A Multivariate Analysis of Youth Violence and Aggression: The Influence of Family, Peers, Depression, and Media Violence

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Objective To examine the multivariate nature of risk factors for youth violence including delinquent peer associations, exposure to domestic violence in the home, family conflict, neighborhood stress, antisocial personality traits, depression level, and exposure to television and video game violence.

Study design A population of 603 predominantly Hispanic children (ages 10-14 years) and their parents or guardians responded to multiple behavioral measures. Outcomes included aggression and rule-breaking behavior on the Child Behavior Checklist (CBCL), as well as violent and nonviolent criminal activity and bullying behavior.

Results Delinquent peer influences, antisocial personality traits, depression, and parents/guardians who use psychological abuse in intimate relationships were consistent risk factors for youth violence and aggression. Neighborhood quality, parental use of domestic violence in intimate relationships, and exposure to violent television or video games were not predictive of youth violence and aggression.

Conclusion Childhood depression, delinquent peer association, and parental use of psychological abuse may be particularly fruitful avenues for future prevention or intervention efforts. (J Pediatr 2009;155:904-8).

In the United States and most other industrialized nations, violent crimes among youth and adults have reached the lowest point in decades. With the exception of school bullying, arrests of youths for serious crimes have been on a steady decrease since the early 1990s. Self-report victimization statistics indicate that serious forms of violence experienced by youth have lessened over the past several decades. Despite this trend, youth violence can have a significant negative impact on perpetrators and victims, including negative influence on perceptions of school, behavior problems, school work, grades, and social activities.

The definition of youth violence encompasses a myriad of behaviors ranging from homicide to lesser forms of aggressive behavior such as bullying. Youth violence can also include other forms of proscribed acts including aggravated assault, harassment, intimidation, sexual assault, stalking, burglary, theft, and robbery.

Factors contributing to the decline in criminal youth violence beginning in the early 1990s are not yet well understood. Arguably, this highlights ongoing uncertainty and debate about the underlying causes. Many factors, such as peer delinquency, family violence and discord, and depression, have been examined in the past. Also, neighborhood characteristics such as community disorganization including the number of youth and adult gangs have been studied, as well as biologic and psychological characteristics of youth. The effect sizes for single/univariate predictors of youth violence tend to be small, highlighting the need for multivariate analyses in predicting risk factors for youth violence.

This study seeks to examine the predictive nature of multiple risk factors in youth violence and aggression with well-validated measures of aggression (see references for a discussion of validity and aggression measures). These relationships will be tested with a sample of youth from a Hispanic-majority city in the South of the United States.

Methods

Participants include 603 youth from a small city in South Texas aged 10 to 14 years, with a mean age of 12.35 (SD = 1.34). Most youth in this study were Hispanic in ethnicity (96.8%). This sample was approximately equal in numbers of males (n = 309 [51.2%]) and females. The current sample is a general sample of youth, not an at-risk sample. With exceptions noted below, all materials used Likert-scale items and demonstrate psychometric properties suitable for use in multiple regression and SEM analyses. All procedures were approved by university IRB and designed to meet professional and federal standards for approved

| CBCL | Child Behavior Checklist |
| CFI | Comparative Fit Index |
| CTS | Conflict Tactics Scale |
| NFI | Normed Fit Index |
| NLE | Negative life events |
| RMSEA | Root mean square error of approximation |
| SEM | Structural equation modeling |
conduct with human participants. All families were provided with a detailed consent form and provided guardian consent and youth assent.

**Negative Life Events**

The Negative Life Events instrument (NLE)\(^24\) includes the following scales used in this study: (1) Neighborhood problems (eg, How much of a problem are each of the following in your neighborhood? Vandalism, traffic, burglaries, etc; alpha in current sample = .87); (2) Negative relations with adults (eg, My parents think I break rules, My parents think I get in trouble, etc.; alpha = .95); (3) Antisocial personality (eg, It’s important to be honest with your parents, even if they become upset or you get punished, To stay out of trouble, it is sometimes necessary to lie to teachers, etc.; alpha = .70); (4) Family attachment (eg, On average, how many afternoons during the school week, from the end of school or work to dinner, have you spent talking, working, or playing with your family, etc; alpha = .87); and (5) Delinquent peers (eg, How many of your close friends purposefully damaged or destroyed property that did not belong to them, etc.; alpha = .84).

The NLE has been widely used, particularly in the criminal justice literature, and has demonstrated good reliability and validity.\(^24\) Most scales described here are used as predictor variables, although those related to delinquent behaviors (described below) function as outcome variables. There are no item overlaps between subscales.

**Family Environment**

The Family Environment Scale\(^25\) is a 90-item true-false measure designed to assess styles of family interaction and communication. Research on this instrument has demonstrated good internal consistency and test-retest reliability, as well as validity in distinguishing between functional families and families experiencing a variety of dysfunctions, including psychiatric and substance abuse problems and abuse. The family conflict subscale (alpha = .57) was used in this project.

**Family Violence**

The child’s primary guardian was asked to fill out the Conflict Tactics Scale (CTS),\(^26\) a measure of positive and negative behaviors occurring in marital or dating relationships. The CTS has been shown to have good reliability and corresponds well to incidents of dating and family violence. It is used here to get a measure of conflict and aggression occurring between the primary caregiver and their spouse or romantic partners and thus a sense of the child’s exposure to domestic violence. Subscales related to physical assaults (alpha = .88) and psychological aggression (alpha = .81) were used in this study. The physical assaults subscale was found to have a significantly skewed distribution, and a square-root transformation was conducted to produce a normalized distribution.

**Media Violence Questionnaire**

Child participants were asked to list their 3 favorite television shows and video games, rate how often they play or view the media, and rate the media’s violence level. This measure has demonstrated good reliability and validity in previous research.\(^27\) With this study, the video game violence portion demonstrate a coefficient alpha reliability of .83, and television violence demonstrated an alpha of .71.

**Depression**

The withdrawal/depression scale of the Child Behavior Checklist Youth Self-Report\(^28\) indicated child depression. This scale has no item overlaps with the aggression/rule-breaking scales described below. Coefficient alpha of the scale with our sample was .71.

**Outcome Materials**

**Aggression.** Regarding mental health, youth and their primary caregivers filled out the Child Behavior Checklist (CBCL).\(^28\) The CBCL consists of youth self-report, parent report, and teacher report on problematic behaviors which may represent psychopathology. The CBCL is a well-researched and validated tool for measuring behavioral problems in children and adolescents. Caregivers filled out the parental version of the CBCL, whereas children filled out the Youth Self-Report on themselves. These indexes were used to indicate outcomes related to delinquency and aggressiveness. All alphas with the current sample were above .70.

**Bullying.** The Olweus Bullying Questionnaire\(^29\) was used to measure bullying behaviors in this study. This measure is commonly used and well researched with good reliability and validity reported. With the current sample, alpha was .85

**Delinquent Behavior.** The NLE questionnaire, described above has a subscale related to general delinquency (eg, How many times in the following year have you stolen something worth more than $50, etc.). The general delinquency scale can be further divided into nonviolent (alpha = .96) and violent (alpha = .99) criminal activities.

**Statistical Analyses**

Main analyses consisted of hierarchical multiple regression equations. Separate hierarchical multiple regressions were run for each of the outcome measures related to pathologic aggression (parent and child versions of the CBCL aggression and rule-breaking scales, violent and nonviolent crime commission as reported on the NLE and bullying behavior). In each case, sex and depression level were entered on the first step, NLE variables (neighborhood, negative adult relationships, antisocial personality, family attachment and delinquent peers) were entered on the second step, the Family Environment Scale conflict scale was entered on the third step, CTS psychological aggression and physical assault were entered on the fourth step and television and video game violence exposure entered on the final step. Multicollinearity was examined with tolerance and VIF statistics and found to be acceptable in all cases. Highest VIF values were 2.5, and lowest tolerance values were .40, which fall within