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The association between aggressive and non-aggressive antisocial problems as measured with the Achenbach System of Empirically Based Assessment: A study of 27,861 parent–adolescent dyads from 25 societies

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ABSTRACT

Aggression (e.g., assaulting others, bullying, oppositionality; AGG) and non-aggressive rule-breaking (e.g., lying, stealing, vandalism; RB) appear to constitute meaningfully distinct dimensions of antisocial behavior. Despite these differences, it is equally clear that AGG and RB are moderately-to-strongly intercorrelated with one another. To date, however, we have little insight into the sampling and methodologic characteristics that might moderate the association between AGG and RB. The current study sought to evaluate several such moderators (i.e., age, sex, informant, and society) in a sample of 27,861 parent–

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adolescent dyads from 25 societies. AGG and RB were assessed with the well-known Child Behavior Checklist and Youth Self-Report (Achenbach & Rescorla, 2001). Results revealed small effects of informant and adolescent sex, such that the association between AGG and RB was stronger for parents' reports than for adolescents' self-reports, and for boys than for girls. The association also varied by society. Unexpectedly, the specific operationalization of 'aggression' emerged as a particularly strong moderator, such that the association was stronger for a general measure of AGG than for a more focused measure of physical aggression per se. Such findings inform our understanding of similarities and differences between aggressive and non-aggressive antisocial problems.

1. Introduction

There is compelling evidence that both physical and overt aggression (e.g., assaulting others, bullying, disobedience) are meaningfully distinct from covert non-aggressive rule-breaking antisocial problems (e.g., lying, stealing, vandalism). Aggression appears to be a highly heritable behavioral dimension that emerges in early childhood (Tremblay, 2010) and exhibits specific ties to negative emotionality and executive dysfunction (Burt, 2012). Although the frequency of aggression decreases after early childhood, those who are most aggressive early in life typically continue to aggress at relatively high rates across the lifespan (Tremblay, 2010). In contrast, non-aggressive rule-breaking demonstrates specific associations with impulsivity, is most frequent during adolescence, and evidences more moderate levels of stability and stronger environmental influences (Burt, 2012; Tremblay, 2010).

Despite the above evidence of distinctions, it is also clear that aggressive and non-aggressive antisocial problems are positively intercorrelated (∼.55). Critically, however, there is a great deal of variability around this mean correlation, with an observed range of .28–.73 across multiple studies of youth antisocial problems (as discussed in Burt, 2012). Visual inspection of the sampling and methodologic characteristics of these studies highlighted several potentially important explanatory variables, including the age of the youths (associations appeared to decrease somewhat with age) and the informant-report being analyzed (associations were lower when examining adolescents' self-reports than when examining parents' reports). Society may also be an important predictor, as the prevalence of antisocial problems in general is known to vary across nations and to be influenced by contextual forces (Breslau et al., 2011). To date, however, no study has sought to empirically estimate or compare the extent to which specific sampling and methodologic characteristics might moderate the association between aggression and rule-breaking. The current study sought to do just this in a sample of 27,861 parent–adolescent dyads from 25 societies (Rescorla et al., 2013). We expected associations to decrease with age and to be lower for self-report data. Analyses for society were considered exploratory.

2. Methods and materials

2.1. Participants

As described in prior work (Rescorla et al., 2013), data were obtained from the samples listed in Table 1. Participants were recruited either through sampling of household registers/addresses with parents typically completing the Child Behavior Checklist (CBCL) first, or through schools with adolescents typically completing the Youth Self-Report (YSR) first. The completion rates shown in Table 1 thus differed somewhat for the two forms. Samples ranged from 301 to 3106 across the 25 societies (total $N = 27{,}861$ parent–adolescent dyads; 45% boys and 55% girls; 55% ages 11–14 and 45% ages 15–18). Adolescents referred for mental health services had been excluded from the data we received from five societies. Conventions for obtaining informed consent required by each indigenous investigator's research institution were followed.

2.2. Measures

Parents and adolescents completed translated versions of the CBCL and the YSR (Achenbach, 1991; Achenbach & Rescorla, 2001) in 22 societies and the original English-language versions in the U.S., Australia, and Jamaica. Translators used simple language to ensure that the translation would be comparable to the fifth-grade reading level of the U.S. text. To verify that translations captured the original meanings, independent back-translations into English were done, which then guided fine-tuning of the translations.

The CBCL contains 120 problem items rated over the previous 6 months as 0 = *not true* (*as far as you know*), 1 = *somewhat or sometimes true*, 2 = *very true or often true*. The YSR, which contains 105 problem items plus 14 items tapping positive qualities, has counterparts of all 17 CBCL problem scales. When the CBCL and YSR were revised in 2001, six items from the 1991 version (Achenbach, 1991) were replaced. Because some samples used the 1991 CBCL, we omitted these six items from our analyses, as well as items not shared by the YSR, plus two open-ended items, leaving 98 items. Of these, the RB scale contained 12 items (i.e., lies or cheats, bad friends, sets fires, steals at home, steals outside the home, uses drugs, thinks about sex too much, truant, no guilt, prefers older kids, runs away, swears; $\alpha = .69$ for parent and adolescent reports). The AGG scale contained 17 items (i.e., argues, mean, demands attention, destroys own things, destroys others' things, disobedient at school, disobedient at home, gets in fights, attacks others, screams, stubborn, mood changes, temper, suspicious, teases a lot, threatens others, loud; α ranged from .81 to .84 for parent and adolescent reports).

Because the AGG scale includes items tapping physical aggression, hostility, and emotional dysregulation, we also constructed a shortened physical aggression scale (PA), as done in prior work (see, for example, Bongers, Koot, van der Ende, & Verhulst, 2004). We selected five items (i.e., destroys own things, destroys others' things, fights, attacks others, threatens others; $\alpha = .63$ for parent and adolescent reports) for inclusion. To evaluate whether this sub-scale was indeed separable from the overall AGG scale, we conducted an exploratory factor analysis (EFA) with promax rotation of the adolescent-reported AGG items using MLR estimation in Mplus 6.1. The fit of the two-factor EFA was good (RMSEA = .046, CFI = .951) and better than the fit of the one-factor model (RMSEA = .053, CFI = .941). Although the scree plot also yielded evidence of a clean break between the two- and three-factor solutions, three Eigen values were above 1.0 (4.404, 1.469, 1.030). For completeness sake, we report the results of the two- and three-factor EFAs in Appendix A. The five PA items evidenced high loadings on one factor (>.45) and low loadings on the other (<.10), and did so even when fitting a three-factor solution. Two additional items ('mean' and 'disobedient