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Associations between Dutch and Indian adolescents' bullying role behavior and peer-group status: Cross-culturally testing an evolutionary hypothesis

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Abstract

Contemporary research adopts an evolutionary theoretical perspective in which bullying is strategic behavior that is conducive to peer-group status enhancement. Within this view, a high social status (i.e., popularity) has been associated with bullying others, while a high affiliative status (i.e., preference) has been associated with defending others. This study investigated whether the associations between adolescents' bullying role behavior (i.e., bully, follower, defender, outsider, and victim) and their peer-group status (i.e., popularity and preference) are cross-culturally similar. A multigroup path modeling analysis on a sample of Dutch ($n = 219$; 53.4% boys; $M_{\text{age}} = 13.8$ years, $SD = 9$ months) and Indian ($n = 480$; 60.8% boys; $M_{\text{age}} = 13.8$ years, $SD = 12$ months) adolescents suggested that these associations were indeed largely cross-culturally similar and consistent with previous findings, with one exception. While defending was associated with a relatively average popularity status position for Dutch adolescents, it was associated with a high popularity status position for Indian adolescents. In general, the findings are supportive of the evolutionary theoretical perspective, but the differential association between defending and popularity for Dutch and Indian adolescents seems to also require a cultural perspective.

Keywords

Bullying dynamic, evolutionary theory, defending, peer-group status, cross-cultural

Introduction

Bullying, or repeatedly exposing a victim to the intentionally damaging aggressive behaviors of one or more relatively stronger perpetrators (Salmivalli, 2010), is a serious problem for school-aged youth's mental and physical health (Hawker & Boulton, 2000; Troop-Gordon, Rudolph, Sugimura, & Little, 2014). Classroom students can be involved in the bullying dynamics in behavioral roles other than those of bully and victim (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996). Some students are *followers*, who reinforce or provide assistance to the bully's behavior. Other students are *defenders*, who try to stop the bullying or help victims cope with its consequences (i.e., direct and indirect intervention). Finally, some students are *outsiders*, who refrain from involvement in witnessed bullying.

Adopting an evolutionary theoretical perspective, bullying can be viewed as an adaptive goal-directed behavioral strategy to obtain resource and reputational control (Kolbert & Crothers, 2003; Volk, Camilleri, Dane, & Marini, 2012; Volk, Dane, & Marini, 2014). The proximate effect of bullying is increasing an individual's chances of reproduction, which ultimately increases the chance of genetic transmission to future generations (Volk et al., 2012, 2014). With regards to resource control, individuals can use coercion and/or prosocial actions driven by the expectation of reciprocity to acquire control over their social group's resources (e.g., attention from others or status; Hawley, 1999). Within the bullying dynamics, bullies were found to most cunningly combine these

behavioral strategies (Olthof, Goossens, Vermande, Aleva, & Van der Meulen, 2011) and to use aggressive behaviors towards out-group classmates (i.e., non-friends), while maintaining an affiliative status with their in-group classmates (i.e., friends; Huitsing, Snijders, van Duijn, & Veenstra, 2014).

With regards to reputational control, evidence is mounting that bullying helps bullies in obtaining high social status or dominance (Huitsing et al., 2014; Olthof et al., 2011; Reijntjes et al., 2013). While high status does not imply that bullies are liked by their classmates, they are often perceived as the most popular students. Those who defend victimized classmates on the other hand, only have an average popularity status position (Olthof et al., 2011; Pouwels, Lansu, & Cillessen, 2016). However, defenders rank highest in status when defined as preference (i.e., likeability), while bullies occupy the lower ranks in this regard (Goossens, Olthof, & Dekker, 2006; Reijntjes et al., 2013; Salmivalli et al., 1996).

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Following this evolutionary theoretical perspective, one could postulate that bullies' peer-group status position is universal and that bullies – on average – will rank highest in popularity across cultures, while defenders will rank highest in terms of preference. However, studies investigating the associations between bullying role behavior and peer-group status have been limited to Western cultural samples (i.e., Europe or North America). Therefore, it is unknown whether these associations are indeed universal or susceptible to cultural variability: Will the associations found in Western cultural samples extend to Eastern cultural samples (i.e., Asia)?

This study takes a first step towards exploring this gap in the literature by investigating and directly comparing the associations between (Punjabi) Indian and Dutch adolescents' bullying role behavior (i.e., bully, follower, defender, outsider, and victim) and their peer-group status position (i.e., popularity and preference). If these associations are indeed universal, we expect to confirm the following previous findings (e.g., Goossens et al., 2006; Pouwels et al., 2016; Reijntjes et al., 2013; Salmivalli et al., 1996) in both samples: (1) bullying and following will be positively associated with popularity and will not be associated with preference; (2) defending will be moderately positively associated with popularity and will be strongly positively associated with preference; (3) outsider behavior will be negatively or not associated with popularity and will be moderately positively associated with preference; and (4) being victimized will be negatively associated with both popularity and with preference. While not of main interest, gender is included in all analyses, as gender differentially relates to both bullying role behavior and peer-group status (e.g., Olthof et al., 2011).

Method

Participants

In 2015, participants were recruited from the first and second year of a Dutch public secondary school (i.e., grades 7 and 8) and their equivalents in a Punjabi-Indian English language secondary school. In the Netherlands, education is compulsory for children of 4 through 18 years-old, or until they have obtained a diploma. Primary education (4 through 12 years-old) covers eight years of education, equivalent to K-6 (i.e., the grades traditionally grouped together in American elementary schools). Secondary education covers the following four to six years of education that prepare students for different educational trajectories (e.g., vocational training or university). In India, education is compulsory for children of 6 through 14 years-old. Primary schools covers six years of education (6 through 12 years-old), equivalent to grades 1–6. Secondary education covers the following two to six years of education that prepare students for different educational trajectories.

Final data ($N = 699$; 58.5% boys; $M_{\text{age}} = 13.8$ years, $SD = 11$ months) were collected in eight classrooms in Amsterdam ($n = 219$; 53.4% boys; $M_{\text{age}} = 13.8$ years, $SD = 9$ months) and in twelve classrooms in Patiala (a large city in India's Punjab province; $n = 480$; 60.8% boys; $M_{\text{age}} = 13.8$ years, $SD = 12$ months). The schools differed in classroom size, with an average of 27.4 students (range: 19–31) in Amsterdam and an average of 40 students (range: 28–46) in Patiala. Due to general differences in the division of wealth, finance and economics between the Netherlands and India, it was impossible to compare socio-economic status differences between samples. However, both schools were frequented by students from a wide range of socio-economic strata.

In agreement with Institutional Review Board guidelines, a passive informed consent procedure was used. All parents were informed of the study prior to testing. Parents of Dutch participants were notified via a letter, and asked to return a preprinted objection note in a stamped addressed envelope if they did not want their child to participate. Parents of Indian participants were notified about the study via the school's principal. Parents could inform the researchers via their child's classroom teacher if they did not want their child to participate. Active informed consent was collected from all students prior to testing.

Measures

Bullying role behavior. An adapted version of Salmivalli et al.'s (1996) Participant Roles Scales was used to measure participants' bullying role behavior. Participants were given a definition of bullying and subsequently completed 20 peer nominations pertaining to their classmates' behavior conforming to the bullying roles of: (1) bully (six items, one item each for physical, material, verbal, direct relational, indirect relational and cyber bullying); (2) victim (six similar items); (3) follower (four items for assisting and reinforcing the bullying); (4) outsider (two items for avoiding involvement); and (5) defender (two items, one each for direct and indirect intervention). Due to constraints in the time allotted for this study by the participating schools and due to the length of the total testing procedure (which also included measures not presented in this study), a limited nomination procedure was used. On all peer nominations, a maximum of 10 classmates could be nominated from a list that contained all classmates' names. The five-factor bullying role behavior structure was evidenced with a close model fit through confirmatory factor analysis, $\chi^2 (160; N = 699) = 404.35$; $p < 0.001$; root mean square error of approximation (RMSEA) = 0.05; standardized root mean square residual (SRMR) = 0.04; Tucker–Lewis index (TLI) = 0.98; comparative fit index (CFI) = 0.98; $\lambda_{\text{range}} = 0.41, 0.82$.

Proportion scores were calculated as the quotient of the number of nominations received and the number of within-classroom nominators, thereby theoretically ranging from 0 (not nominated) to 1 (nominated by all). To not underestimate participants' potential reputation as bully, victim, and/or follower, these behaviors were not calculated as the average of all six (bully and victim) or four (follower) items. Rather, these scores were calculated as the average of participants' two highest peer nominations (see also Witvliet et al., 2010). All final continuous behavioral measures were therefore based on two items. Spearman–Brown coefficients were 0.95 for *bully*, 0.92 for *victim*, 0.96 for *follower*, 0.83 for *outsider* and 0.75 for *defender*. To remove class-related variance (i.e., nominator-related variance like classroom differences in nomination willingness) and to correct the positive skews in the normality distributions (i.e., many participants who were not receiving nominations) the behavioral measures were within-classroom Rankit normalized before they were entered into the path models.

Peer-group status. Standard procedures were used to measure students' *popularity* and *preference* status (e.g., Coie, Dodge, & Coppotelli, 1982; Parkhurst & Hopmeyer, 1998). For popularity, participants completed two peer nominations pertaining to their perception of most popular (positive) and least popular (negative) classmates. For preference, participants completed two peer nominations pertaining to their perception of most liked (positive) and least

Table 1. Descriptive Statistics for All Study Variables ($N = 699$).

			Gender						
			Boy		Girl		Total		
			M	SD	M	SD	M	SD	Range
Location	Bully	The Netherlands	0.04	0.06	0.03	0.04	0.04	0.05	[0.00, 0.33]
		India	0.09	0.12	0.04	0.05	0.07	0.10	[0.00, 0.68]
		Total	0.08	0.11	0.04	0.05	0.06	0.09	
	Follower	The Netherlands	0.04	0.06	0.02	0.03	0.03	0.05	[0.00, 0.29]
		India	0.09	0.11	0.03	0.04	0.07	0.09	[0.00, 0.61]
		Total	0.08	0.10	0.03	0.04	0.06	0.08	
	Victim	The Netherlands	0.02	0.05	0.04	0.05	0.04	0.07	[0.00, 0.53]
		India	0.11	0.11	0.05	0.09	0.08	0.10	[0.00, 0.64]
		Total	0.08	0.10	0.05	0.07	0.07	0.09	
	Outsider	The Netherlands	0.03	0.05	0.06	0.07	0.05	0.06	[0.00, 0.34]
		India	0.05	0.05	0.03	0.04	0.04	0.04	[0.00, 0.29]
		Total	0.04	0.05	0.04	0.05	0.04	0.05	
	Defender	The Netherlands	0.03	0.04	0.09	0.08	0.06	0.07	[0.00, 0.40]
		India	0.04	0.04	0.05	0.04	0.05	0.04	[0.00, 0.27]
		Total	0.04	0.04	0.06	0.06	0.05	0.05	
	Popularity	The Netherlands	0.06	0.91	-0.06	1.02	0.00	0.96	[-3.27, 2.66]
		India	-0.06	1.02	0.18	1.01	0.04	1.02	[-3.73, 4.27]
		Total	-0.02	0.99	0.10	1.02	0.03	1.00	
Preference	The Netherlands	-0.19	0.95	0.26	0.95	0.02	0.97	[-3.02, 1.94]	
	India	0.02	0.99	0.18	0.95	0.08	0.98	[-3.89, 2.66]	
	Total	-0.05	0.98	0.21	0.95	0.06	0.98		

Note. $n_{\text{Dutch}} = 219$; ($n_{\text{boys}} = 117$); $n_{\text{Indian}} = 480$ ($n_{\text{boys}} = 292$). For all bullying role behaviors, higher scores are indicative of a higher proportion of nominations received. For both peer-group status Z-scores, positive and negative scores are indicative of a higher and lower than average (i.e., 0) status respectively.

liked (negative) classmates. On all peer nominations, a maximum of 10 classmates could be nominated from a list of classmate names. The final status measures were calculated – conforming to standard procedures – as the within-classroom standardized difference between the within-classroom standardized positive and negative nominations.

Procedure

In both countries the data were collected in a classroom setting, supervised by at least two research assistants who followed a written research protocol to ensure consistent and correct response collection. Participants were informed about the confidentiality and anonymity of their responses, and were urged not to talk with each other during testing. For Dutch participants, all information and nominations were presented in Dutch. For Indian participants, all information and nominations were presented in English, as the Indian participants were students at an English language middle school. Nevertheless, a native Punjabi-Indian testing assistant also presented all information and nominations orally in Punjabi-Indian in front of the classroom to ensure that all participants understood all item content.

Results

Preliminary Analyses

Tables 1 and 2 respectively summarize the means and standard deviations of all study measures and the outcomes of a 2 (Gender: boy, girl) \times 2 (Location: the Netherlands, India) MANOVA investigating gender and location differences in all study measures. First,

Table 2. Outcomes of the (M)ANOVA Investigating Gender and Location Differences ($N = 699$).

	Pillai's trace	F	ηp^2
Gender	0.16	18.21*	0.16
Bully		20.90†	0.03
Follower		40.53†	0.06
Victim		7.16	0.01
Outsider		1.02	0.00
Defender		70.53†	0.09
Popularity		0.51	0.00
Preference		15.42†	0.02
Location	0.10	10.73*	0.10
Bully		22.27†	0.03
Follower		32.20†	0.04
Victim		30.98†	0.04
Outsider		1.91	0.00
Defender		8.47†	0.01
Popularity		0.55	0.00
Preference		0.67	0.00
Gender \times Location	0.14	16.14*	0.14
Bully		10.17†	0.01
Follower		8.97†	0.01
Victim		44.03†	0.06
Outsider		23.84†	0.03
Defender		51.44†	0.07
Popularity		4.62	0.01
Preference		3.50	0.01

Note. Multivariate model dfs are (7, 689). Univariate model dfs are (1, 695).

* $p < 0.001$; †significant at Bonferroni-corrected $p < 0.008$.

Table 3. Correlations Between All Study Measures ($N = 699$).

	Bully	Follower	Victim	Outsider	Defender	Popularity	Preference
Bully	—						
Follower	0.70 (0.60/0.73)	—					
Victim	0.47 (0.14/0.59) ^a	0.41 (-0.06/0.57) ^a	—				
Outsider	-0.03 (-0.44/0.13) ^a	0.03 (-0.43/0.19) ^a	0.12 (-0.04/0.18)	—			
Defender	-0.02 (-0.26/0.07) ^a	0.03 (-0.24/0.13) ^a	0.00 (-0.01/0.00)	0.34 (0.49/0.29)	—		
Popularity	0.22 (0.33/0.18)	0.26 (0.40/0.21)	-0.14 (-0.25/-0.09)	-0.08 (-0.29/0.01) ^a	0.28 (0.01/0.39) ^a	—	
Preference	-0.32 (-0.39/-0.29)	-0.19 (-0.29/-0.16)	-0.23 (-0.18/-0.25)	0.17 (0.34/0.10) ^a	0.36 (0.47/0.31)	0.25 (0.19/0.27)	—

Note. Correlations in parentheses represent the Dutch (left; $n = 219$) and Indian (right; $n = 480$) sample separately and bold correlations are $p < 0.05$.

^aLocational dissimilar correlations at Bonferroni-corrected $p < 0.003$.

a multivariate Gender main effect was found, with follow-up univariate significance for bully, follower, defender and preference. Boys received significantly more nominations for bully and follower, while girls received significantly more nominations for defender and preference. Second, a multivariate Location main effect was found, with follow-up univariate significance for bully, follower, victim and defender. Indian adolescents received significantly more nominations for bully, follower and victim, and Dutch adolescents received significantly more nominations for defender. Third, a multivariate Gender \times Location interaction was found. While the follow-up univariate interactions were significant for bully, follower, victim, outsider and defender, they were similar to the main effects for bully, follower and defender. However, Indian boys received more nominations for victim and outsider than Indian girls and Dutch boys, while Dutch girls received more nominations for victim and outsider than Dutch boys and Indian girls.

Table 3 summarizes the correlations between all study variables for the total sample and separately per location. First, with regards to bullying role behavior: (1) bully was positively correlated with follower and victim, but was not correlated with outsider and defender; (2) follower was positively correlated with victim, but was not correlated with outsider and defender; (3) victim was positively correlated with outsider, but was not correlated with defender; and (4) outsider was positively correlated with defender. These correlations were directionally similar across locations, except for those of: (1) bully with outsider and defender; (2) follower with victim, outsider and defender; and (3) victim with outsider; which were all negative for Dutch and positive for Indian adolescents. Second, with regards to peer-group status, popularity was positively correlated with preference, regardless of location. Third, with regards to bullying role behavior by peer-group status: (1) bully and follower were positively correlated with popularity and negatively correlated with preference; (2) defender was positively correlated with both popularity and preference; and (3) outsider was negatively correlated with popularity and positively correlated with preference; and (4) victim was negatively correlated with both popularity and preference. These correlations were directionally similar, except for the correlation of outsider with popularity, which was negative for Dutch and positive for Indian adolescents.

Associations Between Status and Behavior

Path modeling analysis was used to investigate the associations between bullying role behavior and peer-group status. First, a total sample model was run in which bullying role behavior (i.e., bully through defender; Y1 through Y5) was predicted by peer-group status (i.e., popularity and preference; X1 and X2; see Figure 1). This model did not fit the data well, $\chi^2(10) = 696.62$, $p < 0.001$; RMSEA and SRMR > 0.10 ; TLI and CFI < 0.90 ; and was adjusted to allow bully, follower and victim to covary, as well as outsider with defender (adding four parameters). The adjusted model fitted the data well, $\chi^2(6) = 23.60$, $p < 0.001$; RMSEA = 0.06; SRMR = 0.04; TLI = 0.95; CFI = 0.98; and significantly improved model fit, $\Delta\chi^2(4) = 673.02$, $p < 0.001$. The adjusted model, including standardized path coefficients, is summarized in Figure 1. First, positive associations with popularity were found for bully, follower and defender, while negative associations with popularity were found for outsider and victim. Second, positive associations with preference were found for outsider and defender, while negative associations with preference were found for bully, follower and victim.

Subsequently, two multigroup models were run to investigate potential gender and location differences in the associations between bullying role behavior and peer-group status. First, comparing the fit of a parametrically equal gender model ($\chi^2[31] = 61.74$, $p < 0.001$) with a parametrically free gender model ($\chi^2[21] = 53.63$, $p < 0.001$) suggested gender equality, $\Delta\chi^2(10) = 8.11$, $p = 0.62$. Second, comparing the fit of a parametrically equal location model ($\chi^2[31] = 207.54$, $p < 0.001$) with a parametrically free location model ($\chi^2[21] = 144.11$, $p < 0.001$), suggested location inequality, $\Delta\chi^2(10) = 63.43$, $p < 0.001$. Therefore, the path models were run and interpreted separately for both samples. The uncorrelated models poorly fitted the data of both samples, $\chi^2_{\text{Dutch}}(10) = 114.82$, $p < 0.001$; RMSEA and SRMR > 0.10 ; TLI and CFI < 0.90 ; $\chi^2_{\text{Indian}}(10) = 640.81$, $p < 0.001$; RMSEA and SRMR > 0.10 ; TLI and CFI < 0.90 . The Dutch model was adjusted by allowing bully to covary with follower and victim, and outsider with defender (adding three parameters). Moreover, the path from popularity to defender was removed from the Dutch model due to non-significance (removing one parameter). The adjusted Dutch model fitted the data well, $\chi^2(8) = 20.58$, $p < 0.001$;

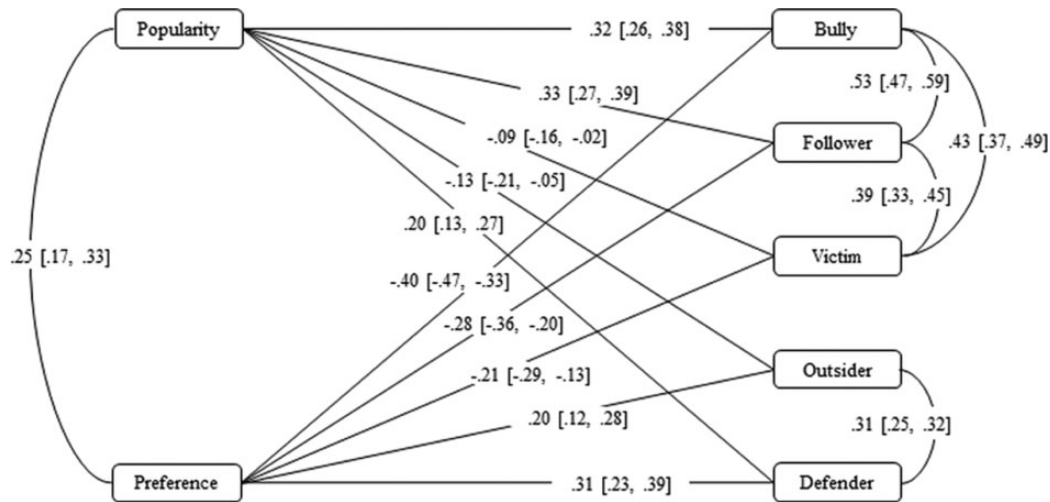


Figure 1. Final total sample path model ($N = 699$) with standardized coefficients (95% confidence interval between brackets) for the associations between bullying role behavior and peer-group status. All paths: $p < 0.05$.

RMSEA = 0.08; SRMR = 0.06; TLI = 0.93; CFI = 0.97; and significantly improved model fit, $\Delta\chi^2(2) = 94.24, p < 0.001$. The Indian model was adjusted by allowing bully, follower and victim to covary, and outsider with defender (adding four parameters). Moreover, the paths from popularity to outsider and victim were removed from the Indian model due to nonsignificance (removing two parameters). The adjusted Indian model fitted the data well, $\chi^2(8) = 32.23, p < 0.001$; RMSEA = 0.08; SRMR = 0.07; TLI = 0.93; CFI = 0.97; and significantly improved model fit, $\Delta\chi^2(2) = 608.58, p < 0.001$.

The adjusted Dutch and Indian models, including standardized path coefficients, are summarized in Figure 2. The associations between status and behavior were similar across locations with regards to preference. Positive associations with preference were found for defender and outsider, while negative associations with preference were found for bully, follower and victim. The associations between status and behavior were also similar across locations with regards to popularity for bully, and follower, that is, positive associations were found. Finally, the associations between status and behavior were different across locations with regards to popularity for outsider, victim and defender. First, negative associations with popularity were found for outsider and victim in the Dutch sample, and, while negative, these associations with popularity did not significantly differ from 0 in the Indian sample. Second, a not significantly different from 0 negative association with popularity was found for defender in the Dutch sample, while this association was positive, significant and (non-significantly) stronger than the associations between bully or follower and popularity in the Indian sample.

Discussion

This study investigated whether the associations between Dutch and Indian adolescents' bullying role behavior and their peer-group status are similar across cultures, consistent with the evolutionary theoretical perspective of bullying as an adaptive behavior. With regards to affiliative status, the findings were consistent with expectations and previous findings (Goossens et al., 2006; Pouwels et al., 2016; Salmivalli et al., 1996). Regardless of adolescents'

cultural background, the strongest positive association with preference was found for defending, followed by outsider behavior. Also, a cluster of negative associations with preference was found for being victimized, following and bullying. With regards to social status, the findings were also largely consistent with expectations and previous findings (Olthof et al., 2011; Pouwels et al., 2016). Regardless of adolescents' cultural background, strong positive associations with popularity were found for bullying and following. Also, while not reaching significance for Indian adolescents, negative associations with popularity were found for being victimized and outsider behavior. A more substantial cultural difference was also found. For Indian, but not for Dutch adolescents, defending was strongly positively associated with popularity. Conforming to previous findings with Dutch adolescents (Pouwels et al., 2016) – and relative to the other behaviors – defending classmates was associated with an average popularity status for Dutch adolescents. For Indian adolescents on the other hand, defending was associated with a high classroom popularity status.

These findings largely fit within the evolutionary theoretical perspective of bullying as an adaptive behavior (Volk et al., 2012, 2014). Bullying classmates was positively associated with adolescents' social status position in terms of popularity, regardless of their cultural background. At the same time, defending victimized peers was positively associated with adolescents' affiliative status position in terms of preference, regardless of their cultural background. However, only for Indian adolescents, defending classmates was positively associated with both the highest social and affiliative status. Previous studies, examining Western (i.e., Dutch) samples, suggested that – in line with an evolutionary theoretical perspective – bullies occupy high status positions because they cunningly combine coercive and prosocial behavioral strategies (Huitsing et al., 2014; Olthof et al., 2011). Similarly, defenders were found – at least relative to the other behaviors – to only occupy average status positions (Pouwels et al., 2016) and to have a stronger preference for prosocial than coercive behavioral strategies (Olthof et al., 2011).

The differences between Dutch and Indian adolescents' proportion scores (see Table 1), suggests that bullying and victimization were twice as frequent – or visible to peers – for Indian adolescents. Consistent with this, the prevalence of bullying and victimization

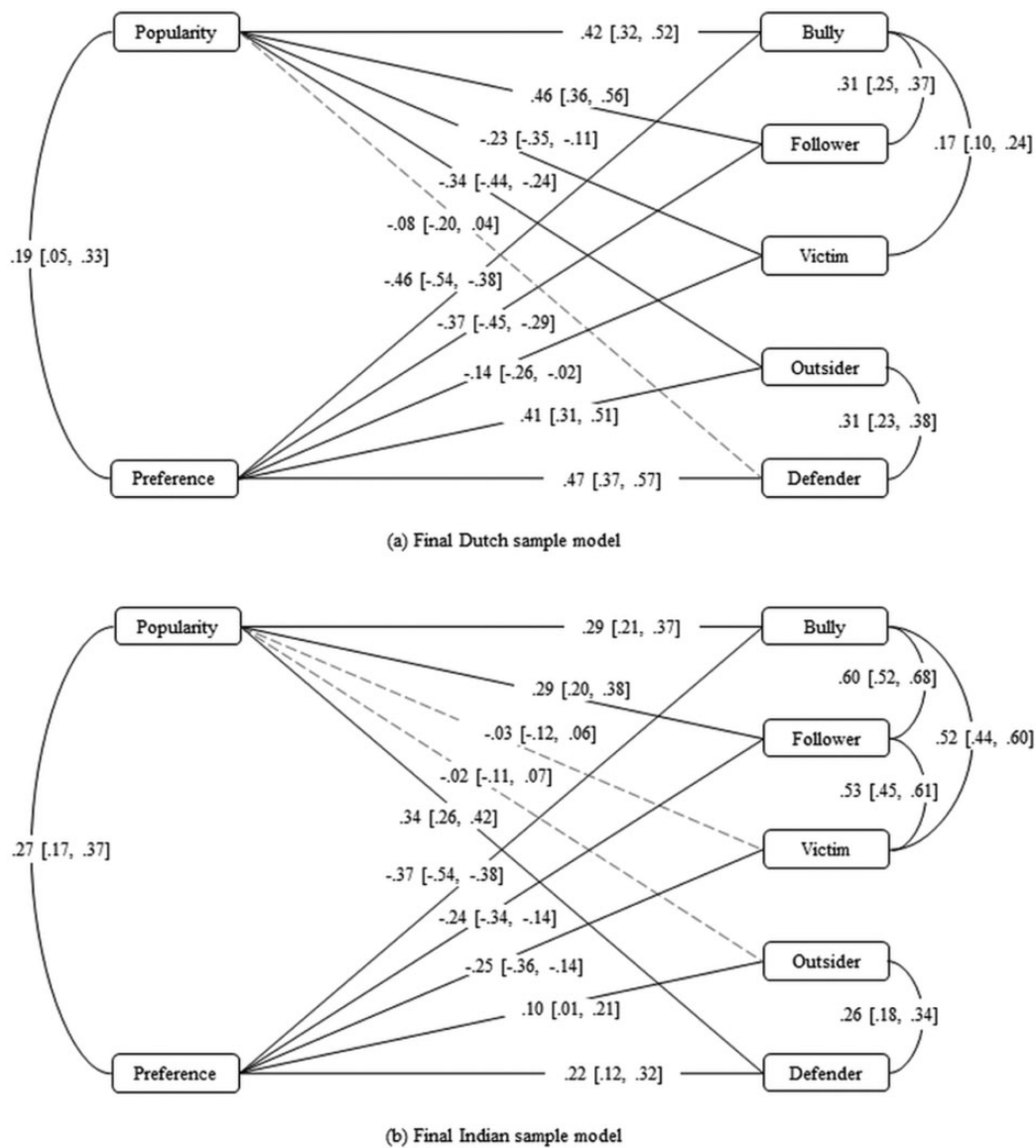


Figure 2. Final Dutch sample ($n = 219$) and Indian sample ($n = 480$) path models with standardized coefficients (95% confidence interval between brackets) for the associations between bullying role behavior and peer-group status. All solid paths: $p < 0.05$. All dashed paths were nonsignificant and removed from the models.

was previously found to be higher in India than in Western countries as well (Kshirsagar, Agarwal, & Bavdekar, 2007; Ramya & Kulkarni, 2011). These prevalence differences can be explained from an evolutionary biological theoretical perspective. According to Life History Theory (Belsky, Steinberg, & Draper, 1991), individuals in groups with sufficient and similar energetic resources can allocate their resources towards the survival of their genes in future generations through two reproductive strategies. First, individuals can opt for a high-investment reproductive strategy, by allocating their resources strategically towards bodily maintenance, personal growth and care. With higher personal survival chances, genetic transmission to future generations is ensured by investing time and effort in offspring. Second, individuals can opt for a low-investment reproductive strategy, by allocating their resources towards mating opportunities. With higher reproductive success, despite a potentially decreased chance of personal survival, genetic transmission is

ensured by a large volume of offspring. When environmental cues suggest a shorter and/or uncertain life expectancy (i.e., harshness and/or unpredictability), a low-investment reproductive strategy will be prioritized over a high-investment reproductive strategy, as the latter will cost more than the individual can benefit from it (Belsky, Schlomer, & Ellis, 2012). Translated to social group behavior in adolescence, harsher and/or unpredictable environments increase the battle for social dominance between group members, as this enhances their reproductive success and thereby ultimately the chances that their genes will survive in future generations. As bullying is a central mechanism for obtaining social dominance (Kolbert & Crothers, 2003; Olthof et al., 2011; Reijntjes et al., 2013), bullying others may be Indian adolescents' "easy ticket" towards ensuring genetic transmission to future generations in a harsher and more unpredictable environment.

Following from this, one could hypothesize that defending is associated with higher popularity for Indian adolescents as it is a relatively risky behavior and/or because it is a scarce good. Those youth who are courageous enough to execute these – more salient – defending behaviors, will be (come) classroom heroes. It should be noted that we operationalized defending as a hybrid behavior or as the combination of direct and indirect defending, while previous studies (e.g., Olthof et al., 2011) explicitly and more narrowly operationalized indirect defenders. While indirect defending (i.e., consoling victims) can be viewed as more of a prosocial behavioral strategy, direct defending (i.e., stopping the bullying) could be viewed as more of a coercive behavioral strategy. Still, Pouwels et al. (2016), who operationalized more hybrid defenders, confirmed previous findings regarding the average popularity–defending association in a sample of Dutch adolescents. Based on the present findings – and in line with Life History Theory – it could be that in harsher and more unpredictable social environments not only aggressive behaviors like bullying, but also the more prosocial behaviors like hybrid (i.e., direct-indirect) defending, are viable strategies for obtaining social dominance and thereby enhancing individuals' reproductive success and ultimately enhancing the chance of genetic transmission to future generations. Be it as it may, the popularity–defending association was only significant for Indian adolescents and *post-hoc* analyses indicated that this association was stronger for indirect than for direct defending (i.e., the path coefficients were .33 versus .25). This suggests that it is the prosocial strategic part of defending which is specifically valued within Indian culture and which earns someone both social and affiliative status.

Cross-cultural research may provide further insight into the discrepancy in the popularity–defending association between Dutch and Indian adolescents. According to seminal work by Hofstede (1980), there is cultural variability in individuals' tendency to emphasize personal versus collective gains, or to have an individualistic versus a collectivistic cultural orientation. Assuming this cross-cultural theoretical perspective, the social behaviors that impact peer-group status may differ across cultures. The present findings suggest that behaviors that have the main purpose of personal gains (i.e., bullying others) are highly valued universally. That is, bullying was associated with popularity in both cultures. However, behaviors that ensure group coherence and collective gains (i.e., defending classmates) seem to be susceptible to cultural variability. Individuals from collectivistic cultures, such as India, seem to equate peer-group status not only with bullying, but also – and seemingly to an even greater degree – with the more selfless and prosocial defending.

Of course, the discrepant findings for defending and peer-group status in the Dutch versus Indian adolescents may also be due to other differences. Classroom sizes were considerably larger in India compared with the Netherlands. Also, the questionnaires were presented both in English and in the native tongue for Indian participants. While the definitions for the bullying role behavior and peer-group status measures were evaluated by the researchers to ensure consistency between the Dutch, English and Punjabi translations, slight definitional differences and their impact on the present findings cannot be ruled out (Smith et al., 2002). Future studies, comparing more and different Western and Eastern cultural samples, are needed. Moreover, methodological constraints (i.e., allotted time for the study at the schools) made it impossible to use an unlimited nomination procedure. However, in only 2.4% of the peer nominations, the maximum of 10

nominations was actually used. It therefore seems unlikely that the limited nomination procedure imposed reliability issues. Still, future studies with unlimited nomination procedures are needed to replicate the present findings. Finally, this study did not directly include measures regarding participants' individualistic or collectivistic cultural orientation.

Nevertheless, this study – to our knowledge – was the first to investigate the associations between bullying role behavior and peer-group status in a sample of Indian adolescents and to directly compare these associations with those of a sample of Dutch adolescents. As such, this study was the first to investigate whether the findings obtained in previous studies investigating the associations between bullying role behavior and peer-group status extend to non-Western cultural samples. While the associations were largely similar and consistent with the evolutionary theoretical perspective on bullying as an adaptive behavior, defenders' prosocial behavior seems to have cultural-specific value for Indian adolescents' social status position.

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