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Cross-Cultural Validation of the Reactive-Proactive Aggression Questionnaire (RPQ) Using Four Large Samples from the US, Hong Kong, and China

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Abstract

This is the first study to assess the validity the Chinese version of the Reactive and Proactive Aggression Questionnaire (RPQ). The RPQ was administered to 11 year-old participants in the China Jintan Child Cohort Study, a population-based longitudinal study of 1352 children. Similar to other studies, a two-factor solution with one reactive and one proactive subscale best described the data. Overall, the Chinese version of the RPQ had good construct validity, internal consistency, and test-retest reliability. These findings suggest that the RPQ is psychometrically similar when administered to children and adolescents in the United States and in China and need not be modified to measure aggressive behavior in Chinese samples.

Keywords

RPQ; Validation; Chinese sample

Aggression is generally defined as a behavior that harms another (Berkowitz 1993). Overall, aggressive behavior is stable across development and genetic factors have been found to explain up to 65% of the total variance in aggression (Tuvblad and Baker 2011). However, it is important to draw a distinction between two different forms of aggression: reactive and

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Conflict of Interest Catherine Tuvblad, Devika Dhamija, Leslie Berntsen, Adrian Raine, and Jianghong Liu declare that they have no conflict of interest.

Experiment Participants Regarding the Jintan Study; All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Regarding the three comparison samples (RFAB, Hong Kong, Pittsburgh): For this type of study formal consent is not required

proactive. Whereas reactive aggression occurs in response to a real or perceived threat, proactive aggression is used with the intention of achieving a particular goal (Raine et al. 2006). Although both types of aggression are associated with undesirable outcomes, such as poor socialization and mental health disturbances, each type is also differentially associated with divergent aspects of emotional, behavioral, and cognitive functioning (Raine et al. 2006). Particularly, reactive aggression is related to early-onset attention problems and impulsivity (Barry et al. 2007; Dodge et al. 1997), peer rejection and victimization (Salmivalli and Helteenvuori 2007), and internalizing problems (Card and Little 2006). In contrast, proactive aggression has been linked to a lack of empathy and remorse, low emotional reactivity (Marsee and Frick 2007; Raine et al. 2006), and delinquent behavior (Brendgen et al. 2001). These differences have also been observed in cross-cultural studies. For example, Seah and Ang (2008) examined reactive and proactive aggression in Asian adolescents and found that reactive aggression was significantly related to higher rates of anxiety and poor interpersonal functioning, while proactive aggression correlated with narcissistic traits. Distinguishing between reactive and proactive aggression is an important endeavor, both theoretically and clinically, as these distinctions can help identify unique risk/protective factors and etiological pathways, as well as help develop tailored interventions.

Self-report measures of aggression are especially informative because they allow for the identification of latent factors that might not emerge from observer reports (e.g., the motivation behind aggressive behaviors and the context in which they occurred). The Reactive and Proactive Aggression Questionnaire (RPQ; Raine et al. 2006) is a well-validated self-report measure of aggressive behavior that has been translated into several different languages and used successfully outside of the United States, including in Italy (Fossati et al. 2009), Hong Kong (Fung et al. 2009), Singapore (Seah and Ang 2008) and the Netherlands (Collins 2015). Furthermore, several researchers in the United States (Fite et al. 2010; Teten-Tharp et al. 2011; Tuvblad et al. 2009) have used the RPQ among American samples of children from diverse backgrounds, including Caucasian, African-American, Asian-American, Hispanic, and multiethnic youth. Although the RPQ has been successfully translated into Mandarin Chinese for mainland Chinese populations, no validation studies of the Chinese version of the RPQ currently exist. Further study of reactive and proactive aggression around the world can help explicate cultural correlates of aggressive behavior. Additionally, it may also help researchers distinguish proactive and reactive aggression from related but possibly distinct facets of aggressive behavior, such as premeditation and impulsivity (Teten-Tharp et al. 2011), that can vary by culture, age and gender.

The purpose of this study is to extend the literature on proactive and reactive aggression in youth in two ways. First, we examined the construct validity and internal consistency of the Reactive and Proactive Aggression Questionnaire (RPQ; Raine et al. 2006) in a large sample ($N=1352$) of 5th grade male and female mainland Chinese students participating in the China Jintan Child Cohort Study. Since RPQ data were collected at two time points (i.e., 2 weeks apart) from a subset of the participants in the Jintan study, we were also afforded the opportunity to examine the reliability of this measure, further extending the potential impact and importance of these findings. Second, we compared the construct validity and internal consistency of the RPQ in the Jintan study with the construct validity and internal consistency of the RPQ across three published comparison samples: the University of

Southern California Twin Study of Risk Factors for Antisocial Behavior (RFAB), the Hong Kong Sample, and the Pittsburgh Youth Study (described in detail below). Validating empirically sound measures of aggressive behaviors, such as the RPQ, may facilitate further research on aggression in diverse samples. Such research, in turn, may aid in the identification of culture-specific correlates of violence and psychopathology and are relevant to treatment and prevention efforts.

Methods

The current study is an extension of a population-based community cohort study of 1656 Chinese children in the city of Jintan, located in the southeastern coastal region of mainland China. Briefly, the China Jintan Child Cohort Study is an ongoing prospective longitudinal study assessing early health risk factors for the development of neurobehavioral outcomes during childhood (for further details, see Liu et al. 2009). In 2005, children at junior (3–4 years old), middle (4–5 years old), and senior (5–6 years old) levels were recruited from four preschools. After preschool, children from the cohort were enrolled in six elementary schools throughout Jintan. In the present study, we invited the cohort's senior level preschoolers (in 5th grade at the time of data collection) as well as their non-cohort 5th grade classmates to complete the RPQ. The total sample included 700 males (51.8 %) and 652 females (48.2 %), for a total of $N=1352$ participants (mean age=11.65).

Measures

Reactive and Proactive Aggression Questionnaire (RPQ)—The RPQ is a well-validated 23-item questionnaire designed to measure reactive and proactive aggression in children and adolescents beginning at age eight (Raine et al. 2006). The RPQ includes 11 reactive items (e.g., “He/she damages things when he/she is mad”; “He/she gets mad or hit others when they tease him/her”) and 12 proactive items (e.g., “He/she threatens and bullies other kids”; “He/she damages or breaks things for fun”). All RPQ items have a three-point response format (0=*never*, 1=*sometimes*, 2=*often*), but do not reference a specific time period—they simply ask “how often” respondents have engaged in particular behaviors. Following standard translation procedures, the RPQ was translated from English to Mandarin Chinese and then back-translated to English by a team led by the last author, who is fluent in both Mandarin and English. The Mandarin version of the RPQ is available from the last author upon request.

Description of Comparison Samples, Using Data from Three Published Studies

1. The USC Risk Factors for Antisocial Behavior (RFAB) twin study. RFAB includes 782 twin pairs (1573 subjects; same- and opposite-sex twins, approximately equal numbers of boys and girls). RFAB is a longitudinal project that uses a comprehensive multi-measure (i.e., cognitive, behavioral, neuropsychological, and psychophysiological data) and multi-informant approach (i.e., youth self-report, as well as parent and teacher ratings). To date, five waves of data have been collected, during which twins were 9–10, 11–13, 14–15, 16–18, and 19–20 years old (Baker et al. 2007, 2013). Results from

Wave 1 ($N=1207$ twins, mean age=9.58) were included in the current study and the correlation between proactive and reactive aggression was significant ($r=0.47$, $p<0.001$) (Baker et al. 2008).

2. The Hong Kong Sample. The Hong Kong Sample includes 5615 children (3369 boys and 2246 girls) aged 11 to 15 years (mean age=13.38). The participants were recruited from 14 public secondary schools from across Hong Kong. At intake, the children were in grades F1 (11–12 years), F2 (13–14 years), and F3 (14–15 years). The RPQ was administered in Mandarin, and the correlation between proactive and reactive aggression was significant ($r=0.54$, $p<0.001$) (Fung et al. 2009).
3. Pittsburgh Youth Study. Participants consisted of 335 of the youngest of the three samples (mean age=16.15) making up the Pittsburgh Youth Study (Loeber et al. 1998). In this youngest sample, 868 1st grade boys were assessed by caregivers, teachers, and by the boys themselves (self-reports) on antisocial behaviors. Those who displayed the highest levels of antisocial behavior ($N=250$) were selected for further study, along with 253 boys randomly selected from the remainder, for a total sample of $N=503$. Of those 503, a sub-sample of 335 (66.6 %) boys participated in a sub-study on the biosocial bases of aggressive and violent behavior, which included assessment of the RPQ. In this final sample, the correlation between proactive and reactive aggression was significant ($r=0.67$, $p<0.001$)

Statistical Analyses

Exploratory and Confirmatory Factor Analysis (CFA)—Although the primary hypothesis of this study was to confirm the two-factor solution for the RPQ, an exploratory factor analysis was first conducted to assess the fit of one-, two-, three- and four-factor solutions to the data to determine which solution might be appropriate for further analyses. To assess the construct validity of the RPQ in the Jintan Study, the 23 RPQ items were subjected to CFA using MPLUS 6 (Muthén and Muthén 1998–2007). As the responses were categorical, the WLSMV estimator was used to conduct a categorical CFA. Model fit was assessed with two goodness-of-fit indices: the Root Mean Squared Error of Approximation (RMSEA) index (McDonald 1989), and the Comparative Fit Index (CFI; Bentler 1990). The Diffest option in Mplus was used to compute a chi square difference test. For this study, the following criteria were used to evaluate model fit: $CFI>0.95$, and $RMSEA<0.05$ suggests a good fit (e.g., Hu and Bentler 1999; Kline 1998), $\chi^2/df<5.0$, $CFI>0.90$ and $RMSEA<0.08$ suggests an adequate fit (e.g., Schumacker and Lomax 2004). It should be noted that the WLSMV estimator in Mplus does not produce an AIC. Internal consistency was determined using the Cronbach's alpha coefficient.

Test-Retest Reliability—Of the 1352 children participating in the Jintan study, $N=281$ (138 males and 143 females; 20.8 % of the original sample) were available for a retest of the RPQ 2 weeks after the first testing date. The test-retest reliability of individual items and scales was determined using Kappa (κ) statistics and percent agreement (the proportion of participants grouped within the same response category for test and retest) for categorical

variables, and Spearman's ρ for continuous variables. Percent agreement was calculated since the stability of κ is dependent on the prevalence of responses to a question and when there is a low prevalence of one response, κ may be very low (Chinn and Burney 1987). Suggested guidelines, which should be viewed with caution, characterize Kappas over 0.75 as excellent, 0.40 to 0.75 as fair to good, and below 0.40 as poor (Fleiss 1981).

Sex Differences Within Each Sample—To compare the mean score differences within each of the four samples (the Jintan study and the three comparison samples, Hong Kong sample (Fung et al. 2009), RFAB (Baker et al. 2008) and Pittsburgh Youth Study (Loeber et al. 1998), we calculated p values from an independent samples t -test.

Results

Construct Validity of the Chinese Version of the RPQ: the Jintan Study

An exploratory factor analysis was first conducted for a preliminary assessment of the number of factors to be extracted. The results of the analysis are presented in Table 1. The inclusion of a third factor in the exploratory analysis explained only about 5 % of additional variance. Moreover, the loadings for a three-factor solution revealed that only two items loaded moderately on the third factor, suggesting that the RPQ is better suited to a one- or two-factor solution.

The construct validity of the RPQ in the Jintan Study ($N=1352$) was determined with confirmatory factor analysis (CFA). Goodness-of-fit indices for the two-factor model (proactive and reactive subscales), and the one-factor model (general aggression) are presented in Table 2. CFI and RMSEA indices indicated that the two-factor model described the data better than the one-factor model. Compared to the one-factor model, the two-factor model had a smaller RMSEA (0.04, indicating good fit), and a CFI indicating greater covariation in the data (93.9 %). The chi-square test comparing the two models was significant, $\chi^2(1)=139$, suggesting a significantly worse fit for the one factor model compared to the two factor model. The correlation between proactive and reactive aggression was significant ($r=0.65$, $p<0.001$).

Test-Retest Reliability: the Jintan Study

Table 3 displays test-retest results for both subscales of the RPQ (administered to a subset of the participants in the Jintan study [$N=281$] 2 weeks apart). Overall, the two subscales had moderate test-retest reliability ($\rho>0.50$) although several items did have κ values indicating poor to moderate test-retest reliability. It should be noted that these reported κ values may have been influenced by retest effects: since there were only 2 weeks between the two administrations of the RPQ, participants may have remembered their initial responses while completing the RPQ for the second time. See Table 4 for category proportions responses of reactive and proactive aggression, respectively.

Factor Loadings Across the Four Samples

Standardized factor loadings from CFA are presented in Table 5 for the Jintan study, as well as the three published comparison samples: RFAB study (Baker et al. 2008), Hong Kong

Sample (Fung et al. 2009) and the Pittsburgh Youth Study (Loeber et al. 1998). For the all four studies, all items loaded onto their respective factors. For the Jintan study, loadings ranged from 0.50 to 0.79 on the proactive factor and from 0.48 to 0.74 on the reactive factor. In the RFAB study, loadings ranged from 0.06 to 0.56 on the proactive factor and from 0.31 to 0.56 on the reactive factor. In the Hong Kong Sample, loadings ranged from 0.49 to 0.64 on the proactive factor and from 0.46 to 0.69 on the reactive factor. Finally, in the Pittsburgh Youth Study, the loadings ranged from 0.52 to 0.64 on the proactive factor and from 0.48 to 0.65 on the reactive factor. Across all four samples, the ranges of the factor loadings for both reactive and proactive aggression were relatively similar with one exception: in the RFAB study, there were lower ranges for both reactive and proactive aggression.

Sex Differences and Internal Consistency Within Each of the Four Samples

Descriptive statistics for reactive and proactive aggression across all four samples (Jintan study, RFAB study (Baker et al. 2008), Hong Kong sample (Fung et al. 2009), Pittsburgh Youth Study (Loeber et al. 1998)) are presented in Table 6. There were significant differences in mean aggression levels between boys and girls in all three samples, with boys showing higher levels ($p < 0.05$) of both kinds of aggression in all four samples, except for reactive aggression scores in the Jintan ($p = 0.07$) and Hong Kong samples ($p = 0.77$). Across the four samples, both the reactive and proactive aggression subscales exhibited internal consistency that ranged from acceptable to good (indicated by Cronbach's alpha coefficients above 0.70).

Discussion

The purpose of the current study was twofold. First, we sought to examine the construct validity, internal consistency and test-retest reliability of the RPQ in a large sample of 5th grade male and female Mainland Chinese children participating in the Jintan study (Liu et al. 2009). Second, we sought to compare the construct validity and internal consistency of the RPQ in the Jintan study with the construct validity and internal consistency of the RPQ across three samples (the RFAB study, the Hong Kong sample and the Pittsburgh Youth Study). To our knowledge, this is the first study to assess the validity of the Chinese version of the RPQ.

There are three main points of interest for discussion in the present study. First, the RPQ generally follows a two-factor solution that distinguishes between reactive aggression and proactive aggression (Raine et al. 2006). A two-factor solution for the RPQ has been found in several studies across various samples, including the USA (Baker et al. 2008), Italy (Fossati et al. 2009), and China (Fung et al. 2009). Consistent with these previous studies, we found that a two-factor solution (with subscales for both reactive and proactive aggression) better described the Jintan data than a one-factor solution. Furthermore, the internal consistency (indicated by Cronbach's alpha) ranged from acceptable to good for both the reactive and the proactive aggression subscales. Taken together, these results suggest that the reactive and proactive aggression subscales both have good internal consistency in the Jintan sample. This further indicates that, in this sample, each set of items (11 reactive and 12 proactive items) measure two separate unidimensional latent constructs.

In addition, for the subset of Jintan participants who completed the RPQ twice (i.e., 2 weeks apart), test-retest reliability of the RPQ was found to be fair.

Second, the factor structure of the RPQ remained generally consistent across all four samples. In all of the samples, a two-factor solution best described the data and internal consistency ranged from acceptable to good for both reactive and proactive aggression. Even though these samples differ in demographic composition (i.e., ages varied across the four samples, the Pittsburgh Youth Study only included boys), the overall factor loadings were fairly similar across the four studies. However, there were some minor differences in the loadings. Specifically, in the RFAB study, there were several items with lower factor loadings compared to the other three samples. For example, the “Carried weapon for use” item had a very low loading in the RFAB study compared to the other three samples. One possible explanation for this pattern might be that participants in the RFAB study were slightly younger (mean age=9.58 years) compared to the participants in the other three samples (Jintan study: mean age=11.65; Hong Kong sample: mean age=13.38; Pittsburgh Youth Study: mean age=16.15).

Third, there were significant mean differences in reactive and proactive aggression between boys and girls in the three mixed-sex samples (the Jintan sample, the RFAB study, and the Hong Kong sample) with boys showing higher mean levels, with the exception of reactive aggression in Jintan and Hong Kong samples. Mean levels for both reactive and proactive aggression were also significantly higher in the Pittsburgh Youth Study compared to the other three samples, which is likely due to the fact that, in the Pittsburgh sample, the RPQ was only administered to a subset of the participants who displayed higher levels of antisocial behavior. This also may be due to the fact that the Pittsburgh participants were slightly older than those in the other three samples and that the Pittsburgh Youth Study is a male-only sample. It is well documented that males are much more likely than females to engage in most forms of aggressive behavior across the entire lifespan (Tuvblad and Baker 2011).

Despite several strengths of this study, including large sample sizes, and the first cross-cultural comparison of its kind, our study includes a few limitations. First, our data is from a non-randomized sample of school children in the same grade. Second, although the region of China in which our study was conducted was well-populated (e.g., 650,000 residents) and included urban, suburban, and rural areas, it may limit its generalizability to other (i.e., minority) regions of the country. Third, the questionnaire was only administered to children; future studies should incorporate data from teacher ratings, as well. Fourth, external validity was not assessed, which limits our ability to test whether the RPQ can predict real-world aggressive behavior across cultures. Finally, our three comparison samples were all published results (Baker et al. 2008; Fung et al. 2009; Loeber et al. 1998) and we did not have access to the data. As a result, no sophisticated statistical analyses (e.g., invariance testing) could be conducted.

Methodological limitations notwithstanding, aggression and violence represent a significant public health cost (Scott et al. 2001) and are associated with substantial comorbidity (Kim-Cohen et al. 2003). Therefore, understanding the causes and determinants of both reactive

and proactive aggression is an important public health goal. The construct validity of the RPQ in the Jintan study indicates a two-factor solution (a reactive and a proactive aggression subscale) with satisfactory internal consistency within each subscale. These results align well with findings from other studies that examine the overall validity of the RPQ across various populations. Together, these findings support the use of the RPQ to measure aggressive behavior in general population-based samples in China.

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Table 1

Model-fitting results for the exploratory factory analyses for the RPQ in Jintan study

Model	Df	CFI	RMSEA
1-factor	230	0.89	0.05
2-factor	208	0.96	0.03
3 Factor	187	0.98	0.02
4 Factor	167	0.99	0.02

CFI Comparative Fit Index, *RMSEA* Root Mean Squared Error of Approximation

Table 2

Model-fitting results comparing a one-factor model with a two-factor model in the Jintan study, confirmatory factor analyses

Model	Df	CFI	RMSEA
1-factor	230	0.89	0.05
2-factor	229	0.94	0.04

CFI Comparative Fit Index, *RMSEA* Root Mean Squared Error of Approximation

Table 3

Test-retest reliability of the RPQ in the Jintan study

	Kappa (κ)	% Agreement
Proactive items		
Spearman's Correlation $\rho=0.598$		
Fight for status	0.37	78.6
Taken things from others	0.34	89.3
Vandalized for fun	0.36	91.8
Gang fight to be cool	0.40	92.2
Hurt others to win game	0.16	92.2
Force to manipulate others	0.47	91.1
Force to obtain money	0.03	94.0
Threatens and bullies	0.17	90.0
Obscene phone calls for fun	0.23	92.9
Manipulate others to gang up	0.39	94.0
Carried weapon for use	0.26	96.4
Yelled to manipulate	0.30	86.8
Reactive items		
Spearman's correlation $\rho=0.686$		
Yelled when annoyed	0.38	70.8
Angry when provoked	0.43	67.6
Angry when frustrated	0.27	58.7
Temper tantrums	0.35	64.8
Damaged things when mad	0.36	76.9
Angry when don't get way	0.41	73.0
Mad when lost a game	0.32	75.1
Angry when threatened	0.34	59.8
Felt better after hitting	0.41	79.0
Hit to defend self	0.45	70.5
Hit when teased	0.42	70.5

$N=281$ (20.8 %) of the 1352 children participating in the Jintan study were tested on two occasions with 2 weeks apart

Table 4

Response percentages in each category for all items of the RPQ in the Jintan study

Response→	0	1	2
Proactive items			
Fight for status	28.5	66.3	5.3
Taken things from others	86.2	13	0.8
Vandalized for fun	27.2	59.1	13.6
Gang fight to be cool	89.8	9.8	0.4
Hurt others to win game	48.2	46.2	5.5
Force to manipulate others	95.3	4.4	0.3
Force to obtain money	32.8	60.6	6.5
Threatens and bullies	79.8	18.9	1.3
Obscene phone calls for fun	96.3	3.2	0.5
Manipulate others to gang up	97.9	1.7	0.4
Carried weapon for use	75.3	23.6	1.1
Yelled to manipulate	93.1	6.7	0.1
Reactive items			
Yelled when annoyed	82.6	16	1.4
Angry when provoked	41.4	48.7	9.8
Angry when frustrated	97.5	1.9	0.4
Temper tantrums	82.8	16	1.1
Damaged things when mad	94.1	5.5	0.2
Angry when don't get way	95.9	3.9	0.1
Mad when lost a game	63.1	33.4	3.3
Angry when threatened	96.1	3.4	0.4
Felt better after hitting	98.2	1.6	0.1
Hit to defend self	68	29.1	2.7
Hit when teased	93.2	6.3	0.3

Table 5

Factor loadings of reactive and proactive aggression items

	Jintan	Hong Kong	Pittsburgh	RFAB
Proactive items				
Fight for status	0.72	0.54	0.52	0.56
Taken things from others	0.52	0.45	0.56	0.42
Vandalized for fun	0.61	0.55	0.62	0.3
Gang fight to be cool	0.75	0.58	0.59	0.4
Hurt others to win game	0.75	0.61	0.56	0.37
Force to manipulate others	0.74	0.63	0.61	0.49
Force to obtain money	0.69	0.49	0.52	0.22
Threatens and bullies	0.75	0.64	0.63	0.38
Obscene phone calls for fun	0.5	0.45	0.52	0.3
Manipulate others to gang up	0.73	0.62	0.56	0.33
Carried weapon for use	0.79	0.53	0.64	0.06
Yelled to manipulate	0.73	0.6	0.59	0.49
Reactive items				
Yelled when annoyed	0.66	0.56	0.48	0.56
Angry when provoked	0.71	0.65	0.59	0.55
Angry when frustrated	0.48	0.54	0.59	0.52
Temper tantrums	0.62	0.61	0.51	0.41
Damaged things when mad	0.56	0.55	0.63	0.31
Angry when don't get way	0.7	0.69	0.58	0.53
Mad when lost a game	0.59	0.46	0.46	0.49
Angry when threatened	0.54	0.62	0.49	0.5
Felt better after hitting	0.74	0.53	0.65	0.32
Hit to defend self	0.52	0.46	0.56	0.44
Hit when teased	0.71	0.63	0.65	0.5

Hong Kong Sample (Fung et al. 2009), Pittsburgh Youth Study (a boys only sample) (Loeber et al. 1998), RFAB (University of Southern California Risk Factors for Antisocial Behavior) Study (Baker et al. 2008)

Table 6
Descriptive statistics and internal consistency for reactive and proactive aggressive behavior

	Jintan			Hong Kong			Pittsburgh			RFAB		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
<i>N</i>	1352	700	652	5615	3369	2246	334			1207	588	619
Proactive aggression												
Mean	0.70	0.99	0.39	1.33	1.59	0.89	2.79			0.90	1.12	0.69
SD	1.44	1.75	0.92	2.59	2.94	3.98	3.47			1.8	2.07	1.49
α	0.71			0.88			0.86			0.74		
<i>t</i>	7.97			7.14						4.14		
<i>p</i>	<0.001			<0.001						<0.001		
Reactive aggression												
Mean	5.21	5.37	5.05	4.71	4.72	4.69	7.14			6.99	7.32	6.67
SD	3.29	3.31	3.23	3.81	3.98	3.54	4.18			3.61	3.70	3.48
α	0.78			0.83			0.84			0.76		
<i>t</i>	1.79			0.30						3.17		
<i>p</i>	0.072			0.77						0.002		

Hong Kong Sample (Fung et al. 2009), Pittsburgh Youth Study (a boys only sample) (Loeber et al. 1998), RFAB (University of Southern California Risk Factors for Antisocial Behavior) Study (Baker et al. 2008)

N=Number of Participants, *SD*=Standard Deviation, α =Cronbach's Alpha