rey et al.,

2016). This result opposes previous studies which find that only affective empathy is related to traditional bullying (Jolliffe & Farrington, 2006; Zych & Llorent, 2018; Antoniadou & Kokkinos, 2018). This present study also finds that affective empathy is negatively related to cyberbullying in adolescents, but there is no significant relationship between cognitive empathy and cyberbullying. This finding is in line with the earlier studies (e.g. Antoniadou & Kokkinos, 2018; Renati et al., 2012; Steffgen et al., 2011). However, these study findings are consistent with the general argument that lower empathy scores (in general) develop a significant risk factor for traditional bullying (Steffgen et al., 2011) and cyberbullying behaviour (Chan & Wong, 2015).

Another purpose of the present study is to examine the contribution of the two variables, namely cognitive and affective empathy in the prediction of traditional bullying and cyberbullying. For traditional bullying, linear regression analysis shows that affective empathy appears as a significant predictor. This finding indicates that low affective empathy can predict traditional bullying. In other words, only affective empathy could be a possible protective factor against traditional bullying. It seems that the students involved in traditional bullying are not able to share the emotional state of others or experience feelings of concern for others. This result is in line with the previous study conducted by López-Pérez et al. (2015). However, it is not in line with the study conducted by Kokkinos & Kipritsi (2012) who found that cognitive empathy is the only significant predictor for bullying. With regards to cyberbullying, linear regression analysis shows that affective empathy appears as a significant predictor. This finding is consistent with the earlier studies which find that cyber bullies have lower affective empathy scores than those who are not involved in it (Antoniadou & Kokkinos, 2018; Renati et al., 2012; Steffgen et al., 2011). This finding indicates that affective empathy could be a possible protective factor against cyberbullying behaviour.

Limitations and Contributions of the Present Study

This study has several limitations that should be taken into consideration when interpreting the results. First, its cross-sectional and correlational nature should be acknowledged; that cannot provide a causal explanation regarding how cognitive and affective empathy influences students to engage in bullying. Second, the score of bullying and empathy is based on self-report. Although in this study, the instrument used to measure empathy and bullying uses a measurement that has proven its validity, social stereotypes can impute bias to the results of self-report evaluation. Third, the size of the sample is also a limitation of the present study. The study was conducted in only three high schools, making it difficult to know how far the results can be generalised. Ideally, this research should be conducted in numerous schools, so that adequate results are obtained to arrive at a relationship between traditional bullying, cyber bullying, cognitive and affective empathy.

In future research, it is necessary to control moderator variables that can influence the relationship between empathy and bullying behaviour. Those variables are, for example, demographic variables, socioeconomic status, and other social, emotional, and moral competencies. It will also be useful to explore through longitudinal research of the causal relationship between traditional bullying, cyberbullying, and cognitive and affective empathy.

Despite the above limitations, this study makes significant contributions to bullying research by increasing our understanding regarding the role of selected factors, namely gender, when considering cognitive and affective empathy in adolescent's involvement in traditional bullying and cyberbullying. Findings from this study could help in the development of intervention policies in high schools and support educational authorities to introduce better strategies for reducing school bullying. The concept of empathy should be taken into consideration when designing and implementing interventions (either preventive or treatment). Focusing on cognitive empathy only helps the students to understand the victim's feelings and to design more effective bullying methods (Van Noorden et al., 2015), while counselling for bullying must focus on efforts to arouse the students' basic motivation to increase their affective empathy. Affective empathy will help students feel and share others' emotions, since it is found to play a critical role in bullying behaviour.

Conclusion

The research finds that males are more likely to be involved in traditional bullying and cyberbullying behaviour than females, and that the level of cognitive and affective empathy of males is lower than that of females. This research also finds that cognitive and affective empathy correlate significantly and negatively with traditional bullying. However, cognitive empathy does not correlate significantly with cyberbullying. It is found that for both traditional bullying and cyberbullying, only affective empathy predicts bullying behaviour. This result indicates that students who score higher in traditional bullying and cyberbullying are more likely to score lower in affective empathy. Affective empathy seems to play a more important role than cognitive empathy in the prediction of positive attitude toward bullying in this research. The results of this research also emphasise the importance of considering affective empathy when designing intervention programs for the prevention of bullying in schools. Therefore, these programs should concentrate on improving students' affective empathy.

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