



# Improving the Ecological Validity of Predictors of Youth Aggression: Development of the *Beliefs About Fighting and Non-violent Alternatives Scale*



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## Background

A fuller understanding of the factors that influence the development of aggression in youth is vital to the creation of effective interventions. An individual's belief system has been identified as a key factor influencing aggression (Crick & Dodge, 1994). For example, schemata that aggression is justified in response to provocation has been linked to hostile response selection and aggressive behavior (Bellmore, Witkow, Graham, & Juvonen, 2005). Although considerable work has been conducted to identify beliefs related to aggression, the majority of this work has been conducted with primarily Caucasian samples. Moreover, most of the extant measures of this construct have been developed without a contextualized understanding of the complex factors that influence beliefs under different circumstances. This poster will describe an effort to develop and evaluate a measure of beliefs about fighting and nonviolent responses that reflects key themes relevant to urban African American adolescents.

## Method

Items were developed based on a review of the literature on existing measures, and themes identified in a series of qualitative and quantitative studies examining factors that influence urban African American youth to employ aggressive versus effective non-violent responses in problem situations. Items were written to represent five themes that emerged from this work: *beliefs against fighting*, beliefs representing a *revengeful style*, the idea that *fighting now prevents future fighting*, and two themes reflecting specific "rules of engagement" for fighting: *ok to fight in response to physical aggression* and *ok to fight in response to non-physical aggression*. Transcripts of interviews with middle school students were reviewed to generate items for each of the five themes, using participants' own words where possible. Comparison of these factors to those represented on existing measures led to the inclusion of additional items to represent the following three domains: *support for nonviolent strategies*, *instrumental aggression*, and *reactive aggression*.

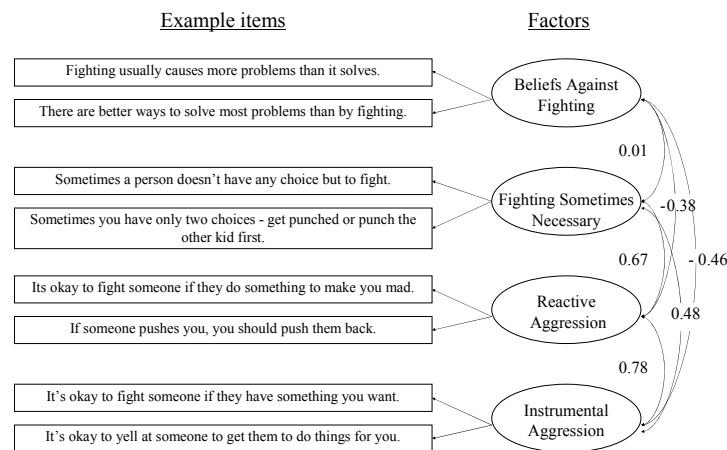
The final 35-item measure was administered to 199 youth attending two urban middle schools who completed other measures of adjustment. Youth ranged in age from 11 to 14, with a mean age of just over 12 years old.

Male	49%	African American	71%
Special Education	28%	Multi-ethnic	18%
		Other ethnicity	8.5%

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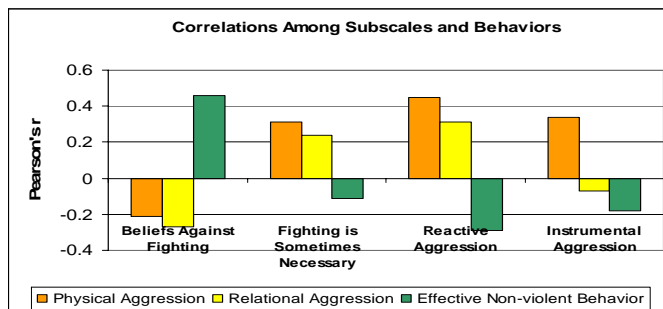
## Confirmatory Factor Analyses

Confirmatory factor analysis was used to compare several competing models. Initial models included a two-factor model with factors representing beliefs about violence and beliefs about nonviolence, and an 8-factor model representing the eight themes for which items were developed. Although the 8-factor model resulted in the best overall fit of the initial models, several factors were very highly correlated, suggesting that they did not represent distinct constructs. A modified 4-factor model that combined several related factors reduced interrelatedness among factors and had comparable fit indices to the 8 factor model (RMSEA = .08). The latent factors and representative items are presented in the figure below.



**Reliability.** Alpha estimates representing the internal consistency of the four scales ranged from  $\alpha = .77$  (Instrumental Aggression) to  $\alpha = .84$  (Fighting is Sometimes Necessary and Reactive Aggression).

**Correlational Analyses.** The four factors showed the expected pattern of relations with various other measures of adjustment.



## Results

### Regression Analyses

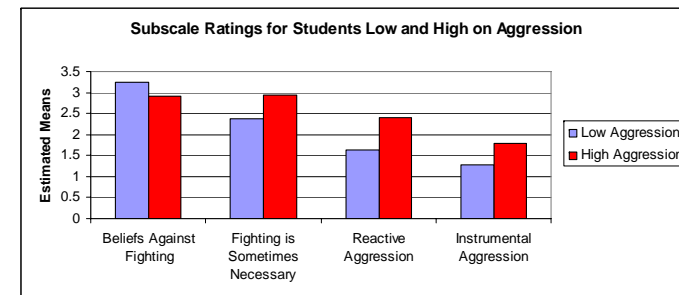
Regression analyses were used to examine the unique variance accounted for by each subscale in explaining physical aggression and effective nonviolent behavior. After controlling for gender, Beliefs Against Fighting and Reactive Aggression were both significant predictors of Physical Aggression; and Beliefs Against Fighting was a significant predictor of Effective Non-Violent behavior.

Predictor	Physical Aggression	Effective Nonviolent
	$\beta$	$\beta$
Beliefs Against Fighting	-.06	.43*
Fighting is Sometimes Necessary	.11	-.05
Reactive Aggression	.33*	-.16
Instrumental Aggression	.07	.09
	$R^2 = .47^*$	$R^2 = .48^*$

\* $p < .05$

### Aggression as a Moderator of Pattern of Subscale Response

Analyses were conducted examining mean subscale score as a within subjects factor, and aggression, as measured by the Problem Behavior Frequency Scale, as a between subjects factor. Linear contrasts indicated that the pattern of differences across scales varied as a function of aggression. The figure below plots predicted means for students at low (10<sup>th</sup> %ile) and high (90<sup>th</sup> %ile) aggression.



## Conclusions

➤ The development of items grounded in adolescents' own qualitative descriptions of factors influencing their use of aggression and nonviolence led to a scale structure distinct from previous measures. In particular, it identified scales reflecting beliefs against aggression and beliefs that fighting is sometimes necessary.

➤ The construct validity of these scales was supported by their distinct pattern of relations with adolescents' behavior. The Beliefs Against Fighting scale was most strongly related to nonviolent behavior. Across the four scales, the biggest differences between adolescents high and low on physical aggression was found for the Reactive Aggression scale. In contrast, adolescents high and low on aggression endorsed similar levels of beliefs against fighting.

➤ This study highlights the benefits of using qualitative inquiry to inform scale development and the importance of contextual factors influencing adolescents' beliefs structures related to the use of aggression.