The Association between Normative Beliefs Approving Aggression and Overt Aggressive Behavior in Vietnamese adolescents: A short-term longitudinal study.

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Abstract

In Vietnam, school violence is a serious problem, yet little is known about the factors explaining this phenomenon. The current study looked at the role of normative beliefs approving aggression in the development of overt aggressive behavior. Using a short-term longitudinal design with three waves (four-month interval), this study examined the associations between normative beliefs approving aggression and overt aggressive behavior in a sample of Vietnamese adolescents. The sample included 632 participants at Wave 1 (51.4% boys, $M_{age} = 13.00$, $SD = 0.85$), 567 participants at Wave 2 (50.8% boys, $M_{age} = 13.36$, $SD = 0.90$) and 530 participants at Wave 3 (49.8% boys, $M_{age} = 13.62$, $SD = 0.87$). All variables were measured using self-report questionnaire. Within waves, normative beliefs approving aggression were positively related to overt aggressive behavior. More importantly, cross lagged panel analysis revealed that the normative beliefs predicted increases in overt aggressive behavior over time.

Keywords: *Aggression, Normative Beliefs, Cross Lagged Panel Model (CLPM), Vietnamese adolescents.*

Introduction

Aggressive behavior is an increasing concern in Vietnamese schools due to the atypical high levels of students exhibiting aggressive behavior (Hang & Tam, 2013; Horton, 2011) with serious long-term effects on its victims (Vu, Petry & Bosmans, 2016). This poses an urgent need to understand the factors explaining aggressive behavior in Vietnam. It is well-known that the development of aggressive behavior is affected by a complex combination of multiple factors at the level of the child, the child's close relationships, and the society (De Winter, Waters, Braet & Bosmans, 2018; Loeber & Hay, 1997). Regarding the latter factor, Vietnamese culture is largely influenced by Confucianism. According to the Confucianism, physical punishment is a normative parental strategy that promotes health child development. Moreover, parental and teacher authority is considered an important value and, therefore, it is critical that parents and teachers use any strategy that increases children's obedience. As a result, these cultural values lead to enhanced use of harsh physical punishment by parents (Rydström, 2006) and/or by teachers (Hang & Tam, 2013). Consequently, it seemed reasonable to assume that culturally driven positive appraisals of aggressive behavior might also be one factor affecting youth's overt aggressive behavior during peer interactions. Therefore, in the current study, we looked at the role of normative beliefs about the use of aggressive behavior as one factor that could be especially relevant for the Vietnamese society.

The current study focuses on overt aggressive behavior. This refers to direct forms of aggression including physical and verbal aggression (Crick, 1996; Tomada & Schneider, 1997). Normative beliefs about aggression are an individual's own cognition about the level of the approval of an aggressive behavior (Huesmann & Guerra, 1997). Empirical research in Western societies has suggested that normative beliefs that approve aggression co-occur with aggressive

behavior (Burton, Florell & Wygant, 2013; Werner & Nixon, 2005) and predict increases in aggressive behavior over time in adolescents (Fontaine, Yang, Dodge, Bates, & Pettit, 2008; Krahé & Busching, 2014). In turn, aggressive behavior also predicts increases in normative beliefs approving aggression over time (Krahé & Busching, 2014). Although the cultural background of Vietnam suggests that these beliefs could explain the development of aggressive behavior in Vietnamese adolescents, this hypothesis has never been tested.

The concurrent and longitudinal associations between normative beliefs that approve aggression and overt aggressive behavior have been explained through social information processing models (Anderson & Huesmann, 2003; Dodge, 2014; Loeber & Hay, 1997; Krahé, 2013; Huesmann, 1988, 1998; Huesmann & Guerra, 1997). According to these models, aggressive behaviors are controlled by cognitive scripts containing information about previous aggressive situations and expectations about positive outcomes of aggressive behavior. Once activated, the scripts increase the likelihood that individuals will use aggressive behavior (Huesmann, 1998; Huesmann & Guerra, 1997). However, the likelihood that scripts are activated, depend largely on the whether or not individuals hold normative beliefs that approve aggression (Huesmann, 1998; Huesmann & Guerra, 1997). Consequently, normative beliefs that approve the use of aggression are typically seen as a meaningful predictor of aggressive behavior (Huesmann, 1988). Social information processing models also predict that increased use of aggressive behavior should be linked to increased beliefs that it is acceptable to use aggressive behavior. More specifically, the enhanced use of aggressive behavior provides more learning opportunities that could stimulate children's appreciation of using aggressive behavior (Huesmann, 1988).

Although these bidirectional associations between normative beliefs about the use of aggressive behavior and the frequency of aggressive behavior have been widely found in Western

samples, limited research studied these associations in Eastern samples. In several studies conducted in Asian samples, normative beliefs approving aggression were found to predict aggressive behavior, for example in Chinese samples (Li, Nie, Boardley, Dou, & Situ, 2015) or in Singaporean samples (Ang, Ong, Lim, & Lim, 2010; Gentile, Li, Khoo, Prot & Anderson, 2014). Therefore, it seemed reasonable to predict that in Vietnam, normative beliefs approving aggression would predict the development of overt aggressive behavior over time. Even less is known about whether there is a bidirectional effect between overt aggressive behavior and normative beliefs approving aggression in Eastern countries. So, this study aimed to move our understanding of Vietnamese adolescents' development of aggressive behavior significantly further in two ways, first, by testing whether normative beliefs approving aggression significantly predict overt aggressive behavior and second, by testing whether overt aggressive behavior significantly predict normative beliefs approving aggression.

The current study

The current study investigated adolescent's use of overt aggressive behavior, normative beliefs that approve the use of aggression and their transactional associations in a sample of Vietnamese adolescents with a longitudinal design. Regarding normative beliefs, we followed prior findings which suggested that the most supportive beliefs refer to the idea that the use of aggression is legitimate and that it pays to use aggression (Slaby & Guerra, 1988). These beliefs seemed closely linked to the overall positive evaluation of the use of aggressive behavior which, according to Confucianism, suggests the use of corporal punishment as an appropriate and effective strategy to adjust child's behavior (Bond & Hwang, 1986; Chao, 1994). Data was collected in three waves, with a four-month interval using measurements of overt aggressive behavior, aggression legitimate and aggression pays. We tested three hypotheses (Hs) including

(H1) whether Vietnamese overt aggressive behavior is significantly positive associated with the normative beliefs that it is legitimate to use aggression and that it pays to use aggression within waves. Furthermore, we tested (H2) whether these normative beliefs positively and uniquely predict aggressive behavior over time, and finally, (H3) whether aggressive behavior positively and uniquely predict these normative beliefs over time.

Methods

Participants

The participants of the current study were Vietnamese pupils. The initial sample comprised 632 adolescents in the sixth to ninth grade, recruited in four secondary schools (51.4% boys, $M_{age} = 13.00$, $SD = .85$). The number decreased to 567 (50.8% boys, $M_{age} = 13.36$, $SD = .90$) at Wave 2 and 530 (49.8% boys, $M_{age} = 13.62$, $SD = .87$) at Wave 3. However, we found no significant differences between the drop out versus the retained adolescents regarding aggressive behavior at Wave 1 ($t(71.94) = .89$, $p = .36$) and Wave 2 ($t(564) = 1.34$, $p = .18$), the belief that aggression is legitimate at Wave 1 ($t(70.90) = 1.00$, $p = .32$) and Wave 2 ($t(58.96) = 1.41$, $p = .16$), and the belief that aggression pays at Wave 1 ($t(72.69) = 1.18$, $p = .24$) and Wave 2 ($t(563) = .49$, $p = .62$). Most participants lived with their biological parents and reported that their family's economic condition were normal. Regarding their parents' educational level, the majority of them reported that their fathers finished senior high school whereas their mothers finished college. More details about demographic information concerning the current participants within and across waves can be consulted in Table 1.

(Table 1 about here)

Measures

The Aggression Scale (AS, Orpinas & Frankowski, 2001) consisted of 11 items used to investigate overt, direct aggressive behavior manifested by adolescents in the last seven days. Items of the scale are presented in a seven-point rating scale, ranging from 0 (0 time) to 6 (6 times or more). A sample item is '*I slapped or kicked someone*'. Mean scores (ranging from 0 to 6) were calculated with high scores indicating high level of overt aggressive behavior. The AS was translated into Vietnamese and validated in a Vietnamese adolescent sample (Vu, Petry, & Bosmans, in press). According to Vu and colleagues (in press) the Vietnamese version of the AS can be used as single scale measure with a total score reflecting the occurrence of overt aggressive behavior in Vietnamese adolescents. In the current study, AS's Cronbach's Alpha for Vietnamese adolescent sample were all good ($\alpha_{\text{Wave 1}} = .86$, $\alpha_{\text{Wave 2}} = .86$, $\alpha_{\text{Wave 3}} = .89$).

The Attitudes and Beliefs Regarding Aggression (ABRA, Vernberg, Jacob, & Hershberger, 1999) was translated into Vietnamese and validated in two separate Vietnamese samples (Vu, Petry, Van Heel & Bosmans, 2019). Factor analyses supported the use of only two out of subscales of the ABRA, which were the Aggression Legitimate (8 items) and the Aggression Pays (5 items). The two subscales' validity have been established in Vietnamese adolescents (Vu et al, 2019). Items of both scales are presented in a four-point rating scale, ranging from 1 (don't agree at all) to 4 (completely agree). Mean scores (ranging from 1 to 4) for each scale were computed with high scores indicating high level of favoring aggressive behavior. A sample item of the Aggression Legitimate is: "*It's okay for students to fight each other*" and the one of the Aggression Pays is: "*Bullies get what they want from other students*". Cronbach's Alpha for the two subscales were from acceptable to good in the current study (for the Aggression Legitimate ($\alpha_{\text{Wave 1}} = .78$, $\alpha_{\text{Wave 2}} = .75$, $\alpha_{\text{Wave 3}} = .85$) and for the Aggression Pays ($\alpha_{\text{Wave 1}} = .70$, $\alpha_{\text{Wave 2}} = .77$, $\alpha_{\text{Wave 3}} = .83$)).

Procedure

The questionnaires of the present study were administrated at three time points. The participants were recruited through their schools using passive consent obtained from their parents. The surveys for all the waves of data collection were conducted at school during school hours after obtaining permission from school directors and teachers. Before starting filling out the questionnaire, all students were given information about the aims of the survey as well as instructions on how to answer the questionnaires. They then were asked whether they agreed to participate in the survey. The questionnaire was distributed to the students who were willing to take part in the survey. The study was approved by the Social and Societal Ethics Committee, KU Leuven.

Analytic Plan

Pearson correlation coefficient analysis was used to evaluate the relations between the measurements within waves following Cohen (1988)'s criteria about strength of the correlation ($.10 \leq r < .30$: small; $.30 \leq r < .50$: medium; $.50 \leq r$: strong). Additionally, Cross Lagged Panel Model analysis with three measurements waves was used to identify transactional relationships between the constructs of the current study, which were aggression legitimate, aggression pays and overt aggressive behavior. The analysis allows the accurate estimation of cross-lagged effects, for example the associations between the normative beliefs at Wave 1 and the aggressive behavior at Wave 2, while controlling for all within-time relations (e.g., the correlation between the three constructs within each waves) and for the autoregressive paths (e.g., the prediction for the next time of normative beliefs and overt aggressive behavior) (Jöreskog, 1970). All models were tested in a nested hierarchical order, including one baseline model, two partial models and one full model for the associations between variables of normative beliefs and overt aggressive behavior. Concerning the baseline model, only autoregressive paths regarding all the normative beliefs

approving overt aggression and overt aggressive behavior were included (Model 1). Regarding the two partial models, we (1) allowed only the paths from the normative beliefs to the aggressive behavior in addition to the autoregressive paths (Model 2) and (2) allowed only the paths from the overt aggressive behavior to the normative beliefs in addition to the autoregressive paths (Model 3). Finally, the full model was considered allowing bidirectional cross-lagged paths between the normative beliefs and the overt aggressive behavior in addition to the autoregressive paths (Model 4). All the hypothesized models are presented in Figure 1. Criteria for assessing the fit of the model are CFI, TLI and RMSEA. Overall, $CFI/TLI \geq .90$ and $RMSEA \leq .08$ were considered acceptable fit, whereas $CFI/TLI \geq .95$ and $RMSEA \leq .06$ were considered good fit (Byrne, 2012). Overall, difference in model fit was assessed using chi-square different test (Δ Santora-Bentler Chi square ($S-B\chi^2$), $p < .05$) (Brown, 2014). In order to control for non-normal distribution of the current data (See Table 1), we used robust maximum likelihood estimation (MLR). Simultaneously, the estimator of Full Information Maximum Likelihood (FIML) was used to handle missing data (Enders, 2010). The Cross Lagged Panel Model analysis was conducted in R using the package lavaan (Rosseel, 2012), whereas the other analyses were performed using SPSS version 24 (IBM Corp, 2016)

Results

Descriptive Statistics

Within each wave, bivariate correlation analysis showed that all three study variables significantly correlated with each other. Also longitudinally, the correlation analysis indicated significant correlations between Overt Aggressive Behavior and both subscales of normative beliefs. Because gender could influence the associations between the three variables across the

three waves, we tested gender differences on all the study variables using a MANOVA. Overall, the MANOVA result showed that the variables did not significantly differed across gender (Pillai's Trace test = .021, $F(9, 497)$, $p = .30$). However, since gender might have an effect on the pattern of associations in the retained model, we compared the unconstrained model (all paths were set to be free across gender) and constrained model (all paths were set to be equal across gender). Results indicated no gender effect on the pattern of the associations between normative beliefs approving aggression and overt aggressive behavior. We therefore did not take gender effects into account in the retained model of the current study.

(Table 2 about here)

Autoregressive and Cross-Lagged Analysis

The four hypothesized nested models are presented in Figure 1. In Model 1, all the autoregressive paths were taken into account to form a baseline model. In Model 2, paths from normative beliefs approving aggression to Overt Aggressive Behavior were allowed in addition to the baseline model to form a partial model. In Model 3, paths from Overt Aggressive Behavior to normative beliefs approving aggression were additionally allowed to form another partial model. Finally, Model 4, which is a full model for the associations between the study variables was considered, allowing all autoregressive paths, cross-sectional correlations, and cross-lagged paths. Then we compared the models, resulting in the significant lower chi-square values of the two partial models (Model 2 and Model 3) than the value of the baseline model (Model 1). Additionally, the chi-square value of one partial model (Model 2) was not significantly lower than the one of the full model (Model 4) with a borderline p-value ($\Delta S-B\chi^2 = 8.24$, $p = .08$), whereas the value of the other partial model (Model 3) was significantly lower. These results suggested that

Model 2 showed the best model fit (see Table 3 for fit indices of each model and model comparison).

(Table 3 about here)

Considering Model 2, we found that all the autoregressive paths were significant ($p < .001$), indicating that the normative beliefs approving aggression and the Overt Aggressive Behavior were all stable over time. In addition, within each wave, normative beliefs approving aggression and the Overt Aggressive Behavior significantly correlated with each other, which is in line with findings about the bivariate correlation between the study variables (see Table 2 and Figure 2). Regarding cross-lagged paths, only one path from the Aggression Legitimate at Wave 2 to the Overt Aggressive Behavior at Wave 3 was found to be significant ($\beta = .25, p < .001$, see Figure 2), controlling for previous normative beliefs approving aggression, including the Aggression Legitimate, Aggression Pays and Overt Aggressive Behavior at Wave 1. The finding was in line with hypothesis H2, expecting that normative beliefs approving aggression significantly predict future overt aggressive behavior. However, the Aggression Pays scores did not predict the Overt Aggressive Behavior scores across waves.

(Figure 2 about here)

Also, we found a bidirectional association between the Aggression Legitimate and the Aggression Pays scores. Namely, Aggression Pays at Wave 1 uniquely, and positively significantly predicted Aggression Legitimate at Wave 2. Aggression Legitimate at Wave 2, in turn uniquely, and positively significantly predicted Aggression Pays at Wave 3. In addition, Aggression Pays at Wave 2 uniquely, and positively significantly predicted Aggression Legitimate at Wave 3. The transactional associations reflect that they both measure the same underlying construct, which are normative beliefs approving aggression.

Discussion

The main goal of the present study was to explore whether normative beliefs about the appropriateness of using aggression explain at least part of the development of adolescents' aggressive behavior observed in Vietnamese schools. Using a short-term longitudinal design, we tested the transactional associations between both variables. Results partly supported our hypothesis, suggesting that normative beliefs about aggression play an important role in the manifestation across time of adolescent aggressive behavior in Vietnam.

Considering the cross-sectional and longitudinal relations between the study variables, we found that adolescents who believe that the use of aggressive behavior is legitimate are more likely to display more aggressive behavior. These findings are largely in line with a growing body of research conducted in Western countries (e.g., Gendron, Williams, & Guerra, 2011; Henry, Guerra, Huesmann, Tolan, Vanacker, & Eron, 2000), and a much more limited number of studies in Asian countries (Chen & Avi Astor, 2010; Ramirez, Andreu, Fujihara, Musazadeh, & Saini, 2007). The findings further support the idea that this link is culture-fair (Ramirez et al., 2007). Although more research is needed to investigate whether this link might be more pronounced in Vietnam because of its Confucian parenting culture, the results suggest that studying these beliefs might prove important to understand the factors that explain the development of aggressive behavior in Vietnamese adolescents.

In line with this assumption, the cross-lagged panel analyses found some support in favor of our hypothesis that adolescents who believe that the use of aggression is legitimate were more at risk to develop aggressive behavior. Although this effect was not found investigating change in aggressive behavior from Wave 1 to Wave 2, the predicted effect was found from Wave 2 to Wave 3. The reason why the effect was not more robust could be attributed to the stability of aggressive

behavior. It has been widely found that across adolescence, aggression is a stable feature (Adams, Bukowski & Bagwell, 2005). Also in the current study, stability was high, which is probably due to the short intervals between measurement waves. Supporting this explanation is that observation that stability from Wave 1 to Wave 2 was high. As a result, there was little change in aggressive behavior that could be linked to Wave 1 normative beliefs. Instead, stability in aggressive behavior slightly dropped from Wave 2 to Wave 3 and then the predicted longitudinal association emerged. Nevertheless, it is important to note that the effect size was modest. However, this small effect is valuable in light of the stability of aggressive behavior over time (Huesmann, Eron, Lefkowitz, & Walder, 1984) and the short interval between the measurement waves that increased this stability effect. The value of the finding is further illustrated by the fact that this longitudinal association is in line with a rich body of research conducted in Western countries. For example, in a sample of German adolescents it was found that believing that physical aggression is normative behavior had a positively significant transactional association with physical aggression (Krahé & Busching, 2014). This finding adds to the literature, as it provides the first evidence in a non-Western country that normative beliefs approving aggression can predict which children develop aggressive behavior. In contrast, we did not find any longitudinal association between aggressive behavior and the belief that using aggression pays off. Although the current results might mean that the belief that aggression pays may be less important for the development of aggressive behavior compared to the belief that it is legitimate to be aggressive (Vernberg et al., 1999), our data suggest that both beliefs are strongly associated. This might have rendered it hard for the aggression pays belief to explain additional variance in aggressive behavior above the belief that aggression is legitimate.

Instead, we did not find evidence to support for our hypothesis that aggressive behavior is a meaningful predictor of future normative beliefs approving aggression. One reason why our results contradict studies in Western societies (e.g., Krahé & Busching, 2014) that do show longitudinal links between the use of aggressive behavior and the development of normative beliefs approving aggressive behavior, could be the cultural context in which these associations were studied. Research shows that culture has a unique effect on which normative beliefs children hold on the appropriateness of aggressive behavior (e.g., Souweidane & Huesmann, 1999). If aggressive behavior is highly valued by a society, the actual use of aggressive behavior might have little additional effect on the normative beliefs children hold. If this were true, one would expect stronger correlations between both variables at a cross-sectional level and weaker correlations over time, especially at later developmental stages such as in adolescence. Although this expectation is in line with the current pattern of results, more research is needed to support this explanation. Future research should be conducted over longer time to reduce the suppressing effect of stability in the variables under study. In addition, research is needed in which aggressive behavior is reported by a different informant, because now the strong cross-sectional correlations might have been inflated by shared reporter variance.

Limitations

Although the present study is one of the first efforts to investigate the factors explaining the development of aggressive behavior with social information processing models, a number of limitations should be noted. Most importantly, the current study only used self-report measures. Relying solely on those self-report measures may put the study at risk of social desirability bias. That is, the current questionnaire asked the participants about aggression and normative beliefs about such aggression, which is generally considered a behavior that is not socially accepted (see

Krumpal, 2013 for review). Therefore, the participants might have underreported aggressive behavior or might have underreported their normative beliefs approving aggression. Further studies on this sensitive topic should consider the controlling of social desirability bias using a variety of measures like observation measures (Palmstierna & Wistedt, 1987) or social desirability measures (Clemans, 2010). However, the use of self-report questionnaires allowed us to use passive consent. As a result, we were able to reach a large number of pupils. Finally, the current study only focused on a short interval between waves. Further longitudinal studies using longer time intervals may better understand the transactional associations between aggressive behavior and normative beliefs about aggression since these constructs were indicated to be stable over a longer period of time (Huesmann et al., 1984; Huesmann & Guerra, 1997).

Conclusions

The findings are partly in line with a rich body of literature in Western societies showing important cross-sectional and some longitudinal associations between normative beliefs and (the development of) aggressive behavior in Vietnamese adolescents. Consequently, it might indeed be that normative beliefs about aggressive behavior are important to explain the prevalence of aggressive behavior in Vietnamese adolescents. The current findings are important to design policies aimed at reducing violence at Vietnamese schools. Literature points at promising normative beliefs-focused treatments that significantly decreased of the approval of beliefs approving aggression and the use of aggressive behavior (Guerra & Slaby, 1990). Further studies are needed to reveal whether such treatments could work in Vietnam.

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