

Abstract

There has been an increase in peer violence in Vietnam. Although normative beliefs approving aggression have been considered an important factor in the development of peer violence in Western countries, few studies examine the factor in Vietnamese context. This limitation may be due to the lack of a validated scale used to evaluate the factor. The current study aims to translate and validate the Vietnamese version of the Attitudes and Beliefs Regarding Aggression (ABRA). We used two independent samples of Vietnamese adolescents. The first sample included 411 participants (47.2% boys, aged 11-16, $M_{\text{age}} = 14.00$, $SD = 1.12$), whereas the second sample included 310 adolescents (51.6% boys, age 10-15, $M_{\text{age}} = 12.67$, $SD = 1.61$). Results obtained from confirmatory factor analyses and item response theory analyses suggested the use of two out of three subscales of the ABRA: the Aggression Legitimate and the Aggression Pays subscales. Additionally, the two subscales were indicated to be reliable in terms of both internal consistency and test-retest. Finally, results obtained from multiple hierarchical analyses suggested the criterion validity of the two subscales. In sum, the Vietnamese ABRA is a valid measure of normative beliefs approving aggression in Vietnamese adolescents.

Keywords: Normative Beliefs, Aggressive Behavior, Vietnamese Adolescents, Validation Study, Cultural Influences.

A Vietnamese Adaptation of the Attitudes and Beliefs Regarding Aggression Questionnaire

Introduction

In Vietnam, there is a growing concern about increasing rates of peer violence at school (Hang & Tam, 2013). Associated, there is a dramatic increase of peer violence victims in Vietnamese schools. Between 2006 and 2009, the peer victim rate at school increased from 8.0% to 19.7% (Hang & Tam, 2013). Concrete recent numbers are absent, but recent research still points at concerning high levels of peer violence at school (Le et al., 2017). Peer violence at school is impacting the long-term mental health of Vietnamese students. For example, school peer violence victims are at risk to develop depressive symptoms, psychological distress and suicidal ideation that can last for many years (Le et al., 2017; Vu et al, 2016). The negative impact of peer violence at Vietnamese schools stresses the urgent need of finding factors explaining the development of violent behavior to address school violence in Vietnam. However, research in the Vietnamese school context is largely lacking so far. Consequently, there is a gap in the knowledge base needed to design direly needed prevention policies. The current study focuses on normative beliefs approving aggression as one factor that could explain peer violence at (Vietnamese) schools. To date, it is unclear how such normative beliefs could be best operationalized in Vietnamese adolescents. Therefore, the current study aimed to evaluate the extent to which one instrument that is frequently used in Western research, can be used in Vietnam.

Western research has suggested that normative beliefs approving aggression play a unique role in predicting the development of aggressive behavior (Krahé, 2001; Loeber & Hay, 1997). This suggests that normative beliefs approving aggression might also play a role in explaining the development of such behavior in Vietnam. Normative beliefs approving aggression refer to specific cognitions about the appropriateness of using aggressive behavior

as a coping strategy (Huesmann, 1998). According to social information processing models, normative beliefs are relevant to understand the impact of aggression-related scripts, which include abstract cognitive representations about the situations, the expected behavior and the desired results regarding aggression (Krahé, 2001; Huesmann, 1998). The extent to which these scripts are employed largely depends on the activation of these normative beliefs (Huesmann & Guerra, 1997). Western research examining the associations between normative beliefs approving aggression and aggressive behavior have found that adolescents who consider aggression to be acceptable more likely use aggressive behavior to address social conflicts (Burton et al, 2013; Huesmann & Guerra, 1997; Werner & Nixon, 2005). Given the key role of normative beliefs approving aggression in Western societies, it is important to evaluate whether these normative beliefs also explain aggressive behavior in Vietnamese adolescents.

It might be that the content and the relevance of normative beliefs approving aggression for understanding the development of aggressive behavior might differ between Western and non-Western cultures. For instance, Souweidane and Huesmann (1999) compared the strength of the associations between normative beliefs about aggression and aggressive behavior between Western adolescents (i.e., from the US) and non-Western adolescents (i.e., from Middle East). They found that normative beliefs approving aggression in Middle East adolescents were related less to aggressive behavior compared to their US counterparts. This suggests that cultural characteristics do affect the developmental relevance of such beliefs. Culturally, also the Vietnamese society differs significantly from Western societies which can affect the nature and relevance of Vietnamese students' normative beliefs about aggressive behavior. On the one hand, Vietnam is a more collectivistic society (Hofstede, 2001). Unlike individualist societies, which consider confrontations and open discussions as normal, collectivist ones prioritize maintaining harmony and avoiding conflict

(Hofstede, 2001). As a result, children might less likely develop normative beliefs supporting aggressive behavior. However, the Vietnamese culture also promotes the use of physical punishment to raise children. This stems from one interpretation of Confucianism philosophy suggesting that parents refusing to physically punish children while raising them harms children's development. Further, Vietnamese society has a power distant tendency (Bergeron & Schneider, 2005; Hofstede, 2001). This means that power is distributed unequally in the society and that people feel entitled to force upon power even if this requires using physical force and aggression to gain control over others and to safeguard one's own societal status. In combination with the fact that Vietnam is economically rapidly developing (World Bank, 2019), a socio-economic circumstance that hinders parents from investing time in raising their children, this may have resulted in an explosive cocktail leading to normative approval towards and exaggerated use of physical aggression by youth. Specifically, children's enhanced exposure to aggressive behavior as well as corporal punishment have shown to promote the development of normative beliefs favoring the use of aggression (Huesman, 1988; Huesman & Guerra, 1997). So, these normative beliefs could prove an even more important factor in the development of peer violence in Vietnamese schools. Unfortunately, no research studied associations between normative beliefs and aggressive behavior in Vietnamese students. This lack of research was due to the absence of a good Vietnamese measure that taps into normative beliefs about aggression. Therefore, the current study aimed to translate into Vietnamese a measure that proved its qualities in Western research and to evaluate psychometric properties of this translated version. More specifically, we translated the Attitudes and Beliefs Regarding Aggression (ABRA, Vernberg et al., 1999).

The ABRA, developed by Vernberg et al. (1999) examines general normative beliefs regarding aggression in students and consists of three subscales. The first subscale is the Aggression Legitimate which measures whether students consider the use of aggression as

legitimate and warranted. The second subscale is the Aggression Pays which measures whether students consider the use of aggression as enhancing status and power. The third subscale is the Stay Out which measures whether one should intervene in fights between other students. The ABRA was chosen since it is short, but it still reflects different aspects of normative beliefs approving aggression (i.e., belief if aggression is legitimate, enhances status and power, and/or one should intervene in fights). In addition, all the subscales have been consistently indicated to have adequate psychometric properties in Western general students (Vernberg et al., 1999).

The Present Study

The aim of the current study was to translate and psychometrically evaluate the Vietnamese version of the ABRA (Vernberg et al., 1999). We assessed whether the factorial structure of the ABRA could be replicated in Vietnamese students. We used two separate samples in this study in order to consider if the factorial structure was stable across both samples. Further, we evaluated the ABRA's reliability and validity. Specifically, given the potential links between normative beliefs approving aggression and aggressive behavior (Werner & Nixon, 2005), we explored if these associations could be replicated in the two separate Vietnamese samples.

Method

Participants

For Sample 1 we conducted two surveys with a five-week interval. In the first survey, there were 411 students (47.2% boys, aged 11-16, $M_{\text{age}} = 14.00$, $SD = 1.11$) who participated. Most of the children lived with their biological parents (89.2%). With regard to type of family, 71.9% of the participants came from a nuclear family, 25.1% came from an extended family and the rest (3%) were from social protection centrals. At follow up, 184 of them agreed to participate in the second survey to establish test-retest reliability ($M_{\text{age}} = 14.00$,

$SD_{age} = 1.12$; 47.2% boys). There was a significant drop-out effect on the Aggression Legitimate subscale, but with a small effect size ($M_{remained\ group} = 10.61$, $SD_{remained\ group} = 2.58$, $M_{dropped-out\ group} = 11.28$, $SD_{dropped-out\ group} = 3.69$, $t(400.64) = 2.16$, $p < .05$, Cohen's $d = .21$) and the Stay Out subscale ($M_{remained\ group} = 4.64$, $SD_{remained\ group} = 1.85$, $M_{dropped-out\ group} = 5.09$, $SD_{dropped-out\ group} = 2.13$, $t(406.32) = 2.32$, $p < .05$, Cohen's $d = .23$). No other drop-out effects were found.

For sample 2, there were 310 students (51.6% boys, age 10-15, $M_{age} = 12.67$, $SD = 1.61$) that participated in one measurement moment. The majority of their parents graduated from secondary school (23.7% for fathers, 20.0% for mothers) or from senior high school (39.5% fathers, 35.9% mothers). The rest graduated from primary school (1.7% for fathers, 1.7% for mothers), from college (19.9% for fathers, 29.3% for mothers) or from university or higher (15.1% for fathers, 13.1% for mothers).

Measures

Normative Beliefs. *The Attitudes and Beliefs Regarding Aggression questionnaire* (ABRA, Vernberg et al., 1999) is a 16-item instrument used to evaluate general attitudes and normative beliefs about overt aggression with answer for each of its item ranging from 1 (e.g., "I don't agree at all"), 2 (agree a little), 3 (agree a lot) to 4 (I completely agree). The measure consists of three subscales: Aggression Legitimate (eight items, e.g., It's okay for students to fight each other), Aggression Pays (five items, e.g., "Bullies get what they want from other students"), and Stay Out (three items, e.g., "When two students are fighting each other, other students should stop them").

Aggressive Behavior. In Sample 1, we used *the Aggressive Behavior subscale of the Youth Self-Report* (YSR, Achenbach & Rescorla, 2001). General aggressive behavior in adolescent is assessed with 17 items on a three-point scale, ranging from 0 (*not true*) to 1

(*somewhat true*) to 2 (*very true or often true*): e.g., “I get in many fights”. Cronbach’s Alpha was good for the YSR Aggression Behavior for the Sample 1 ($\alpha = .82$).

In Sample 2, we used *the Aggression Scale* (AS; Orpinas & Frankowski, 2001) to assess the frequency of overt aggressive behavior. The AS has eleven items, all of which are formulated on a seven-point scale ranging from 0 (*never*) to 1 (*one time*), 2 (*two times*), 3 (*three times*), 4 (*four times*), 5 (*five times*) to 6 (*six or more times*): e.g., “I teased students to make them angry”. The AS was translated to Vietnamese and validated in a Vietnamese adolescent sample in a study of Vu , Petry, and Bosmans (2019). According to Vu, Petry and Bosmans (2019), the Vietnamese version of the AS can be used as a total scale to investigate overt aggressive behavior in Vietnamese students. Cronbach’s Alpha was acceptable in the current study ($\alpha = .78$).

Because normative beliefs approving aggression are more likely to link to aggressive behavior in Western (e.g., Huesmann & Guerra, 1997; Werner & Nixon, 2005), the normative beliefs measured by the ABRA were expected to be more related to aggressive behavior measured by different aggression measures. More specifically, in Sample 1, the YSR (Achenbach & Rescolar, 2001) was used because this is a widely used measure of aggressive behavior (amongst others) and allows to better compare the results in Vietnamese to prior research. In Sample 2, the AS (Orpinas & Frankowski, 2001) was used. The YSR measures aggressive behavior as a broadband characteristic spanning 6 months prior to the administration of the measure. This allows a less detailed study of the link between specific aggressive behaviors and normative beliefs about the use of aggression. Instead, the AS measures aggressive behavior in a relatively brief period of one week. This enables us to control for memory bias since the scale assesses aggressive behavior in the last seven days prior to the evaluation. Finally, the scale assesses the occurrence of overt aggressive behaviors. Using the AS to capture such behavior in the last seven days may be risky since

the participants might not exhibit aggressive behavior during that short time period. However, this would compensate by adding more scientific values for this current study in a way that its results would be less random since the AS is more likely to capture stable aggressive behaviors rather than random aggressive behavior in students.

Procedure

Translation Procedure: We followed a procedure of forward and back translation for the ABRA in order to ensure equivalence between its original language (i.e., English) and Vietnamese following the guidelines suggested by the International Test Commission (2017). More specifically, a Vietnamese team including two bilingual native Vietnamese speakers, a Vietnamese secondary school teacher, and a Vietnamese psychologist were involved in the translation procedure. Any discrepancy between the original version and the back-translated version was discussed. The final translated version was then obtained. Afterwards, we conducted a pilot study on 64 Vietnamese students (aged 11-16, 34.38% boys) using the final translated version. In the pilot study, participants were asked two short questions which were (1) whether the questions of the ABRA were understandable and (2) whether the situations as described in each question could happen in their school. As a result, all the items were evaluated to be easy to understand and all the situations described in these items occurred in Vietnamese schools, suggesting the cultural relevance of the translated and the original ABRA version (Sousa & Rojjanasrirat, 2011). Therefore, all the items of the ABRA were retained in the final study.

Data collection procedure: Data were collected at school during school hours. Participants were recruited using passive consent obtained from their parents or their main care givers. Three assistant researchers collected data. Before asking whether the participants agreed to participate in the study, the researchers explained the aims of the study. The questionnaires were only given to the students who actively assented to participate in the

survey. This procedure was approved by the Ethics Committee of the XXXX. For Sample 1, we administered the ABRA at two times (Time 1 and Time 2) with a five-week interval to assess test-retest reliability, whereas the YSR Aggressive Behavior was only administered at Time 1. For Sample 2, the ABRA and the Aggression Scale were administered only one time.

Analytic Plan

Confirmatory Factor Analysis (CFA) was used to evaluate model fit of the original three-factor structure of the ABRA. Diagonally weighted least square estimation (DWLS) was used to estimate model fit of the factorial structure of the ABRA since its items are classified as categorical variable (i.e., four-point scale; Rosseel, 2012). The following fit indices and respective cut-offs were used: CFI/TLI \geq .90, RMSEA \leq .08 (Byrne, 2013) and SRMR \leq .10 (Brown, 2014). Given the aim to consider how the concept of normative beliefs approving aggression to be replicated in Vietnam population and facilitate further research comparing possible differences in latent means across cultures regarding the concept, for example measurement invariance, we decided to only retain the ABRA's factors that were supported by the data. Any factor that was not supported by the results of the CFA would then be excluded from the ABRA.

However, before coming to a decision of removing any factors that potentially cause a bad model fit as suggested by the CFAs, we would use Item Response Theory analysis (IRT) to examine how well the specific items of the ABRA function within each subscale. When an item(s) that might lead to the CFA model misfit was detected, we would remove this item from the ABRA. We used a multidimensional graded response model analysis since this analysis is considered to be appropriate for the multiple factors of the ABRA (Chalmers, 2012). The reduced M2 statistics were used. This is a fit measure that is suitable for the IRT with small sample size, which is the case for the current study. Models having p -values greater than .05 are considered to be an adequate fitting model (Cai & Hansen, 2013). In

addition, RMSEA ($< .05$) was used to examine the IRT model (MacCallum et al., 1996). Item fit and local dependence would be examined to detect model misfit. Regarding the former, the examination of item fit provides information on how an item fits with a scale. The adjusted p -values for the false discovery rate (FDR; Benjamini & Hochberg, 1995) of the generalized $S-X^2$ statistics (Kang & Chen, 2008; Orlando & Thissen, 2000, 2003) were used to assess item fit. Regarding the latter, local dependence provides information on the content of the item. Statistically significant values of residual covariances suggest the relationships between pairs of items, suggesting whether to keep or remove items. The p -values for the false discovery rate (FDR; Benjamini & Hochberg, 1995) of the G2 LD index (Chen & Thissen, 1997) were used to test local dependence. Full information maximum likelihood (FIML) estimator was used to estimate the IRT model(s) since this estimation is recommended for relatively small sample sizes (Forero & Maydeu-Olivares, 2009), which is the case in the current study.

Next, Cronbach's Alpha coefficient was used to assess the internal consistency of the subscales of the ABRA. Finally, hierarchical regression analysis was used to assess the links between normative beliefs approving aggression and aggressive behavior while controlling for the effects of age, gender and other demographic variables into the model tested, for example about cohabitation, family types, mother/father's education level since these might influence the associations between normative beliefs approving aggression and aggressive behavior. It was evaluated how normative beliefs approving aggression predicted aggressive behavior as measured by the YSR Aggressive Behavior in Sample 1 and the Aggression Scale in Sample 2. A hierarchical multiple regression analysis was conducted to examine the relations with the Aggressive Behavior-YSR (for Sample 1) and with the AS (for Sample 2) as a dependent variable. In step 1, the control variables age and gender were added as

predictors. In step 2, the Aggression Legitimate and the Aggression Pays subscales were added as predictors (see Table 6 and Table 7).

The CFA was conducted using lavaan package (Rosseel, 2012), whereas the IRT was conducted using the multidimensional item response theory package (mirt; Chalmers, 2012). Both the CFA and IRT were analyzed using R. Other analyses were conducted using SPSS version 24.0 (IBM Corp, 2016). A sum score would be calculated for each subscale of the ABRA, and the other main variables of the current study, for example the YSR Aggressive Behavior and the Aggression Scale.

Results

Descriptive Statistics

In total, there were 721 Vietnamese adolescents taking part in the study, 411 of which belonged to Sample 1 and 310 belonged to Sample 2. More details about the descriptive statistics of all the study variables in the two samples are presented in Table 1.

(Table 1 about here)

First Confirmatory Factor Analysis

A CFA for the three-structure model of the ABRA was conducted to examine if its original structure was replicated in the Vietnamese data. For Sample 1, results suggested that the three-factor structure of the ABRA was not supported by the current Vietnamese data (see CFA values for the three-factor structure for Sample 1, Table 2).

(Table 2 about here)

Considering the relations between the three subscales of the ABRA, we found that the subscale Stay Out (SO) did not significantly correlate with the Aggression Legitimate ($r = .11, p = .08$) and the Aggression Pays ($r = .03, p = .70$). Moreover, when taking a closer look at the factor loadings of all the items, we found that two of the items of the subscale SO fitted badly. First, the item “When two students are fighting each other, other students should stop

them” (SO1) had a standardized factor loading of 1.24, which is not meaningful as the factor loadings can only range between -1 and +1. Inspecting error variance for the item, we found that it had a negative variance value (-.53), which is an indication of a ultra-Heywood case (Brown, 2014). This could be explained by its multicollinearity with other items (Jöreskog, 1999). Second, the standardized factor loading of the item “When two students are fighting each other, other students should stay out of it” (SO3) was .012, suggesting the item explains very little variance of SO. This suggested that the CFA misfit could be attributed to these two items (see Table 3).

(Table 3 about here)

Item Response Theory Analysis

In order to reveal the fit of the ABRA at item level, we used multidimensional graded response model analyses to assess its IRT fit. Results of the IRT analyses indicated that the three-factor structure was not supported by the data of Sample 1 ($M_2(71) = 225.672, p = .000, RMSEA = .075$ for Sample 1 (see Table 2)).

We then assessed item fit and local dependence of all the items of the ABRA regarding its three-factor structure. Regarding the item fit, we found that both item SO1 and item SO2 had a bad fit to the multidimensional graded response model of the ABRA after controlling for false discovery rate (Benjamini & Hochberg, 1995) (see $S-X^2$ and p -values for each item concerning the three-factor model for Sample 1 in Table 4). Regarding the local dependency, we found that the three items of the SO subscale highly correlated after being corrected for false discovery rate (see G^2 and statistics of p -values in the upper triangle in Table 5). This indicated the redundancy of the three items in the scale, suggesting that it would be better to collapse them into one item. The analyses of item fit and local dependence suggested that the two items SO1 and SO2 might be the source of the misfit of the IRT model, suggesting that they should be removed from the SO subscale. However, removing

the two items left only one item for the SO subscale. This is factor-analytically meaningless (Brown, 2014). Therefore, we evaluated the effect of removing all the three items of the SO. As the fit without these three items improved substantially, only the Aggression Legitimate and the Aggression Pay subscales were further considered.

(Table 4 about here)

After that, we assessed the IRT two-factor model fit with the remaining items. The IRT model fit indices showed good model fit ($M_2(38) = 38.800, p = .433, RMSEA = .007$ (see two-factor model concerning Sample 1 in Table 2)), good item fit (after correcting for false discovery rate, see $S-X^2$ and the corresponding p -values of each item concerning Sample 1 in Table 4), and good local dependency (after correcting for false discovery rate, see values for local dependence for Sample 1 in Table 5 (the lower triangle)). To evaluate the robustness of this IRT analysis result, we repeated this analysis testing the two-factor model in Sample 2. Results showed again good model fit ($M_2 = 45.666, p = .184, RMSEA = .025$ (see two-factor model concerning Sample 2 in Table 2)), good item fit (see $S-X^2$ and the corresponding p -values of each item concerning Sample 2 in Table 4), and good local dependency (see values for local dependence in parentheses in the lower triangle in Table 5) in Sample 2.

(Table 5 about here)

Second Confirmatory Factor Analysis

After removing the “problem” items, we repeated the CFA to evaluate the factor structure of the remaining items. Results show that the two-factor of the ABRA was supported in Sample 1 (see CFA for two-factor model for Sample 1 in Table 2). The two-factor structure was also replicated in Sample 2 (see fit indices of the CFA for the two-factor model for Sample 2 in Table 2).

Internal Consistency and Test-retest Reliability

Internal consistency coefficients for the Aggression Legitimate and Aggression Pays subscales were good in both samples (see Table 1). Concerning test-retest reliability, a significant, medium correlation was found for the two subscales (see Table 1). This suggested stability over time of the scores of the two subscale.

Criterion Validity

Results of Sample 1 showed that after controlling for gender, age effects and affects of the other demographic variables, only the Aggression Legitimate subscale was significantly linked to YSR aggressive behavior, whereas the Aggression Pays subscale was not significantly linked with aggressive behavior (see Table 6). Similarly, for Sample 2, after controlling gender, age affects and father's and mother's education level, Aggression Legitimate was found to uniquely and significantly predicted aggressive behavior (see Table 7). Instead, Aggression Pays only marginally uniquely and significantly predicted aggressive behavior ($\beta = .10, p = .088$, see Table 7). Finally, we visually inspected the extent to which our Vietnamese ABRA scores compare to what has been reported in Western studies. However, because most ABRA studies report only the sum of the scores on the Aggression Pays and Aggression Legitimate subscales, we first calculated the same score summing the raw scores on the same subscales. We found in our Vietnamese sample similar mean scores ($M = 10.98, SD = 3.25$) compared to the scores reported in past studies on Western samples (e.g., $M = 11.07, SD = 4.94$; Dill et al., 2004).

(Table 6 about here)

Discussion

The current study was conducted to translate the ABRA into Vietnamese, and then to assess the factor structure, the reliability and the validity of the Vietnamese ABRA.

Regarding the translation, we applied a procedure of forward- and back-translation that

enabled us to minimize translation errors and that ensured linguistic equivalence between the ABRA's original and Vietnamese version. Moreover, before conducting psychometric analyses, we established the cultural equivalence of the items.

Next, the factor structure of the Vietnamese ABRA was systematically investigated using CFA and IRT analyses. First, the CFA showed that the original three-factor structure of the ABRA could not be replicated. Two of the three Stay Out items negatively affected the CFA model fit. Also, the IRT analyses on the three-factor model suggested that the Stay Out items were highly redundant. The fact that we could only partially replicate the ABRA's factor structure is in line with the idea that normative beliefs approving aggression are affected by culture. In the current study, results might have been affected by the more collectivistic nature of Vietnamese society which ought to result in a disapproval of the use of aggression (Byrne & Van de Vijver, 2010; Huesmann, 1988). However, the other cultural factors characterizing Vietnam (power inequality, the socio-economical development, and the promotion of harsh parenting practices) could have resulted in a level of ambivalence to some aspects of the normative beliefs towards aggression, due to which we could not fully replicate the Western factor structure. Such an interpretation would be in line with previous research that indicated the influences of cultural characteristics on the development of normative beliefs supporting aggression in non-Western societies (Amjad & Wood, 2009; Lim & Ang, 2009; Padmanabhanunni, 2019).

Taking a closer look at the underlying indicators, the CFA and IRT analyses suggested that Stay Out items should be dropped from the scale. The fact that our results diverged from the Western factor structure, might be attributed to cultural differences. Western students consider intervening in a fight a morally desirable social goal as it allows to self-portray as a savior of more vulnerable peers (Levasseur et al., 2017). To some extent, our findings might refer to the conflict-avoiding tendencies typically observed in collectivist

societies and that reflect a desire for harmony (Hofstede, 2001). It might be that this has altered the coherence of the Stay Out items and that this has suppressed model fit when evaluating the CFA/IRT models. In contrast, post-hoc discussions of our findings with students suggested that they might have interpreted the items more from a harm-avoidance perspective and that they did not perceive the moral connotation these items typically have in Western students. It is not impossible that the different meaning these items had for Vietnamese students is linked to the Confucian pedagogical directives that shape their rearing environment. Following these directives, these children are exposed to more violent caregiving strategies. It is well known that exposure to such experiences makes children more anxious (Rodriguez, 2003) which could translate in these children being more motivated to rely on harm avoidance strategies. Although this explanation should be further explored, the current findings do suggest that the Stay Out items tap insufficiently into Vietnamese students' normative beliefs about the use of aggressive behavior, which might be the result of Vietnam's specific cultural and pedagogical background. Therefore, we decided not to retain the Stay Out items in the Vietnamese ABRA. Supporting this decision, follow-up CFAs and IRT analyses showed for both samples good model fit for the two-factor model.

This suggests that SO beliefs might be less relevant to understand the development of aggression in Vietnam. One possible explanation of this finding might be that Vietnamese adolescents, who learned from their parents that children deserve to be physically punished (Rodriguez, 2018), may develop normative beliefs that victims deserve to be bullied and therefore do not feel any urge to intervene when witnessing bullying. One way to test this hypothesis in future research might be to conduct interviews asking Vietnamese adolescents whether they think it is appropriate (or not) to stay out of conflicts. More specifically, in such an interview, researchers might explore whether Vietnamese adolescents fear for their own safety and whether this affects their appraisal of the Stay Out subscale items. For example,

concerning a question of the Stay Out subscale, which is “When two students are fighting each other, other students should stop them” a researcher could slightly adjust it as follow “Imagine that you are not harmed while staying close to students fighting, do you think that other students should stop the fighting?”. The modification of the question is expected to make it more culturally “neutral” without changing the real meaning of the item. Similar rules can be applied for the other item, which is the “When two students are fighting each other, other students should stay out of it” of the Stay Out subscale.

Relatedly, the fact that we could only partially replicate the ABRA’s factor structure raises the question whether in Vietnam other normative beliefs about aggressive behavior are relevant that are not captured in the ABRA. Again, interviews would be the preferred research method to evaluate whether there are unique normative beliefs that steer adolescents’ aggressive behavior. Nevertheless, the current study was an important first step, showing that Western research on normative beliefs on aggressive behavior can at least partly inform research in non-Western countries.

In conclusion, the current study found that two (out of three) original ABRA scales could be identified in a Vietnamese sample. Specifically, we found support that the ABRA items organize in the Aggression Legitimate and Aggression Pays subscales identified in prior research. This suggests that findings from Western research are at least partly relevant for research in non-western countries such as Vietnam. However, we could not replicate the Stay Out scale, suggesting that there might be some culture-specific differences for which future, more qualitative research is needed to explore possible cultural differences and their meaning. Theoretically, it is interesting that part of the normative beliefs promoting aggressive behavior might be culture-fair, and these components seem to be meaningfully measured with the Vietnamese version of the ABRA. Practically, this means that at least part

of the ABRA could be useful to investigate universal components of normative beliefs on aggressive behavior.

The results supported the reliability of the remaining scales. First, internal consistency results showed that these items of the Aggression Legitimate and Aggression Pays subscales are consistent normative beliefs. Second, test-retest reliability analyses suggested that both the Aggression Legitimate and Aggression Pays subscales were stable over time. Therefore, it can be concluded that the reliability of the two subscales of the ABRA is satisfactory.

When evaluating the validity of the Vietnamese ABRA, results showed that the Aggression Legitimate subscale robustly and uniquely predicted aggressive behavior in both samples, suggesting that it links both with the overall tendency to be aggressive over a long time period (as measured with the YSR in sample 1) as well as with the frequency of specific aggressive behaviors in the days before the normative beliefs about aggression were measured (as measured with the AS in sample 2). The Aggression Pays subscale was less likely to link to both measures of aggressive behavior. Although the lack of a correlation between the belief that aggression pays and aggressive behavior in both samples could merely reflect statistical coincidence, other research found a less convincing correlation between the Aggression Pays subscale and aggressive behavior (Vernberg et al., 1999). One explanation might be that the measure of aggressive behavior used in sample 1 was limited to more general aggressive behavior (Achenbach & Rescorla, 2001), which is often more referred to a broadband of externalizing problems that are less based on a cognitive evaluation of the appropriateness of the aggressive act. Therefore, it might be harder to find links between normative beliefs of aggressive behavior and general aggressive behaviors measured by the YSR Aggressive Behavior compared to more specific aggressive behaviors, for example physical and verbal aggressive behaviors, which are more related to cognitive evaluation of the appropriateness of aggression, measured by the AS that we used in sample

2. Taking into account this nuance, the overall results across the two samples provided replicated support for our hypothesis that normative beliefs approving aggression are linked with aggressive behavior in Vietnamese students. The findings were in line with prior research conducted in Western countries (Henry et al., 2000) as well as in an Eastern sample (Chen & Avi Astor, 2010). Overall, this suggests that the ABRA scales linked to aggressive behavior independently of demographical factors, although the latter change in the results does suggest that the Aggression Pays subscale might be slightly less valid in Vietnam. However, future research is needed to ensure that what happened in Sample 2 is not merely a Type-2 error, providing more details about genuine effects of Aggression Pays on the development of aggressive behavior.

Our findings not only support the validity of the Vietnamese version of the ABRA but also support further research examining the potential role of normative beliefs in predicting the development of different forms of aggressive behavior including both face-to-face and cyber aggression, which are a critical concern in Vietnamese schools (Le et al., 2017). In addition, the current study also supports that Vietnamese students might have the same level of normative beliefs approving aggression compared to their Western counterparts. Therefore, the current study provided empirical support of the cross-cultural importance of normative beliefs approving aggression as a relevant factor to explain aggressive behavior in schools.

Furthermore, our findings add to the literature as it at least partly replicates Western research that shows a link between these normative beliefs and aggressive behavior. This type of research is important in light of developmental psychologists' growing concern that theories and research developed in Western countries do not necessary generalize across cultures. Blindly applying these theories to other cultures bears the risk that phenomena like aggressive behavior get misunderstood which could be more harmful than helpful.

Replicating this link across cultures adds weight to the relevance of studying normative beliefs promoting aggression in understanding the development of aggressive behavior. Therefore, the current study stimulates more research on this mechanism. This will not only enhance our understanding of the development of this behavior across cultures but this can also inform clinical research that aims to prevent or curate school problems related to aggression. In short, the current findings and the observation that at least some of the Western normative beliefs about aggression might prove relevant to understand peer violence in Vietnamese schools, suggest that any further research in Vietnamese schools can provide critical information on how to best handle peer violence in other cultures as well and that studying normative beliefs promoting aggression are of universal relevance in the study of aggressive behavior at schools.

Limitations and Future Directions

Even though the current study managed to demonstrate that normative beliefs about the use of aggressive behavior can be reliably and validly measured in Vietnam with the ABRA, more psychometric research is needed to further evaluate the value of this measure to conduct research on the development of aggressive behavior in Vietnamese students. First, the validation of the Vietnamese ABRA would have benefitted from more convergent validity tests and from additional divergent validity tests. So far, however, such scales have not been developed for Vietnam. Therefore, in the current study we could only include those measures that proved their psychometric value in prior research in Vietnam.

Second, using self-reported measures with only one single informant increases the risk for social desirability bias. For instance, the participants might have underreported their normative beliefs about the appropriateness of aggression since aggressive behavior is socially unacceptable (Peets & Kikas, 2006). For aggression research, children mainly have a high tendency to underreport their actual aggressive behavior compared to peer nominations

and teacher reports (e.g., Henry et al., 2006). This should have resulted in reduced variance suppressing the power of the test to detect significant associations between the variables. The fact that we did find predicted associations does suggest that the variance detected with the self-report instruments does hang together in a theoretically predicted way. Nevertheless, more research in the future is needed to test whether associations can get replicated using multi-method, multi-informant designs. Alternatively, in future research we might want to include a measure of social desirability bias to use as a control variable in our aggression research (Vigil-Colet et al., 2012). For now, the current results do support future endeavors to further validate the Vietnamese ABRA.

Third, the use of a self-report measure makes it impossible to identify normative beliefs that are relevant in Vietnam but that are not captured by the items administered in the current study. To evaluate whether Vietnamese students hold other normative beliefs approving aggression follow-up research should apply different methods such as interview and observation (e.g., Zelli et al., 1999) to help gain more insight about these normative beliefs in Vietnamese students. However, the current study is highly relevant as it shows that more research on such normative beliefs might be important to understand the concerning prevalence of peer violence in Vietnamese schools.

Further, we did not counterbalance the order of the questionnaires we administered. So, we cannot argue that order effects might not have contaminated the results. Although it seems less likely that order effects might have affected the factor analyses and IRT results, order effects might have resulted in the overestimation of the validation results. Therefore, it is important to evaluate in future research whether order effects have an influence on how adolescents fill out the ABRA and on whether the ABRA correlates with aggression measures.

Finally, the important role of social practices, for example parenting and teaching in the development of normative beliefs approving aggression in Vietnamese students, was not considered in the current analyses. Theoretically, these practices should predict the development of normative beliefs approving aggression in Vietnamese students, which would mediate the link between parenting/teaching practices and the development of their aggressive behavior. Future longitudinal research is needed to test such mediation hypotheses. The current study therefore has put a first important step to facilitate such future research. Such research is needed to evaluate which interventions are needed to prevent or curate peer violence in Vietnamese schools. The current findings and the observation that at least some of the Western normative beliefs about aggression might prove relevant to understand peer violence in Vietnamese schools, suggest that any further research in Vietnamese schools can provide critical information on how to best handle peer violence in other cultures as well.

Conclusion

The current study suggested that the ABRA allows to measure two different components of normative beliefs approving aggressive behavior in Vietnam: aggression is legitimate and aggression pays. In two samples, we found evidence that, in contrast to research in Western societies, the items presumed to measure the evaluation that one needs to stay out of others' conflict did not function appropriately. Therefore, they were excluded from the Vietnamese version of the ABRA. The two remaining subscales, the Aggression Legitimate and the Aggression Pays were found to be reliable and stable constructs. The association between Aggression Legitimate and aggressive behavior was more robust than the link between Aggression Pays and aggressive behavior, but this finding converged with Western research. Further research is needed to provide more details about true effect of Aggression Pays on the changes of aggressive behavior. In conclusion, research findings all

support the use of this adjusted version of the ABRA in future research in Vietnam and that using the ABRA can increase our cross-cultural knowledge on the development of peer violence at schools.

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Table 1

Descriptive Analysis, Cronbach's Alpha and Test-retest for all the Study Variables in Sample 1 and Sample 2

	Sample 1				Sample 2		
	AL-ABRA	AP	SO	AB-YSR	AL	AP	AB-AS
N	411	410	410	409	310	310	310
M (SD)	10.98 (3.25)	6.37 (2.41)	4.89 (2.02)	8.73 (5.36)	10.51 (2.89)	6.17 (2.04)	6.66 (7.65)
Range	27 (5-32)	17 (3.20)	10 (2-12)	28 (0-28)	25 (7-32)	13 (4-17)	43 (0-43)
Skewness (SE)	2.14 (0.12)	2.64 (0.12)	1.09 (0.12)	0.55 (1.21)	2.90 (0.14)	2.41 (0.14)	1.84 (0.14)
Kurtosis (SE)	7.13 (0.24)	8.39 (0.24)	0.43 (0.24)	-.05 (0.24)	15.08 (0.28)	6.84 (0.28)	3.90 (0.14)
α	.75	.76	-	.83	.72	.65	.78
Test-retest	.45 ^{***}	.36 ^{***}	-	-	-	-	-

Note. AL: Aggression Legitimate; AP: Aggression Pays; SO: Stay Out; AB-YSR: Aggressive Behavior-the Youth Self-Report; AB-AS:

Aggressive Behavior-the Aggression Scale;

^{***} $p < .001$.

Table 2

Model Fit Indices of Confirmatory Factor Analysis and Item Response Theory Analysis for Sample 1 and Sample 2

	Sample 1		Sample 2
	Three-factor model	Two-factor model	Two-factor model
Confirmatory Factor Analysis			
χ^2 (df)	32.107(101)	129.548 (64)	93.760 (64)
<i>p</i>	.000	.000	.009
CFI	.901	.947	.958
TLI	.882	.936	.949
RMSEA (CI)	.075 (.066, .085)	.051 (.038, .064)	.039 (.020, .056)
SRMR	.110	.076	.079
Item Response Theory Analysis			
M2 (df)	225.672 (71)	38.800 (38)	45.666 (38)
<i>p</i>	.000	.433	.184
RMSEA (CI, 90%)	.075 (.064; .086)	.007 (.000; .036)	.025 (.000; .050)

Table 3*Factor Loadings of Three-factor Model, Two-factor Model in Sample 1 and Sample 2*

Item	Sample 1					Sample 2	
	Three-factor model			Two-factor model		Two-factor model	
	AL	AP	SO	AL	AP	AL	AP
AL1	.735			.750		.551	
AL2	.609			.614		.728	
AL3	.768			.747		.831	
AL4	.580			.582		.624	
AL5	.765			.765		.766	
AL6	.554			.555		.551	
AL7	.552			.562		.537	
AL8	.639			.634		.482	
AP1		.717			.717		.626
AP2		.717			.722		.668
AP3		.833			.834		.872
AP4		.831			.830		.726
AP5		.719			.697		.652
SO1			1.237		-		-
SO2			.722		-		-
SO3			.012		-		-

Note. AL: Aggression Legitimate; AP: Aggression Pays; SO: Stay Out.

Table 4

Item Fit Statistics for Three-factor Model, Two-factor Model of The ABRA for Sample 1 and Sample 2

Item	Sample 1				Sample 2	
	Three-factor model		Two-factor model		Two-factor model	
	S-X ² (df)	<i>p</i>	S-X ² (df)	<i>p</i>	S-X ² (df)	<i>p</i>
AL1	15.324 (12)	.327	5.449 (10)	0.859	10.767 (7)	0.277
AL2	23.896 (12)	.112	21.687 (12)	0.221	13.625 (7)	0.189
AL3	12.728 (11)	.377	12.474 (10)	0.474	12.049 (4)	0.111
AL4	32.473 (23)	.251	30.263 (20)	0.221	16.465 (15)	0.416
AL5	19.217 (14)	.279	21.772 (11)	0.169	11.222 (6)	0.213
AL6	34.849 (36)	.539	46.832 (29)	0.169	38.444 (15)	0.013
AL7	34.521 (36)	.539	42.106 (30)	0.221	23.373 (19)	0.287
AL8	29.238 (25)	.339	21.596 (21)	0.611	29.236 (17)	0.139
AP1	25.397 (23)	.377	20.091 (21)	0.654	23.543 (17)	0.277
AP2	38.351 (30)	.279	27.018 (25)	0.577	17.770 (20)	0.603
AP3	29.786 (17)	.112	10.666 (13)	0.692	7.112 (7)	0.452
AP4	26.638 (22)	.327	15.594 (17)	0.654	10.059 (7)	0.287
AP5	18.795 (12)	.250	12.816 (10)	0.474	11.892 (9)	0.287
SO1	82.816 (33)	.000	-	-	-	-
SO2	85.616 (33)	.000	-	-	-	-
SO3	43.044 (34)	.279	-	-	-	-

Note. *p*-values have been adjusted for false discovery rate (FDR); AL: Aggression Legitimate;

AP: Aggression Pays; SO: Stay Out.

SO3 - - - - -

Note. *p*-values have been adjusted for false discovery rate (FDR); AL: Aggression Legitimate; AP: Aggression Pays; SO: Stay Out;

p* < .05. *p* < .01. ****p* < .001.

Table 6.

Summary of Hierarchical Regression Analysis for Variables Predicting Aggressive Behavior (measured by the Youth Self-Report) for Sample 1

	β	t	R^2	ΔR^2
Step 1			.06	
Age	.13	2.64**		
Gender	.09	1.81		
Cohabitation				
Live with father only	.07	1.32		
Live with mother only	-.04	-0.82		
Live with mother and step father	.08	1.61		
Live with father and step mother	-.08	-1.59		
Live with someone else	.02	0.40		
Family type				
Nuclear family	.04	0.68		
Other types of family	.13	2.44*		
Step 2			.20	.14***
Age	.10	2.18*		
Gender	.12	2.50*		
Cohabitation				
Live with father only	.40	0.76		
Live with mother only	-.03	-0.66		
Live with mother and step father	.07	1.55		
Live with father and step mother	-.05	-0.99		
Live with someone else	-.00	-0.05		
Family type				

Nuclear family	.04	0.85
Other types of family	.09	1.74
Aggression Legitimate	.33	6.00***
Aggression Pays	.08	1.47

Note: Cohabitation was represented using Living with parents as the reference group; Family type was represented using Extended family as the reference group.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7.

Summary of Hierarchical Regression Analysis for Variables Predicting Aggressive Behavior (measured by the Aggression Scale) for Sample 2

	β	t	R^2	ΔR^2
Step 1			.08	
Age	.23	4.04***		
Gender	-.09	- 1.60		
Father's education level	-.10	- 1.33		
Mother's education level	.14	2.02*		
Step 2			.21	.13***
Age	.16	3.00**		
Gender	- .10	- 1.90		
Father's education level	- .64	- 0.97		
Mother's education level	.15	2.27*		
Aggression Legitimate	.32	5.26***		
Aggression Pays	.10	1.71		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.