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## **Aggression and emotions: cultural and individual differences**

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# CHAPTER

# 5

## BULLYING PERPETRATION AND EMOTIONAL REACTIVITY: THE ROLE OF CULTURAL AND INDIVIDUAL DIFFERENCES

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Bullying perpetration and emotional  
reactivity: The role of cultural and  
individual differences.

## ABSTRACT

Bullies and victims both experience emotional reactivity. Yet do their cultural backgrounds serve as protective factors against involvement in bullying? This study examined relations between emotional reactivity and bullying perpetration or victimization, and the moderating role of cultural values. We examined individualism and collectivism at both the country level (Netherlands, Malaysia) and at the individual levels (across countries). A total of 535 Dutch and Malaysian adolescents 12 to 14 years old completed self-report measures on bullying perpetration and victimization, and emotional experiences of shame, guilt, fear and anger, as well as cultural values of individualism and collectivism. Results from linear hierarchical regression analyses showed that collectivism moderated relations between bullying perpetration and guilt, shame, and fear, whereas country of origin moderated relations between bullying perpetration and anger. The strengths, limitations, and implications of the study for future research are discussed.

Bullying perpetration is a form of aggression that is characterized by physical behaviours such as hitting, or non-physical (psychological) acts such as name-calling or social exclusion (Olweus, 2013). Bullying is regarded as a common problem worldwide, with the highest prevalence during adolescence (Pellegrini, Bartini, & Brooks, 1999; Volk, Camilleri, Dane, & Marini, 2012). It involves an imbalance of power between two parties, the bully and the victim, and it happens repeatedly over time (Olweus, 2013; Smith & Brain, 2000). This frequent abuse of power often causes physical harm and psychological distress to victims, and puts victims at risk for developing mental health problems (Ragatz, Anderson, Fremouw, & Schwartz, 2011; Schneider, O'Donnell, Stueve, & Coulter, 2012). To date, studies that have included participants from Western countries have begun to unravel the different factors contributing to both perpetrators and victims of bullying, and this knowledge has been important for developing ways to prevent bullying. Yet bullying is also a widespread problem in East Asian countries, including Malaysia (Sittichai & Smith, 2015). It is unknown whether the underlying factors found in Western countries can be generalized to Asian countries.

Research on Western samples suggests that bullying perpetration and victimization are both strongly related to negative emotional reactivity (Moore & Woodcock, 2017). Emotional reactivity refers to the varying intensities and levels of emotional arousal induced by specific stimuli (Shapiro & Steinberg, 2013). For example, bullies often show elevated levels of anger and low levels of guilt (Mahady Wilton, Craig, & Pepler, 2000; Mazzone, Camodeca, & Salmivalli, 2016). They may harm others without feeling bad about their conduct, or may even feel their behaviour is justified, as in taking an attitude that the victim(s) "deserved it". Meanwhile, victims have been found to frequently feel intense fear and high levels of shame (Menesini & Camodeca, 2008). However, these findings in Western samples may not generalize to members of Asian populations, given cross-cultural differences in emotional reactivity (An, Ji, Marks, & Zhang, 2017; Chentsova-Dutton & Tsai, 2010). In an effort to fill this gap in our knowledge, in the current study we examined the role of emotional reactivity in bullying in adolescents, while also taking into account the role of culture. The role of culture was examined in two ways: first, at the level of country-of-origin, we compared adolescents from a Western, predominantly individualistic-oriented country (the Netherlands) and an East Asian, predominantly collectivistic-oriented country (Malaysia). Second, at the individual level, we examined adolescents' endorsement of cultural values (i.e., collectivism and individualism). While the between-country approach can provide valuable insight into *how* Dutch and Malaysian adolescents differ, it cannot provide insight into *why* such differences may occur. By examining adolescents' endorsement of cultural values, we tested a potential underlying mechanism that might explain between-country differences.

### Research on bullying perpetration in East Asian countries

Although most studies on bullying perpetration have been conducted in Western countries, bullying is not a new research topic in East Asia. Numerous studies have

discussed the prevalence and negative consequences of bullying perpetration and victimization in East Asian youth, and these have yielded findings comparable to those of studies on Western adolescents. The literature indicates prevalence rates in East Asian countries range from 18.5% to 71.4% for bullying, and from 17.9% to 80.7% for victimization (Laeheem, Kuning, McNeil, & Besag, 2008; Mat Hussin, Abd Aziz, Hasim, & Sahril, 2014; Pradubmook-Sherer & Sherer, 2016; Yodprang, Kuning, & McNeil, 2009). Yet, reported prevalence rates are lower in Western countries: 3.0% to 23.0% for bullying, and at 8.0% to 46.0% for victimization (Jansen, Veenstra, Ormel, Verhulst, & Reijneveld, 2011; Wolke, Woods, Stanford, & Schulz, 2001). Meanwhile, using a similar measurement (i.e., Olweus Bully/Victim Questionnaire), research shows lower prevalence rates of bullies, victims, and bully-victims (4.6%, 9.5%, 1.9% respectively) in Western samples than in Eastern samples (4.6%, 13.6%, 5.2%) (Liu, Chen, Yan, & Luo, 2016; Solberg, Olweus, & Endresen, 2007). To date, the most frequently identified risk factors for bullying and victimization are demographic factors such as age, i.e., older bullies and younger victims (Laeheem et al., 2008; Pradubmook-Sherer & Sherer, 2016; Seo, Jung, Kim, & Bahk, 2017), male gender (Huang et al., 2016; Yodprang et al., 2009), and low socio-economic status, e.g., parents' education and income (Moon, Morash, & McCluskey, 2012; Zhu & Chan, 2015).

Studies with Western samples have often focused on the role of emotional reactivity in relation to bullying perpetration and victimization. Typically, emotions are seen as an adaptive reaction to the social environment (Scherer, 2000), and emotional reactivity focuses an individual's attention on an event, and emotions serve to provoke the individual to react adaptively: to find a balance between personal gain and worthwhile social relationships with meaningful others, and achieve the best possible outcome (Frijda, 1986). In bullies, however, the aim for personal gain might be higher than the desire for any positive social bond. Studies in Western samples indeed found that youngsters who bully others experience high levels of anger (Bosworth, Espelage, & Simon, 1999; Lonigro et al., 2015), as well as low levels of guilt (Mazzone et al., 2016; Menesini & Camodeca, 2008). Regardless of the cause of their fury, bullies often seem to use anger as a tool to achieve their social goals, i.e., to harm and control their victims and/or preserve a certain social status. Guilt, on the other hand, refers to a social emotion that occurs in response to wrongdoing, e.g., hurting someone emotionally, mentally and/or physically (Baumeister, Stillwell, & Heatherton, 1994). While a guilt-prone person is more likely to confess his or her mistakes, attempt to repair any damages caused, and try to reinstate social relationships (Haidt, 2003; Olthof, Schouten, Kuiper, Stegge, & Jennekens-Schinkel, 2000), fewer of these behaviours are seen in children and adolescents who bully. These youngsters are more likely to exhibit a lack of guilt, as they show little or no remorse upon hurting others (Broekhof, Bos, Camodeca, & Rieffe, 2018; Mazzone et al., 2016; Roberts, Strayer, & Denham, 2014).

Victims, in turn, often react angrily towards provocation or intended harm inflicted upon them (Morrow, Hubbard, Barhight, & Thomson, 2014). In contrast to bullies,

victims report higher levels of fear and shame (Boulton, Trueman, & Murray, 2008; Vidourek, King, & Merianos, 2016). Being bullied is a threatening and distressing experience that makes the victim feel insecure and ashamed, and victims often fear being bullied again (Broekhof et al., 2018). Previous research has indicated a reciprocal relationship between being bullied and shame: being bullied not only elicits shame (Broekhof et al., 2018; Lunde & Friséen, 2011), but, according to a longitudinal study in pre-adolescents, higher levels of shame might also create an easy victim for the bully, thus further increasing the risk of being bullied (Broekhof et al., 2018).

Regarding East Asian populations, the prevalence, risk factors, and consequences of bullying perpetration and victimization have been addressed in prior studies. However, less attention has been paid to the association between emotional reactivity and bullying perpetration or victimization in East Asian cultures. A few studies found high levels of anger and moral disengagement (i.e., low levels of guilt) in Chinese bullies (J. K. Chen & Astor, 2010; Wang, Yang, Yang, Wang, & Lei, 2017), and anxiety problems (i.e., high levels of fear) in Chinese victims (Yen et al., 2013). These findings are in line with those reported in the Western literature. Given the dearth of research conducted in East Asia, one may be tempted to generalize the findings from studies in Western populations to non-Western populations. However, this could be problematic, as Western and East Asian societies are regarded as having different dominant cultural values. These values, in turn, could affect the expectations, emotions, and behavior of bullies and victims, alike.

For example, in Western societies, individuals are more likely to endorse individualistic values, where the core focus is on the individual, and on individuals' needs, wishes, and well-being. In these societies, individuals are more likely to emphasize the individual's responsibility, and therefore to emphasize guilt as a mechanism for social control (Realo, Koido, Ceulemans, & Allik, 2002; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). In contrast, East Asian individuals are more likely to endorse collectivistic values, where the core focus is on one's social group, on the group's needs and success, and on an individual's relationship with other in-group members (Oyserman, Coon, & Kimmelmeier, 2002; Triandis, 2001; Wang & Tamis-LeMonda, 2003). In these societies, individuals are more likely to attach more importance to in-group harmony, modesty, and conformity. To protect these values, shame, rather than guilt, is treated as an effective mechanism for social control (Bedford & Hwang, 2003; Cole, Tamang, & Shrestha, 2006; Fung, 1999). For instance, East Asian individuals are more likely to believe they will suffer intense shame if they commit a wrongdoing, such as inflicting violence or disobeying social rules (Bedford & Hwang, 2003; Midlarsky, Venkataramani-Kothari, & Plante, 2006; Yoshioka & Choi, 2005), and that they will, in turn, risk losing face (Li, Wang, & Fischer, 2004).

Thus, there is evidence that emotional reactivity plays an important role in bullying perpetration and victimization in adolescents from Western societies, and that shame and guilt are treated differently in Western and East Asian societies. However, it is yet unknown if or how the intensity of these emotions may be related in the same

way to adolescent bullying perpetration and victimization in East Asian societies. To examine these relationships, we compared adolescents from a typical Western, individualistic-oriented country (i.e., the Netherlands) with adolescents from a typical East Asian, collectivistic-oriented country (i.e., Malaysia), according to Hofstede's cultural index (1984; et al., 2010). Such cultural group comparisons are common, and tap into the best-known and most-used theoretical framework within cross-cultural psychology: the individualism-collectivism framework (Oyserman et al., 2002; Triandis, 1995).

Yet, comparisons between cultural groups do not necessarily test whether any differences that are found are indeed due to differences in levels of individualism versus collectivism. Furthermore, people living in the same country might differ regarding their endorsement of individualism and collectivism, and various studies highlight the heterogeneity of endorsement of cultural values within one society (e.g., Georgiou, Fousiani, Michaelides, & Stavrinides, 2013; Strohmeier, Yanagida, & Toda, 2016). Therefore, in addition to examining the role of culture according to country-of-origin, we also examined the role of culture at an individual level, across country-of-origin, by examining the extent to which individual endorsement of individualism and collectivism, respectively, varied amid relations among emotional reactivity, bullying and victimization.

### Present Study

The present study aimed to examine associations between adolescents' emotional reactivity (i.e., fear, anger, shame, and guilt) and bullying perpetration or victimization. We tested how culture affected these relationships in two ways: at the country-of-origin level, by comparing Dutch and Malaysian adolescents; and at the individual level, by examining the influence of adolescents' endorsement of individualism or collectivism, across countries. This allowed us not only to recruit insight into possible country differences, but into possible cultural mechanisms that may underly country differences in the relations between emotional reactivity and bullying or victimization (Oyserman et al., 2002; Strohmeier et al., 2016).

Our objectives fell under two categories. First, we examined differences in the relationship between bullying or victimization and fear, anger, shame, and guilt according to country-of-origin:

- » In the Dutch sample, we expected a positive correlation for anger, and a negative correlation for guilt with perpetration of bullying (Broekhof et al., 2018).
- » In the Malaysian sample, we expected a positive correlation for anger and a negative correlation for shame with perpetration of bullying, given that shame is a self-regulatory mechanism in East Asian societies (Fung, 1999; Li et al., 2004).
- » In both samples, we expected shame, fear, and anger to correlate positively with victimization from bullying. However we expected that the strength of the relationship between shame and victimization would vary by country, with a stronger relation in the Dutch sample than in the Malaysian sample, since



shame is perceived as an adaptive reaction in collectivistic-oriented but not individualistic-oriented cultures (Fessler, 2004; Triandis et al., 1988).

Second, we investigated any moderating effects for endorsed cultural values (i.e., collectivism and individualism) on relations between emotional reactivity and bullying perpetration or victimization, regardless of country-of-origin:

- » In participants reporting high endorsement of individualistic values, we expected less bullying perpetration to be related to more guilt.
- » In participants reporting high endorsement of collectivistic values, we expected less bullying perpetration to be related and to more shame.
- » We did not expect cultural values to moderate the relationship between anger and bullying perpetration, due to similar results from previous studies conducted in individualistic and collectivistic countries (Bosworth et al., 1999; J. K. Chen & Astor, 2010; Lonigro et al., 2015; Mahady Wilton et al., 2000).
- » We did not expect cultural values to moderate relations between victimization and emotional reactivity, except that in participants reporting high endorsement of individualistic values, shame would be related to more victimization.

## METHOD

### Participants and Procedure

A total of 535 adolescents aged between 12 and 14 years old from four secondary schools in the Netherlands ( $n = 251$ ; 53.4% girls;  $M_{\text{age}} = 13.90$ ,  $SD = 0.57$ ) and three secondary schools in Malaysia ( $n = 284$ ; 52.5% girls;  $M_{\text{age}} = 13.09$ ,  $SD = 0.58$ ) participated in the study during school hours. Prior to data collection, approval was obtained from all organizations and individuals involved. In the Netherlands, the Psychological Ethics Committee of Leiden University granted permission to conduct this study, and similar permission was granted by the government authorities in Malaysia (i.e., the Prime Minister Department through its Economic Planning Unit (EPU) and the Ministry of Education Malaysia). Also, active informed consent was secured as required by parents or caregivers in the Netherlands, by school principals or their assistants in both countries, and by all participants in both countries, before data were collected<sup>1</sup>.

As detailed below, we used various self-report questionnaires that were all available in English. All questionnaires were translated from English into Malay (i.e., the national language of Malaysia) by taking the following five steps: first, the first author translated all English questionnaires into Malay; second, an independent bilingual translator back-translated the Malay versions into English; third, the original and back-translated English versions were compared and checked for language

<sup>1</sup> Given that Malaysia has actively applied the *in loco parentis doctrine* in its educational system, no active parental consent was needed. *In loco parentis* is a legal doctrine that extends parental rights and responsibilities to schools and teachers.

consistency, with any inconsistencies resolved through discussion; fourth, in a pilot study, 168 adolescents completed the questionnaires in Malaysia; and fifth, following the pilot study, a few minor amendments were made to the Malaysian questionnaires, before executing the present study.

## Measures

*The Bully Questionnaire* (Rieffe et al., 2012) started with a short explanation about what is considered bullying (e.g., hitting, kicking, or threatening someone). The participants were presented with the question, "Did you, with the aim of bullying someone, over the last two months . . ." and then nine items for bullying behaviors, to which they could respond using a 3-point scale: 1 = (Almost) Never, 2 = Sometimes, 3 = Often.

*The Victim Questionnaire* (Rieffe et al., 2012) consisted of 10 items presenting victimization behaviors (e.g., being called a name, having mean things said to you). The participants were asked about how frequently they had been bullied within a 2-month period by rating the incidence on a 3-point scale: 1 = (Almost) never, 2 = Sometimes, 3 = Often. One item ("Are you invited to birthday parties?") was reverse coded.

*The Brief Shame and Guilt Questionnaire for Children* (Novin & Rieffe, 2015) consisted of 12 vignettes measuring shame- and guilt-proneness in children and adolescents. An example of a shame vignettes is: "You hear that you've received a low grade at school when the teacher announces the grades in class." An example of a guilt vignettes is: "Your classmate is using the red pen the whole time. You also need the pen. You snatch away the pen". The participants then were asked to rate their feelings of shame or guilt on a 5-point scale from 1 = not at all to 5 = very much. However, due to human administrative error, two items representing shame and guilt, respectively, were omitted from the questionnaire.

*The Mood Questionnaire* (MQ) (Rieffe, Meerum Terwogt, & Bosch, 2004) was used to assess children's self-reported feelings of anger and fear. The children were asked to indicate how they had been feeling over the previous four weeks (e.g., "I felt furious", "I felt frightened"). The questionnaire consisted of a total of 20 items on a Likert-type scale (1 = (almost) never, 2 = sometimes, 3 = often).

*The Individualism-Collectivism Questionnaire for Adolescents* (Novin, Dahamat Azam, Broekhof, Li, Koch, & Rieffe, submitted) is an 11-item questionnaire that measures the extent to which adolescents endorse individualistic or collectivistic values, respectively, on a 5-point scale ranging from 1 = Strongly disagree to 5 = Strongly agree. An example of an individualistic item is, "I feel happier when I make my own choices than using my friends' and family's suggestions." An example of a collectivistic item is, "I feel happy when my friends and family are happy."

Table 1 presents the psychometric properties of the measures for the total sample, and for the two countries separately. Overall, all measures showed adequate internal consistency reliability ( $.62 < \alpha < .88$ ).

**Table 1.** Psychometric properties of the questionnaires for bullying, victimization, moral emotions, moods and cultural values

	<i>n</i> <i>items</i>	<i>range</i>	Cronbach's $\alpha$			<i>M (SD)</i>			<i>T</i>
			Total	Dutch	Malay- sian	Total	Dutch	Malay- sian	
Bullying	9	1 – 3	.81	.75	.81	1.33 (0.34)	1.21 (0.25)	1.43 (0.38)	-8.04*
Victimization	10	1 – 3	.83	.77	.72	1.57 (0.41)	1.31 (0.30)	1.79 (0.36)	-16.85*
Shame	5	1 – 5	.76	.69	.81	3.15 (0.97)	2.86 (0.78)	3.41 (1.05)	-6.98*
Guilt	5	1 – 5	.78	.75	.83	2.98 (1.00)	2.91 (0.84)	3.05 (1.12)	-1.66
Fear	4	1 – 3	.75	.79	.62	1.74 (0.49)	1.52 (0.47)	1.94 (0.42)	-10.56*
Anger	4	1 – 3	.76	.85	.64	1.75 (0.48)	1.60 (0.47)	1.89 (0.45)	-7.16*
Individualism	5	1 – 5	.76	.68	.73	3.03 (0.87)	3.43 (0.64)	2.66 (0.85)	11.83*
Collectivism	6	1 – 5	.86	.75	.88	3.73 (0.87)	4.00 (0.55)	3.51 (1.03)	6.82*

\* $p < .001$

## DATA ANALYSIS AND RESULTS

### Missing Data Analysis

Prior to data analysis, we conducted a missing value analysis to determine the proportion and pattern of our missing data. From the results, the non-significant value of the Little's MCAR test ( $\chi^2 = 21.35$ ,  $DF = 18$ ,  $p = .262$ ) indicated that the missing data were missing completely at random. Also, considering that the amount of missing data was small (2.24% of the incomplete cases, and only 0.56% of the values were left unfilled), we employed complete case analysis (*list-wise deletion*) for all further analyses.

### Statistical Analysis

First, the relations between bullying perpetration or victimization and shame- or guilt-proneness, fear, and anger were tested through correlations. All scores were centered around the mean score per country, to control for mean differences between countries that might have been caused by variation in use of the response scales (Field, 2013). We performed Fisher's *r*-to-*z* transformations to compare the strength of these relationships between the Dutch and Malaysian samples.

In order to examine any moderating role for cultural values in any relationship between emotional reactivity and bullying perpetration or victimization, two separate hierarchical regression analyses were conducted. In each analysis, we entered our

control variables (i.e., gender: -1 = boy, 1 = girl; and centered participants' age) and the centered scores of shame- and guilt-proneness, fear, and anger in the first model. Country (-1=Netherlands, 1 = Malaysia) was not entered as a main effect in the regression models, because mean scores were centred per country. Interactions with country were added. Individualism and collectivism were entered in the second model. In the third model, we added all two-way interactions for shame, guilt, fear, and anger with country, individualism and collectivism.

### Relations between bullying perpetration or victimization and emotional reactivity and cultural values

As presented in Table 2, correlations show that in Dutch participants, bullying perpetration was positively related to anger and negatively related to guilt and collectivism. In Malaysian participants, bullying perpetration was positively related to fear, anger and individualism, and negatively related to shame and collectivism. Victimization was positively related to fear and anger in both samples, but positively related to shame in Dutch participants.

Next, we tested for possible country of origin differences in the correlations. The Fisher's  $r$  to  $z$  tests revealed significant differences: the strength of the correlation between guilt and bullying ( $z = -1.99$ ,  $p = .047$ ) was stronger for Dutch participants than for their Malaysian peers, whereas the strength of the correlation between collectivism and victimization ( $z = -2.05$ ,  $p = .040$ ) was stronger in the Malaysian sample than for their peers in the Netherlands. Supplementary Table 1 presents the correlations between variables in greater detail.

**Table 2.** Pearson correlation coefficients of shame, guilt, fear, anger and individual IC on bullying and victimization

	<i>r</i> (95% CI)					
	Shame	Guilt	Fear	Anger	Individualism	Collectivism
Bullying						
Dutch ( <i>n</i> = 241)	-.08 (-.20 – .05)	-.30*** (-.41 – -.16)	.08 (-.03 – .20)	.20** (.08 – .32)	.11 (-.01 – .22)	-.14* (-.27 – -.01)
Malaysian ( <i>n</i> = 282)	-.13* (-.23 – -.03)	-.09 (-.19 – .01)	.17** (.05 – .30)	.29*** (.18 – .41)	.20** (.09 – .30)	-.15* (-.26 – -.04)
Z value	0.52	-2.41**	-1.05	-1.14	-1.01	.17
Victimization						
Dutch ( <i>n</i> = 241)	.20** (.04 – .36)	.01 (-.12 – .15)	.31*** (.17 – .43)	.31*** (.19 – .43)	.00 (-.17 – .16)	-.07 (-.23 – .08)
Malaysian ( <i>n</i> = 282)	.04 (-.09 – .15)	-.05 (-.18 – .07)	.21*** (.09 – .33)	.24*** (.13 – .36)	.10 (-.03 – .25)	.11 (-.01 – .23)
Z value	1.92	0.74	1.25	0.82	-1.13	-2.08*

\* $p < 0.05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## Cultural values as the moderator

Table 3 presents the results of regression analyses on bullying perpetration and victimization. In the analysis for victimization, only the first model significantly increased the explained variance. Therefore, only the main effects were included in the table.

The regression analysis with bullying as the dependent variable showed that males reported that they bullied more. Furthermore, higher levels of anger and individualism were related to more bullying, whereas higher levels of guilt and collectivism were related to less bullying.

**Table 3.** Regression analysis showing gender, shame-proneness, guilt-proneness, fear, anger and cultural values as predictors of bullying and victimization (n = 523)

Predictor	Bullying				Victimization			
	B	SE B	p	R <sup>2</sup> /ΔR <sup>2</sup>	B	SE B	p	R <sup>2</sup> /ΔR <sup>2</sup>
Model 1				.13/ .13**				.12/ .12**
Age	-.00	.00	.827		.00	.00	.775	
Gender	-.06	.01	.000		-.03	.01	.047	
Shame	-.01	.02	.452		.05	.02	.010	
Guilt	-.04	.02	.019		-.04	.02	.021	
Fear	.07	.03	.060		.13	.04	.000	
Anger	.14	.03	.000		.13	.04	.000	
Model 2				.16/ .03**				
Individualism	.07	.02	.000					
Collectivism	-.05	.02	.006					
Model 3				.21/ .05*				
Shame x CNTY	-.04	.02	.048					
Guilt x CNTY	.05	.02	.007					
Fear x CNTY	-.01	.04	.813					
Anger x CNTY	.08	.03	.018					
Shame x IND	-.02	.02	.483					
Guilt x IND	-.02	.02	.264					
Fear x IND	.04	.04	.405					
Anger x IND	-.01	.05	.820					
Shame x COLL	.05	.02	.014					
Guilt x COLL	-.05	.02	.009					
Fear x COLL	-.13	.04	.003					
Anger x COLL	.04	.04	.332					

\*p < .05, \*\*p < .001

Note: B = unstandardized regression coefficients; SE = Standard Error; p = significant value; Δ R<sup>2</sup> = change in R<sup>2</sup> value; IND = individualism; COLL = collectivism; CNTY = Country of Origin (-1=Netherlands, 1 = Malaysia)

Collectivism interacted with the levels of guilt, shame, and fear. Among adolescents who endorsed higher levels of collectivistic values, bullying perpetration was predicted by higher levels of shame ( $B = .04$ ,  $p < .001$ ; Supplementary Figure 1), whereas higher levels of guilt predicted less bullying ( $B = -.03$ ,  $p < .001$ ; Supplementary Figure 2). Among adolescents who endorsed lower levels of collectivistic values, higher levels of fear predicted bullying perpetration ( $B = .16$ ,  $p = .001$ ; Supplementary Figure 3).

In the third model, a significant interaction between country of origin and shame, guilt, and anger was found. Among Dutch participants, higher levels of shame predicted bullying perpetration ( $B = .03$ ;  $p = .015$ ; Supplementary Figure 4), but higher levels of guilt predicted less perpetration ( $B = -.08$ ;  $p < .001$ ; Supplementary Figure 5). Among Malaysian participants, higher levels of guilt predicted less bullying ( $B = -.05$ ;  $p < .001$ ; Supplementary Figure 5), but higher levels of anger predicted more bullying ( $B = .12$ ;  $p < .001$ ; Supplementary Figure 6).

The regression analysis with victimization as the dependent variable showed that younger participants reported more victimization. Furthermore, higher levels of guilt predicted less victimization, and shame, anger, and fear predicted more victimization. This applied to all participants, regardless of country or cultural values, since there were no interactions for cultural values or country related to victimization. Supplementary Table 2 presents the results of regression analyses in greater detail.

## DISCUSSION AND CONCLUSION

Many studies with participants from Western cultures have provided important insights into underlying mechanisms involved in bullying. These insights are helpful when developing strategies to prevent bullying perpetration and victimization. Yet, bullying is also widespread problems in Asian countries, including Malaysia (Sittichai & Smith, 2015). Thus far, less is known as to whether the same characteristics of emotional intensity that apply to Western adolescent samples also apply in East Asian samples of the same age. This was the focus of the present study.

In general, our findings share many similarities with previous research conducted in Western countries. For instance, higher anger, fear, and shame were related to victimization (Broekhof et al., 2018; Spence, de Young, Toon, & Bond, 2009), and these relations did not differ culturally, either at the country or individual level, as we expected. These outcomes show the negative impact that bullying can exert on victims, which now also appears to be evident in adolescents from the East Asian country of Malaysia. Unexpectedly, higher levels of guilt were related to less likelihood of being bullied in both countries. It is possible that guilt plays a protective and preventive role against being victimized, although the causality of this relationship cannot be established given the cross-sectional nature of the data in our study. Undeniably, guilt-prone individuals are more likely to apologize and make amends for their wrongdoings (Stuewig, Tangney, Heigel, Harty, & McCloskey, 2010; Tangney, Stuewig, & Mashek, 2007). Their reparative efforts to maintain positive and continuous relationships with others might gain them more social support among peers, thus

lowering the probability of being bullied (Murphy, Laible, Augustine, & Robeson, 2015; Roberts et al., 2014).

Regarding bullying, our outcomes partly overlapped with our expectations, but some findings were new and unexpected. As expected, individualism was related to more bullying perpetration for adolescents in both countries, and more anger but less guilt were related to more bullying. Yet, these relationships were affected by the level of endorsement of collectivism or country-of-origin. For instance, the link between guilt and lower levels of bullying perpetration was more apparent in Dutch adolescents, as we expected. Also, the association of shame and fear with bullying was significant only when collectivism or country-of-origin was taken into account.

Regarding fear, outcomes showed that fearful adolescents with low endorsement of collectivism bully more, whereas fearful adolescents with high endorsement of collectivism bully less. Possibly, these fearful adolescents – low in collectivism – bully in defense of feeling threatened, instead of the cold-blooded kind of aggression that other types of bullies might display. As a matter of fact, bullies have been found to enact not only proactive, but also reactive aggression (Camodeca, Goossens, Terwogt, & Schuengel, 2002), which is a response to frustration and, possibly, to fear. Yet, a low sense of collectivism could deprive these adolescents of a feeling of belonging, and increase their sense of loneliness, which may exacerbate an aggressive reaction to fear (X. Chen, Wang, Li, & Liu, 2014; Hsieh & Yen, 2019; Shao, Liang, Yuan, & Bian, 2014). Future studies could further explore the validity of this supposition by taking into account different motives for bullying.

Another intriguing finding was the moderating role of collectivism in relations between shame or guilt, respectively, regarding bullying perpetration. This suggests that relations between shame or guilt and bullying depend on how an adolescent (i.e., the bully) prioritizes the needs and concerns of others. For adolescents low in collectivism, neither shame nor guilt affected their levels of bullying. Yet for those high in collectivism, shame seemed to be a risk factor (more bullying), while guilt seemed to be a protective factor (less bullying). Taken together, these outcomes suggest that – either alone or in combination with other factors – individualism and shame are potential risk factors for bullying, whereas collectivism and guilt are potential protective factors. The design of this study was cross sectional, so future studies should consider a longitudinal design to establish the causality of these relationships. However we could infer from these outcomes that individualism and shame are strongly focused on the individual, yielding an internal focus, whereas collectivism and guilt both imply an external focus on group harmony and the well-being of the other person.

Why is the combination of high collectivism with low shame, specifically, a potential protective factor? Note that especially in collectivistic-oriented cultures, shame is a painful emotion that people tend to avoid due to the fact that it is often a direct consequence of losing face (Bedford, 2004; Li et al., 2004). Keeping face reflects individuals' social prestige, reputation, self-esteem and dignity within their social-

context (Bedford, 2004). Losing face can seriously damage individuals' social integrity, thus affecting their ability to function effectively in those societies (Ho, Fu, & Ng, 2004). Yet, face-saving can protect individuals from feelings of shame, embarrassment and humiliation (Li et al., 2004; Ramli, 2013). This helps collectivistic-oriented individuals harmonize with their surroundings and strengthen interdependence (Hofstede, 1984; Oyserman et al., 2002). This may help prevent negative behaviors such as aggression and violence from happening.

While our expectation that anger would be related to more bullying perpetration was met, we did not expect that the relation would differ between the cultural groups. In this study, we found that anger was related to more bullying in both countries, but the effects were more apparent for Malaysian participants than their Dutch peers. Also, the Malaysian participants bullied less by when they experienced lower rather than higher levels of anger. This suggests that lower levels of anger seem to be related to less bullying in Malaysian adolescents, whereas anger seems quite independent from bullying in Dutch youth. It is possible that in a collectivistic country, where harmony, respect for elders, tolerance, non-confrontation, and politeness are valued (Ramli, 2013; Tamam, 2010), higher degrees of anger are needed to harass or damage someone else. In fact, similar to mechanisms around shame, uncontrollable anger is a dire consequence of losing face, too (Ho et al., 2004). The combination of these negative emotions may create a perfect storm for aggression (Chan, 2006).

Thus, by examining culture from a multi-level perspective (i.e., at both country and individual levels), we could examine whether cultural group differences were explained by endorsement of individualistic and collectivistic values, respectively, as is so often is assumed. Our study shows that differences between a representative individualistic culture (i.e., in the Netherlands) and a representative collectivistic culture (i.e., in Malaysia) did not necessarily reflect how much endorsed individualistic and collectivistic values, respectively, were related to emotional reactivity and bullying perpetration or victimization. The underlying mechanisms that may explain the cultural group differences we found remain unclear, and open for future investigation.

Like every study, ours has a number of limitations that deserve closer attention, and should be addressed by future research. For example, this study selected only one East Asian country and one Western country, which we believe represent an individualistic and a collectivistic culture, respectively. However, it may not be possible to generalize our findings to other populations in East Asia, to other Western countries, or to other parts of the world, because every country and culture is unique in its own. The dissimilarities of values, norms and even socio-demographic factors between countries and cultures should be taken into consideration before generalizing from any results. Therefore, it would be useful for future studies to replicate this study by including samples from more Western and Eastern countries to obtain more representative samples.

Second, due to the cross-sectional nature of our data, our findings did not allow us to study causal relationships among variables. Although bullying and victimization



were the dependent variables, the direction of causality can be debated. For example, a longitudinal study has demonstrated bidirectional associations between emotional reactivity and bullying perpetration and victimization in a sample of Western adolescents (Broekhof et al., 2018). Hence, in order to examine to what extent changes in emotional reactivity may contribute to more (or less) bullying or victimization, and how much bullying or victimization may contribute to emotional reactivity, we recommend that future research use longitudinal design to determine causal effects and directions between the variables cross-culturally.

Third, there is a difference in the way that emotional reactivity and social emotions were measured in our study. Anger and fear were measured by asking respondents how often they experienced these feelings over the past four weeks. Meanwhile, shame and guilt were measured as responses to specific vignettes of daily life situations. While these measures have been validated cross-culturally, future studies might also seek to measure general levels of shame and guilt.

Fourth, our data lacked detailed demographic information from participants. For example, socioeconomic factors such as the household income, parental education, and occupation were not obtained in this study. We believe that collecting this information may provide additional insight into bullying perpetration and victimization between countries with different cultural values and traditions.

The present study, despite its limitations, represents an important step in understanding relations between emotional reactivity and bullying perpetration or victimization in different cultures. Relations we identified between emotional reactivity and bullying perpetration or victimization did not differ much between Dutch and Malaysian adolescents. Indeed, emotions like fear, anger, shame, and guilt play essential roles in the emergence of involvement in bullying in Western populations of adolescents, and this is now evident in a non-Western sample from Malaysia. What is also noteworthy in this study is that regardless of country, different levels of collectivism can serve as either a protective or risk factor in adolescent bullying, depending on which emotions are elicited. This supports the supposition that cultural values such as collectivism and individualism are not mutually exclusive categories that exist solely in and from one culture or another (Coon & Kemmelmeier, 2001; Oyserman et al., 2002). Instead, collectivism exists among individuals across cultures. Nonetheless, this cross-cultural study fills an important gap in the literature by shedding light on adolescent bullying and victimization, and on their relationships with emotional reactivity in a Western and a non-Western sample.

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