

## **A Longitudinal Examination of Family, Friend, and Media Influences on Competent Versus Problem Behaviors Among Urban Minority Youth**

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### **Abstract:**

This article examines family, friend, and media influences on competent and problem behaviors in a sample of 1,174 urban minority youth followed over 6th, 7th, and 8th grades. Students completed annual surveys at their schools. Each of the contextual factors investigated was significantly associated with concurrent aggression and delinquency as well as changes in these outcomes over time. In contrast, parental monitoring was most often significantly associated with indicators of competence both concurrently and over time (e.g., from 7th to 8th grade). In addition, engagement with violent media contributed to decreases in academic achievement. Overall, findings indicate that family factors, specifically parental monitoring, as a target of intervention, would not only offset risk trajectories but enhance positive development.

**Keywords:** Social influence | Media influence | Violent media | Urban youth | Middle school | Behavior | Delinquency | Competence

### **Article:**

The entry into adolescence has been linked to increases in problem behaviors such as delinquent and aggressive behaviors, as well as decreases in factors associated with competence (e.g., grades in school, self-esteem). Developmental psychopathology approaches suggest that the development of both positive and negative trajectories must be understood in order to identify potential targets for prevention and intervention via decreases in undesirable behaviors and promotion of desirable outcomes (e.g., Cicchetti & Cohen, 1995; Cummings, Davies, & Campbell, 2000; Masten & Curtis, 2000). These approaches also suggest that multiple contextual factors influence both competent and risky developmental trajectories. Previous studies have mainly focused on risky outcomes and therefore do not fully address how competent trajectories

can be enhanced or whether contextual factors influence competent versus risky developmental pathways in the same manner. In this investigation, we focus on two commonly studied problem behaviors, aggression and delinquency, and three behaviors indicative of competence, school achievement (as tapped by grades), self-esteem, and assertiveness. We also identified a construct from each of three different contexts (family, peer, and media) that have been identified as salient to the development of problem behaviors and, to a lesser extent, to the development of competence. Our goal was to examine the role of these contextual factors on the development of problem and competent behaviors during early adolescence.

Although overall rates of aggressive and delinquent behaviors are higher in men than women, an increase in rates occurs for both genders during adolescence (Coie & Dodge, 1998). Moreover, in the past 20 years, while rates of some delinquent behaviors have decreased, rates of other behaviors (e.g., simple assault) have increased (Snyder, 2003). Although it has been argued that much of this behavior is potentially characteristic of the adolescent period and will desist once adult transitions are made (Moffitt, 1993), other evidence suggests that these behavioral patterns continue into adulthood and are a factor in successful adult role attainment (Farrington, 2004; Pajer, 1998). As such, adolescent aggression and delinquency may be part of a pathway for longer term psychopathology. Numerous studies, prevention programs, and policy debates have been undertaken with the goal of offsetting or preventing initiation of these trajectories with attention to individual and contextual factors that may serve as the targets of intervention. However, fewer studies have considered how such contextual factors may also be associated with the development of competence.

Competence has been defined as successfully meeting the challenges that occur across development and demonstrating the adaptational processes or skills that are needed to meet new and changing developmental demands (e.g., Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Masten & Curtis, 2000). One approach to competence has been to focus on behavioral competence, often as the absence of problems rather than actual competence. In this investigation, we have attempted to separate these issues by looking at problem behaviors and indicators of competence as distinct constructs. In the domain of behavioral competence, prior studies of children and adolescents have identified competence in school, specifically academic achievement, as an important indicator of competence (e.g., Masten et al., 1995). Academic achievement has been identified as an indicator of how well a child or adolescent is doing in the school domain and as an indicator of a pathway for competence in adulthood (e.g., Ianni & Orr, 1996; Masten et al., 1995). However, academic achievement as assessed by grades in school often declines during the middle school years (Simmons & Blyth, 1987).

At the same time, to understand competence across domains, it is necessary to identify other indicators of successful adaptation to developmental demands. Self esteem is another commonly studied aspect of competence (see Baumeister, Campbell, Krueger, & Vohs, 2003; Harter, 1999). In general, positive self-evaluation should occur when individuals have attained competence in various domains and have the sense that they are capable of meeting developmental challenges.

However, self esteem decreases during early and midadolescence for many adolescents (e.g., Simmons & Blyth, 1987). Potentially, lower self esteem is due to problems in developing competence or successful adaptation to the multiple challenges occurring at this time.

In the social domain, a skill that has been identified as critical for success is the ability to act assertively (e.g., Englander-Golden, Elconin, & Satir, 1986; Wills, Baker, & Botvin, 1989). Assertiveness is a broad, multidimensional construct that includes a variety of behaviors, expressed both verbally and nonverbally, that may be more or less effective and appropriate depending on several contextual factors. Assertive behavior that is typically expressed verbally includes making requests and refusing unwanted requests; expressing feelings (i.e., love and anger) and opinions, especially contrary opinions; and initiating friendship and dating relationships (Galassi & Galassi, 1978; Wills et al., 1989). In particular, several programs designed to prevent health compromising behaviors such as drug use or violence, seek to enhance assertive behaviors in order to combat peer pressure to engage in such behaviors or conformity to peer group norms. At the same time, few studies have focused on identifying factors associated with the development of assertiveness.

### **Contextual Factors That May Influence Problem Behaviors and Competence**

A common assumption is that parental influences decrease during adolescence and peers and media become increasingly salient to shaping behavior. In particular, association with peers who are engaging in delinquent behaviors has commonly been identified as a risk factor for entering onto a pathway for delinquency and aggression (e.g., Moffitt, Caspi, Rutter, & Silva, 2001). Of course, selection biases have also been identified with youth who engage in delinquent behaviors being likely to seek out delinquent peers (Farrington, 2004). Attention has also focused on the role of media in influencing adolescent behavior (e.g., Brown & Cantor, 2000). Just as time spent with peers increases during adolescence, media use becomes more varied and increases during early adolescence (Roberts, Henriksen, & Foehr, 2004). In particular, engagement with violent media has been identified as a factor in the development of aggression (see Roberts et al., 2004, for a review).

Despite the salience of peers, especially deviant peers, and media influences, studies frequently find that familial contexts continue to be important influences on adolescents but that the relative roles of different contextual influences vary by the construct under investigation (i.e., parents tend to have more influence over career goals and academic achievement relative to peers, but peers may have greater impact on social activities and hence problem behaviors). In studies of behaviors, a parental factor that seems to be particularly salient to offsetting risk trajectories is parental monitoring; that is, parents who know what their adolescents are doing and who they are with are more likely to have adolescents who are not getting into trouble (e.g., Griffin, Botvin, Scheier, Diaz, & Miller, 2000). Most of the research has focused on how these contextual factors influence the development of problem behavior trajectories. Less is known about how each of these factors influences the development of competence during adolescence.

This article examined family, friend, and media influences on competent and problem behaviors in a sample of urban minority youth followed over 6th, 7th, and 8th grades. The study examined two main questions: (a) Are parental monitoring, friend delinquency, and engagement with violent media associated with problem or competent behaviors concurrently at the beginning of the middle school years in 6th grade? (b) Do the same or different contextual factors influence change in each of these behaviors over the course of middle school?

## **Method**

### **Participants**

Participants were 1,174 young adolescents drawn from the control condition of a larger randomized clinical trial targeting prevention of violence and aggression (see discussion of attrition later). In 6th grade, the mean age for this sample was 11.63 ( $SD = .47$ ), 53.7% of the students were girls, and most of the students (83.1%) attended public school. Nearly half of the students were Black or African American (48%) with other racial or ethnic groups including Latino or Hispanic (27.9%), Asian (6.4%), Caucasian (7.6%) and biracial or “Other” (10.1%). Nearly half of the students came from an intact family (49.7%), 27.9% lived with a single parent, 12.8% lived in blended families (with stepparents or split time between mother’s and father’s homes), and the remainder (5.9%) lived in households without any parent present (with other relatives, or with foster parents or guardians). Although a measure of family socioeconomic status was not available, archival public school records of participating schools showed that the majority (88%) of schools had greater than 65% student eligibility for free or reduced lunch.

### **Procedure**

A passive consent procedure approved by Weill Cornell Medical College’s Institutional Review Board was used to inform parents about the nature of the study and to provide them with an opportunity to disallow their child’s participation. A consent form describing the adolescent survey and the focus of the larger study was distributed in the schools for students to take home to their parents, as well as mailed directly to students’ homes. Students (5%) whose parents indicated they did not want them to participate did not complete any of the data collection activities.

The survey was divided into two booklets, and data collection was conducted on two separate days during regular 40-min class periods. A multiethnic team of three to five data collectors administered the questionnaire following a standardized protocol similar to those used in previous research (e.g., Botvin, Schinke, Epstein, & Diaz, 1994). Identification codes rather than names were used to emphasize the confidential nature of the questionnaire, and students were assured about the confidentiality of their responses. Carbon monoxide breath samples were also collected at each annual survey assessment to enhance the validity of self-report data utilizing a variant of the bogus pipeline procedure (Evans, Hansen, & Mittlemark, 1977). Although this measure was used to increase the validity of questions pertaining to cigarette smoking, studies

have shown bogus pipeline procedures can also increase the validity of other problem behaviors (Tourangeau, Smith, & Rasinski, 1997).

## Measures

### Competence and Problem Behavior

#### Outcomes

**Delinquency (past year).** Students reported how many times in the past year they had engaged in each of 10 delinquent behaviors in 6th grade ( $\alpha = .84$ ), 7th grade ( $\alpha = .87$ ), and 8th grade ( $\alpha = .89$ ). The items were from a commonly used delinquency scale (Elliot, Huizinga, & Menard, 1989) that tapped behaviors such as violence, vandalism, and theft. Response categories were on a 5-point scale ranging from 1 (*never*), 2 (*once*), 3 (*2 to 3 times*), 4 (*4 to 5 times*), and 5 (*more than 5 times*). Items were rescored onto a scale of 0 to 4 and then summed to create a continuous measure where higher scores indicated greater number of delinquent behaviors in the past year.

**Aggression (past month).** Ten items from the aggression scale of the Youth Self-Report (Achenbach & Edelbrock, 1986) were used to assess general aggression in the 6th grade ( $\alpha = .92$ ), 7th grade ( $\alpha = .93$ ), and 8th grade ( $\alpha = .94$ ). Students were asked how many times in the past month they had engaged in each of ten overtly aggressive behaviors. Response categories were on a 5-point scale from 1 (*never*), 2 (*once*), 3 (*2 to 3 times*), 4 (*4 to 5 times*), and 5 (*more than 5 times*). Items were rescored onto a scale of 0 to 4 and then summed to create a continuous measure where higher scores indicated more aggressive behaviors.

**Academic achievement.** Students reported the grades they generally received in school, with response options ranging from 1 (*mostly As; 90–100*), to 5 (*Ds or lower; 60 or lower*). The item was reverse coded so that higher scores indicated better performance in school.

**Self esteem.** Five items ( $\alpha = .86$  in 6th grade,  $\alpha = .90$  in 7th grade,  $\alpha = .91$  in 8th grade) from Rosenberg's (1965) Self-Esteem Scale were used to assess global self-worth in each of the annual surveys. Response categories ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The mean of the items was calculated with higher scores reflecting higher self-esteem.

**Assertion.** Assertiveness was assessed annually using nine items ( $\alpha = .68$  in 6th grade,  $\alpha = .74$  in 7th grade,  $\alpha = .78$  in 8th grade) from the Assertion Inventory (Gambrill & Richey, 1975). Each item had the common stem of "How likely would you be to do the following...?" and items included "say 'no' to someone who wants to copy your homework," and "ask someone for a favor." Responses were on a 5-point scale from 1 (*definitely would*) to 5 (*definitely would not*). Items were reverse coded and averaged with higher scores reflecting more assertiveness.

#### Contextual Influences

**Parental monitoring.** A 5-item scale ( $\alpha = .75$  in 6th grade,  $\alpha = .77$  in 7th grade,  $\alpha = .81$  in 8th grade) assessing adolescents' perceptions that parents monitored their activities was taken from the Family Management scale (Catalano, Hawkins, Berglund, Pollard, & Arthur, 1993). Items included "My parent(s) know where I am when school is over," "My parent(s) know who I am with when I'm spending time with my friends," and so on. Response categories were on a 5-point Likert-type scale from 1 (*never*) to 5 (*always*). Items were averaged with higher scores indicating more monitoring.

**Friends' delinquency (past year).** Students were asked to indicate how many of their friends had engaged in each of seven delinquent behaviors in the past year in the 6th grade ( $\alpha = .87$ ), 7th grade ( $\alpha = .91$ ), and 8th grade ( $\alpha = .92$ ). Items were taken from a scale developed by Elliot et al. (1989). Response categories were on a 5-point scale. Response options included 1 (*none*), 2 (*less than half*), 3 (*about half*), 4 (*more than half*), and 5 (*all or almost all*). Items were rescored onto a scale of 0 to 4 and then summed to create a continuous measure where higher scores indicated associating with more friends who engage in a higher number of delinquent behaviors for each time point.

**Engagement with violent media.** A 6-item scale ( $\alpha = .71$  in 6th grade,  $\alpha = .71$  in 7th grade,  $\alpha = .71$  in 8th grade) assessing adolescents' engagement with violent media was developed for use in the larger clinical trial. Adolescents indicated how often they did each activity on a 5-point Likert-type scale from 1 (*never*) to 5 (*always*). Individual items included "Listen to 'Gangsta' rap," "Watch violent movies," and "Play video games that include killing (i.e., Mortal Kombat)." Items were averaged; higher scores indicated more engagement with violent media.

### **Demographic Variables**

Students reported gender (1 = *male*, 0 = *female*), ethnicity, and household structure using standard survey items. Ethnicity was collapsed into 4 groups: (a) Black or African American, (b) Latino, (c) Caucasian and Asian, (d) and other. For analyses, 3 dummy coded variables were used with Black as the omitted group. Household structure was collapsed into two groups with 1 indicating living with two parents versus all other types. Because this variable changed across years, household structure was assessed from each survey. In 6th grade 61.4% of students lived in a two-parent household, in 7th grade 58.6%, and in 8th grade 57.7%. In addition, a variable for school type (1 = *public* vs. 0 = *parochial*) was created.

### **Attrition Analyses**

At the first assessment in 6th grade, 2,931 students participated in the control condition of the larger study. From 6th to 7th grade, 5% of the sample was lost to attrition with an additional 31% lost between 7th and 8th grades. At each grade, between 2% and 30% of students did not complete both booklets of the survey. Thus, the maximum number of students with complete data was used in each of the following analyses resulting in a longitudinal sample of 1,174. Analyses of attrition bias were conducted to test for differences in 6<sup>th</sup> grade between students in

this study and those who were dropped from any of the following analyses (*t* tests for continuous variables,  $\chi^2$  tests on background variables). Significantly fewer boys,  $\chi^2(1, N = 2889) = 3.68, p = .030$ , were retained in the longitudinal sample in comparison to the full sample (46.7% vs. 49.5%, respectively) and significantly fewer Latino,  $\chi^2(3, N = 2912) = 14.77, p = .002$ , students were in the final (25.8%) versus full sample (29.3%). Significantly more parochial school students,  $\chi^2(1, N = 2931) = 180.60, p < .001$ , were retained in the longitudinal (22.5%) versus full sample (10.5%) and significantly more students from two parent homes,  $\chi^2(1, N = 2882) = 22.11, p < .001$ , were in the final (63.3%) versus full sample (56.5%). Also, students who were maintained in all analyses reported significantly lower delinquency ( $M = 3.50$  vs.  $M = 3.96$ ), lower engagement with violent media ( $M = 3.17$  vs.  $M = 3.28$ ), higher levels of assertiveness ( $M = 4.19$  vs.  $M = 4.10$ ), higher levels of self-esteem ( $M = 4.20$  vs.  $M = 4.03$ ), and higher self-reported grades ( $M = 3.98$  vs.  $M = 3.65$ ). There were no significant differences found regarding aggression, association with delinquent friends, or parental monitoring.

### **Analysis Plan**

Separate hierarchical regression analyses were conducted to examine the association of the contextual factors with concurrent problem behaviors and indicators of competence in 6th grade. Analyses controlled for race and ethnicity, school type, gender, and household structure on the first step. Contextual factors were entered on the second step. Two sets of longitudinal analyses (6th to 7th grade, 7th to 8th grade) were conducted in order to examine whether contextual factors predicted change in the problem behaviors and indicators of competence over time. In these analyses, the outcome variable from the prior time point was entered on the first step, and covariates were entered on the second step. Because household structure changed over time, household structure from the prior time point was entered on this step. Contextual factors from the prior time point were then entered on the last step.

### **Results**

The means and standard deviations for the core variables are reported in Table 1. A series of repeated measures analyses (controlling for race and ethnicity, school type, gender, and household structure) were conducted to test for mean changes over time for each of the key constructs used in analyses; repeated *F* statistics and effect sizes are also reported in Table 1. As can be seen, in 6th grade, young adolescents reported on average having engaged in just over 3 delinquent behaviors in the past year and several aggressive behaviors in the past month ( $M = 11.96$ ). Furthermore, delinquent behaviors and aggression significantly increased across 6th, 7th, and 8th grades.

Turning to the indicators of competence, in 6<sup>th</sup> grade, young adolescents reported receiving mostly *Bs* and *Cs* on average ( $M = 3.91$ ); grades in school did not change significantly over time. Reports of self esteem and assertion were high (over 4 on a 1 to 5 point Likert scale) and also did

not change significantly over time. These responses were consistent with prior studies of self-reported self esteem (see Baumeister et al., 2003, for a review).

Similar repeated measures ANCOVAs were conducted to determine whether the contextual factors changed over time (see Table 1). In 6th grades, young adolescents indicated that they perceived parental monitoring as occurring *most of the time* (again, over 4 on a 1 to 5 point Likert scale) but perceptions of monitoring decreased significantly over 6th, 7th, and 8<sup>th</sup> grades. In contrast, rates of delinquent friends increased significantly over this period. Young adolescents reported *some* engagement with violent media on average (over 3 on a 1 to 5 point Likert scale); engagement with violent media did not change significantly over time.

Correlations among constructs were also examined. Given the sample size, even correlations of small sizes were significant; therefore, correlations are discussed in terms of size. Associations among constructs were similar at each grade. As expected from prior studies (Coie & Dodge, 1998; Farrington, 2004), strong associations were found between delinquent behaviors and aggression ( $r = .72$ ,  $r = .66$ , and  $r = .64$  in 6th, 7th, and 8th grades, respectively). Grades in school, self esteem, and assertion were positively correlated but with Pearson correlation coefficients that were indicative of no meaningful association or a weak association even though the correlations were significant ( $r$ s ranging from .08 to .17). In addition, indicators of competence showed minimal to weak negative correlations with problem behaviors ( $r$ s ranging from  $-0.06$  to  $-0.20$ ). Although the correlations were significant, the size of the associations suggested that the two domains of functioning (i.e., competence and problem behaviors) were independent of each other in the middle school years. Associations among the contextual factors were in the weak to moderate range ( $r$ s ranging from  $-0.11$  to  $0.30$ ) with significant, positive correlations between friend delinquency and engagement with violent media and significant, negative correlations for parental monitoring with the other two contextual factors.

**Table 1.** Means and Standard Deviations for Key Variables

	<b>6th Grade</b>	<b>7th Grade</b>	<b>8th Grade</b>					
<b>Outcomes</b>	<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>	<b>Repeated Measures Effect</b>	$\eta^2$
Delinquency	3.36	4.98	5.61	6.85	6.47	7.85	$F(2, 2202) = 9.64^{***}$	.01
Aggression	11.96	10.06	18.03	11.76	19.65	12.14	$F(2, 2198) = 28.68^{***}$	.03
Grades	3.91	0.94	3.87	0.85	3.76	0.86	<i>ns</i>	
Self-esteem	4.20	0.76	4.12	0.81	4.10	0.84	<i>ns</i>	
Assertion	4.18	0.63	4.15	0.62	4.08	0.65	<i>ns</i>	
<b>Contextual factors</b>								
Friend delinquency	4.08	5.11	6.00	6.48	6.32	6.64	$F(2, 2174) = 7.47^{**}$	.01



Parental monitoring	4.14	0.84	4.00	0.85	3.82	0.90	$F(2, 2054) = 10.28^{***}$	.01
Violent media	3.17	.82	3.31	.80	3.27	.79	<i>ns</i>	

*Note:* Analyses controlled for race and ethnicity, school type, gender, and household structure; means adjusted for covariates were nearly identical to the unadjusted means shown in the table.

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

### Concurrent Regressions

Results from the concurrent regression at 6th grade are shown in Table 2. Regarding the two problem behaviors, all three contextual factors were significantly associated with rates of delinquency and aggression after accounting for the covariates in this study. Specifically, higher friend delinquency, higher engagement with violent media, and lower parental monitoring were associated with higher delinquency and aggression. Some of the covariates were also significantly associated with these outcomes. For both delinquency and aggression, gender was a significant covariate, with boys reporting higher rates than girls and African American or Black students having significantly higher rates than Latino or White students. Note that a more extensive analysis of gender differences in aggression and delinquency in this sample has been reported elsewhere (see Nichols, Graber, Brooks-Gunn, & Botvin, 2006). As can be seen in Table 2, covariates accounted for only a small percentage of the variance in problem behaviors whereas the contextual factors explained a more sizeable percentage of the variance in these behaviors ( $\Delta R^2 = .39$  in both models).

For indicators of competence, effects of contextual factors were less pervasive and accounted for significant but small percentages of the variance in the constructs (see Table 2). A significant effect of engagement with violent media was found for grades in school, such that higher violent media engagement was associated with lower grades after accounting for the covariates (see Table 2), and a significant effect of parental monitoring was found for both self esteem and assertiveness such that more monitoring was associated with higher self esteem and more assertiveness after accounting for covariates. Some of the covariates were also associated with the indicators of competence. For example, boys were significantly more likely to have lower grades in school compared to girls, and students who were White were more likely to have higher grades in school than African American students. Attending public school was associated with higher levels of assertiveness. For self esteem, none of the covariates were significant.

**Table 2.** Hierarchical Regression Models Assessing Concurrent Associations at 6th Grade

	Delinquency	Aggression	Grades	Self-Esteem	Assert
Step 1					
Gender	1.89 (0.30)***	1.68 (0.62)**	-0.18 (0.06)**	-0.04 (0.05)	0.02 (0.04)
Public	0.21 (0.38)	-0.25 (0.79)	-0.12 (0.07)	0.06 (0.06)	0.12 (0.05)*
Latino	-1.22 (0.36)**	-2.87	-0.03 (0.07)	-0.08 (0.07)	0.03 (0.05)

		(0.74)***			
White	-1.34 (0.46)**	-3.21 (0.95)**	0.49 (0.09)***	-0.14 (0.08)	-0.02 (0.06)
Other	-0.87 (0.51)	-1.30 (1.06)	0.15 (0.10)	0.01 (0.09)	0.09 (0.07)
Household	-0.26 (0.31)	-0.95 (0.65)	0.09 (0.06)	-0.09 (0.06)	-0.03 (0.04)
$R^2$	0.05***	0.03***	0.05***	0.01	0.01
<b>Step 2</b>					
Friend delinquency	0.51 (0.02)***	1.01 (0.05)***	-0.01 (0.01)	0.00 (0.01)	0.00 (0.00)
Monitoring	-0.92 (0.14)***	-1.44 (0.30)***	0.02 (0.04)	0.19 (0.03)***	0.09 (0.02)***
Violent media	0.59 (0.16)***	2.17 (0.32)***	-0.10 (0.04)**	-0.03 (0.04)	0.00 (0.03)
$\Delta R^2$	0.39***	0.39***	0.01**	0.05***	0.02**
Final $R^2$	0.44	0.42	0.06	0.06	0.03
Final model $F$	$F(9, 996) =$ 87.47***	$F(9, 997) =$ 79.32***	$F(9, 983) =$ 7.21***	$F(9, 814) =$ 5.52***	$F(9, 991) =$ 2.76**

Note. Unstandardized coefficients and standard errors are shown. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

### Regressions Predicting Change Over Time

Hierarchical regressions were conducted to assess whether prior contextual factors predicted change in problem behaviors or indicators of competence over time, specifically from 6th to 7th grade, and from 7th to 8th grade. Results are shown in Tables 3 (6th to 7<sup>th</sup> grade) and 4 (7th to 8th grade). In all of these analyses, stability was seen for each outcome in that the same variable from the prior year significantly predicted the variable in the subsequent year and accounted for the largest percentage of variance in the models. In contrast with the concurrent model at 6th grade, contextual factors accounted for only a small percentage of the variance in the change in problem behaviors and competence over time.

For delinquency, parental monitoring and engagement with violent media significantly predicted change in delinquency from 6th to 7th grade and from 7th to 8th grade (see Tables 3 and 4). Specifically, lower parental monitoring and higher engagement with violent media were associated with higher rates of delinquent behaviors after accounting for prior delinquency and covariates. Delinquent friends only predicted change in delinquency from 6th to 7th grade such that more delinquent friends were associated with higher rates of delinquent behaviors after accounting for prior delinquency and covariates. The covariates demonstrated very little effect on change in delinquency over time. From 6th to 7th grade, African American to Black youth had greater increases than White or other youth, but race was not associated with changes in delinquency from 7th to 8th grades. Also, being male was associated with increased delinquency from 7th to 8th grade only.

**Table 3.** Hierarchical Regression Models Predicting Change From 6th to 7th Grade After Controlling for 6th Grade Outcomes and Covariates

	<b>Delinquency</b>	<b>Aggression</b>	<b>Grades</b>	<b>Self-Esteem</b>	<b>Assert</b>
<b>Step 1</b>					
6th grade outcome	0.67 (0.04)***	0.58 (0.03)***	0.51 (0.03)***	0.40 (0.03)***	0.21 (0.03)***
$R^2$	0.22***	0.24***	0.30***	0.15***	0.05***
<b>Step 2</b>					
Gender	0.10 (.39)	-1.96 (0.65)**	-0.04 (0.05)	0.00 (0.05)	0.03 (0.04)
Public	0.75 (0.49)	0.64 (0.83)	-0.06 (0.06)	0.03 (0.06)	0.08 (0.05)
Latino	-0.35 (0.46)	-1.30 (0.79)	-0.05 (0.05)	-0.23 (0.06)***	0.01 (0.05)
White	-1.48 (0.59)*	-1.83 (1.00)	0.19 (0.07)**	-0.28 (0.08)***	-0.02 (0.06)
Other	-1.88 (0.66)**	-3.53 (1.12)**	-0.05 (0.08)	0.05 (0.09)	-0.01 (0.07)
Household	0.37 (0.40)	1.35 (0.68)*	-0.02 (0.05)	0.00 (0.05)	-0.06 (0.04)
$\Delta R^2$	0.01*	0.02***	0.01	0.03***	0.01
<b>Step 3</b>					
Friend delinquency	0.11 (0.05)*	-0.07 (0.08)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.00)
Monitoring	-0.56 (0.24)*	-1.05 (0.40)**	0.02 (0.03)	0.06 (0.03)	0.09 (0.02)***
Violent media	1.45 (0.26)***	2.44 (0.44)***	-0.08 (0.03)**	-0.03 (0.04)	0.00 (0.03)
$\Delta R^2$	0.04***	0.03***	0.01**	0.01*	0.01**
Final $R^2$	0.27	0.29	0.32	0.19	0.07
Final model $F$	$F(10, 984) = 36.14$ ***	$F(10, 986) = 38.96$ ***	$F(10, 964) = 45.34$ ***	$F(10, 814) = 18.22$ ***	$F(10, 975) = 6.85$ ***

Note. Unstandardized coefficients and standard errors are shown. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 4.** Hierarchical Regression Models Predicting Change From 7th to 8th Grade After Controlling for 7th Grade Outcomes and Covariates

	<b>Delinquency</b>	<b>Aggression</b>	<b>Grades</b>	<b>Self-Esteem</b>	<b>Assert</b>
<b>Step 1</b>					
7th grade outcome	0.68 (0.03)***	0.59 (0.03)***	0.58 (0.03)***	0.38 (0.03)***	0.31 (0.03)***
$R^2$	0.34***	0.32***	0.33***	0.13***	0.08***
<b>Step 2</b>					
Gender	0.86 (0.38)*	0.35 (0.60)	-0.12 (0.04)**	-0.04 (0.05)	-0.02 (0.04)
Public	0.45 (0.50)	0.26 (0.79)	-0.23 (0.06)***	0.06 (0.06)	-0.04 (0.05)

Latino	-0.58 (0.46)	-0.51 (0.72)	-0.11 (0.05)*	-0.10 (0.06)	-0.01 (0.05)
White	0.01 (0.59)	0.29 (0.93)	0.03 (0.07)	-0.13 (0.07)	-0.07 (0.06)
Other	0.51 (0.66)	-0.81 (1.04)	0.00 (0.07)	-0.28 (0.08)**	-0.10 (0.07)
Household	-0.48 (0.40)	-1.07 (0.63)	0.10 (0.04)*	0.04 (0.05)	-0.02 (0.04)
$\Delta R^2$	0.00	0.00	0.02***	0.01*	0.00
Step 3					
Friend delinquency	0.02 (0.04)	-0.01 (0.06)	0.01 (0.00)	0.00 (0.00)	-0.01 (0.00)**
Monitoring	-0.73 (0.24)**	-0.70 (0.38)	0.05 (0.03)*	0.08 (0.03)**	0.07 (0.02)**
Violent media	0.98 (0.26)***	0.83 (0.42)*	-0.06 (0.03)*	-0.03 (0.03)	0.01 (0.03)
$\Delta R^2$	0.02***	0.01	0.01*	0.01*	0.02***
Final $R^2$	0.36	0.33	0.36	0.15	0.11
Final model F	F(10, 1126) = 62.07***	F(10, 1125) = 54.38***	F(10, 1113) = 60.98***	F(10, 1132) = 19.70***	F(10, 1103) = 12.94***

Note. Unstandardized coefficients and standard errors are shown. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

For aggression, engagement with violent media and parental monitoring significantly predicted change in aggression from 6th to 7th grades such that higher engagement with violent media and lower parental monitoring were associated with higher rates of aggression after accounting for prior aggression and covariates (see Table 3). Although the regression coefficient for engagement with violent media was significant in the model predicting change in aggression from 7th to 8th grades, this step was not associated with a significant change in  $R^2$  (see Table 4). Friend delinquency was not associated with changes in aggression over time. In the model assessing change in aggression from 6th to 7th grade, girls had higher rates of change in aggression (i.e., increases) over time (consistent with Nichols et al., 2006), as did students from two parent households. Students in the other ethnic or racial group had lower rates of change in aggression overtime in comparison to African American students. No covariates significantly predicted change in aggression from 7th to 8<sup>th</sup> grade (see Table 4).

Predictors of change in the indicators of competence were also examined; however, as indicated, while mean scores on these variables decreased over time, overall change over time was not significant (see Table 1). For grades in school, engagement with violent media significantly predicted changes in school achievement from 6th to 7th grade and from 7th to 8th after accounting for covariates; in both analyses, higher engagement with violent media was associated with decreases in grades in school. Parental monitoring predicted changes in school achievement from 7th to 8th grade such that lower monitoring predicted declining scores. In analyses of change from 6th to 7th grade, White youth showed significantly less decline in grades in comparison to African American or Black youth. From 7th to 8th grades, boys demonstrated greater declines in grades, as did public versus parochial school students, and

Latinos in comparison to African American or Blacks. Students from two parent households showed fewer declines in grades.

For self esteem, after accounting for initial levels of self esteem and covariates, only parental monitoring predicted change in self esteem from 7th to 8th grade such that lower parental monitoring was associated with lower self esteem over time. Being African American or Black was associated with less decrease of self esteem in comparison to other students in both analyses (see Tables 3 and 4 for specific associations).

Finally, for assertiveness, parental monitoring was a significant predictor of change in assertive behaviors from 6th to 7th grade and from 7th to 8th grade. In both analyses, higher reports of parental monitoring were associated with higher assertiveness after accounting for prior assertiveness and covariates. Furthermore, in the model assessing change from 7th to 8th grade, friend delinquency was also a significant predictor such that lower friend delinquency was associated with more assertiveness. None of the covariates were significant predictors of change in assertiveness over time.

## **Discussion**

In general, each of the contextual factors we investigated was associated with concurrent aggression and delinquency in 6th grade as well as changes in aggression and delinquency over time. The only exception was that friend delinquency was not associated with increases in aggression over time. Findings for delinquency and aggression are in line with prior research which indicates that these behaviors develop from multidetermined pathways (e.g., Coie & Dodge, 1998; Moffitt et al., 2001). In contrast, contextual factors had less pervasive effects on indicators of competence. However, parental monitoring was salient to both self esteem and assertiveness and in protecting against declines in these areas over time (with the exception of change in self esteem from 6th to 7th grades). Also, engagement with violent media predicted decreases in school achievement over time along with an initial association with lower achievement at 6th grade. Thus, results indicate that family factors were salient across both risky and competent domains of functioning during the early adolescent period. Also, engagement with violent media contributed to unhealthy trajectories over time in terms of increases in aggression and delinquency, and decreases in academic achievement.

In this investigation, only one construct from each of the contextual domains was examined as the goal of the study was to examine factors associated with competence versus problem behaviors across domains rather than intensively within a domain. Future studies would benefit from the investigation of multiple indicators of a context to identify the most salient constructs within each domain (see other articles this volume). At the same time, we selected contextual factors that have commonly been linked to problem behaviors and have been included in prevention programming (e.g., Botvin & Griffin, 2004).

In particular, findings for parental monitoring are consistent with prior studies that have demonstrated protective effects of monitoring on problem behaviors (e.g., Fletcher, Steinberg, & Williams-Wheeler, 2004; Griffin et al., 2000). At the same time, this study is one of the only studies to demonstrate that monitoring was also protective against declines in self esteem and maintaining assertive behaviors. Other studies have reported positive links between quality of family relationships such as warmth or conflict on child outcomes (e.g., see Coie & Dodge, 1998; Cummings et al., 2000, for reviews) but in this investigation we focused specifically on the practice of monitoring adolescent activities. Importantly, this measure tapped the adolescent's perception that parents knew where he or she was or with whom the adolescent spent time. Of course, monitoring may be associated with parent-adolescent relationship quality in that adolescents who think their parents know about their activities may also have better relationships with their parents. Notably, parental monitoring has been considered a central component of prevention initiatives aimed at parents of young adolescents (e.g., Dishion & McMahon, 1998). Our findings demonstrate that monitoring not only offsets the development of risk but also promotes the development of competence.

In addition, we found evidence that more engagement with violent media was linked with problem behaviors in 6th grade and increases in these behaviors over time, as well as lower school achievement and decreases in achievement over time. These findings were not surprising given literature on exposure to violent media (Roberts et al., 2004). However, much of the prior literature has focused mainly on the effects of television violence and in recent years playing violent video games. In this investigation, it should be noted that our measure of violent media use was not lengthy or detailed in comparison to time use diary methods or more extended surveys. Rather, the measure assessed engagement with violent media across different forms of media—television, movies, music, and video games. Thus, youth who are immersing themselves in multiple types of violent media may be particularly at risk for poorer developmental outcomes during the middle school years.

However, we can not rule out the possibility that the deleterious effects of violent media engagement on academic achievement were not attributable to media use in general. That is, more time spent engaged with any type of media may result in less time spent on school work. It is important to keep in mind that engagement with violent media also predicted delinquency and aggression concurrently in 6th grade and over time, findings which would not necessarily be explained by engagement with any type of media. Future studies should examine this issue more closely potentially incorporating not only general media use and violent media use, but also possible positive media use, such as involvement in creation of media. In addition, much like studies of the effects of friend delinquency, it has been reported that youth who are already more aggressive may be more likely to engage in violent media use (Brown & Cantor, 2000; Roberts et al., 2004). Our study did not address this particular issue as our focus was on understanding the impact of multiple contextual factors on both problem behavior and competence. More

detailed investigation of moderating effects (e.g., prior aggression levels) should be undertaken in future work on the role of media violence.

Although we replicated the negative effect of friend delinquency on aggression and delinquency, we found little evidence that this factor impacted competence. The only exception was that higher reports of friend delinquency were associated with lower assertiveness from 7th to 8th grades. As indicated, prevention programs targeting substance use and violence, such as the Life Skills Training Program (Botvin & Griffin, 2004) specifically teach assertiveness skills in order to offset initiation of problem behaviors during the middle school years. Yet, findings to date have been mixed with some studies reporting that higher assertiveness (when assessed in social interactions) was linked with higher rates of problem behaviors rather than lower rates (e.g., Wills et al., 1989). In our investigation, assertiveness as an indicator of competence was supported given that higher assertiveness was predicted by higher parental monitoring and lower friend delinquency suggesting that assertiveness resulted from positive predictors.

This investigation has some limitations. We examined problem behaviors and competence in a sample of urban, minority youth. Although it has often been suggested that it is important to examine the development of competence, in particular, rather than deficit models in studies of minority youth (Garcia Coll & Garrido, 2000), these findings may not generalize to other populations. In addition, our analyses were limited to those youth who continued to participate in the study over time. Our attrition analyses indicated that attrition was linked to more problems and greater contextual risk (e.g., higher rates of violent media use, delinquency, etc.). These biases would make it less likely that we would find effects for most constructs but interpretation of findings should be made in light of the longitudinal sample bias. Our study was also impacted by the assessment strategy employed. Specifically, all constructs were based on adolescent self report. Steps were taken to improve reporting of problem behaviors and rates of these behaviors were in line with national survey data (Nichols et al., 2006). However, it should be emphasized that contextual influences (e.g., parental or friend behaviors) reflect adolescent *perceptions* rather than independent report. In terms of the analyses and results, many effects were small. Given our sample size, we had ample power to detect small effects; small  $R^2$  values were significant as were small changes in  $R^2$ . Although we have found several significant effects, clearly, other factors are salient to the constructs we have examined.

As we have suggested, this investigation was also limited by only examining one contextual factor for each domain. As such, examination of risks and protective factors within each domain were not included. That is, parental monitoring was a protective factor and promoted competence but a family related risk factor was not examined; whereas friend delinquency and engagement with violent media were risk factors and comparable positive or possibly protective factors from peer and media domains were not examined.

Finally, it is of note that indicators of competence and problem behaviors demonstrated little association in correlational analyses. Specifically, aggression and delinquency showed no

meaningful association with grades in school, self esteem, or assertion suggesting that the examination of these constructs separately was warranted. However, person-centered analyses might have identified clusters of youth who were high in both, low in both, or who exhibited a combination of competent and problem behaviors.

As indicated, the goal of this investigation was to identify contextual factors that would not only predict engagement in problem behaviors, but also be linked to competence. Under the rubric of developmental psychopathology, factors that offset risk and promote competence would potentially have a strong payoff as components of prevention or health promotion programs. As such, our findings indicate that family factors, specifically increasing parental monitoring, as a target of intervention, would not only offset risk trajectories but enhance positive development. In addition, lowering engagement with violent media may offset risk and also be likely to enhance competence at least in the school domain. Continued application of developmental psychopathology frameworks are clearly merited given the needs of youth not only to avoid risk but to develop the skills and talents needed to meet the challenges of adolescence and adulthood.

## References

- Achenbach, T. M., & Edelbrock, C. S. (1986). *Teacher's report form*. Burlington: University of Vermont.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4, 1–44.
- Botvin, G. J., & Griffin, K. W. (2004). Life Skills Training: Empirical findings and future directions. *Journal of Primary Prevention*, 25, 211–232.
- Botvin, G. J., Schinke, S. P., Epstein, J. E., & Diaz, T. (1994). The effectiveness of culturally focused and generic skills training approaches to alcohol and drug abuse prevention among minority youth. *Psychology of Addictive Behaviors*, 8, 116–127.
- Brown, J. D., & Cantor, J. (2000). An agenda for research on youth and the media. *Journal of Adolescent Health*, 27S, 2–7.
- Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: Competitive or cooperative frameworks? *Journal of Adolescent Health*, 31(Suppl. 6), 230–239.
- Catalano, R. F., Hawkins, J. D., Krenz, C., & Gillmore, M. (1993). Using research to guide culturally appropriate drug abuse prevention. *Journal of Consulting & Clinical Psychology*, 6, 804–811.



Cicchetti, D., & Cohen, D. J. (1995). Perspectives on developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Vol. 1. Theory and methods* (pp. 3–20). New York: Wiley.

Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior.

In W. Damon (Ed.) N. Eisenberg (Vol. Ed.), *Handbook of child psychology, Vol. 3. Social, emotional, and personality development* (5th ed., pp. 779–862). New York: Wiley.

Cummings, E. M., Davies, P. T., & Campbell, S. B. (2000). *Developmental psychopathology and family process*. New York: The Guilford Press.

Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review, 1*, 61–75.

Elliot, D., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems*. New York: Springer-Verlag.

Englander-Golden, P., Elconin, J., & Satir, V. (1986). Assertive/leveling communication and empathy in adolescent drug abuse prevention. *Journal of Primary Prevention, 6*, 231–243.

Evans, R. I., Hansen, W. B., & Mittlemark, M. B. (1977). Increasing the validity of self-reports of smoking behavior in children. *Journal of Applied Psychology, 62*, 521–523.

Farrington, D. P. (2004). Conduct disorder, aggression, and delinquency. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 627–664). New York: Wiley.

Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M. (2004). Parental influences on adolescent problem behavior: Revisiting Stattin and Kerr. *Child Development, 75*, 781–796.

Galassi, M. D., & Galassi, J. P. (1978). Assertion: A critical review. *Psychotherapy: Theory, Research, and Practice, 15*, 16–29.

Gambrill, E. D., & Richey, C. A. (1975). An assertion inventory for use in assessment and research. *Behavior Therapy, 6*, 550–561.

Garcia Coll, C., & Garrido, M. (2000). Minorities in the United States: Sociocultural context for mental health and developmental psychopathology. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (2nd ed., pp. 177–195). New York: Plenum.

Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth:

Moderating effects of family structure and gender. *Psychology of Addictive Behaviors*, *14*, 174–184.

Harter, S. (1999). *The construction of the self*. New York: Guilford.

Ianni, F. A. J., & Orr, M. T. (1996). Dropping out. In J. A. Graber, J. Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions through adolescence: Interpersonal domains and context* (pp. 285–321). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Masten, A. S., Coatsworth, D. J., Neemann, J., Gest, S. D., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development*, *66*, 1635–1659.

Masten, A. S., & Curtis, W. J. (2000). Integrating competence and psychopathology: Pathways toward a comprehensive science of adaptation in development. *Development and Psychopathology*, *12*, 529–550.

Moffitt, T. E. (1993). Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, *100*, 674–701.

Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin longitudinal study*. Cambridge, England: Cambridge University Press.

Nichols, T. R., Graber, J. A., Brooks-Gunn, J., & Botvin, G. J. (2006). Sex differences in overt aggression and delinquency among urban minority middle school students. *Journal of Applied Developmental Psychology*, *27*, 78–91.

Pajer, K. A. (1998). What happens to “bad” girls? A review of the adult outcomes of antisocial adolescent girls. *The American Journal of Psychiatry*, *155*, 862–870.

Roberts, D. F., Henriksen, L., & Foehr, U. G. (2004). Adolescents and the media. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 487–521). New York: Wiley.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Simmons, R. G., & Blyth, D. A. (1987). *Moving into adolescence: The impact of pubertal change and school context*. New York: Aldine.

Snyder H. N. (2003). *Juvenile Arrests 2001. Juvenile Justice Bulletin*. Washington, DC: Office of Juvenile Justice and Delinquency Programs, U.S. Department of Justice.

Tourangeau, R., Smith, T. W., & Rasinski, K. A. (1997). Motivation to report sensitive behaviors on surveys: Evidence from a bogus pipeline experiment. *Journal of Applied Social Psychology*, 27, 209–222

Wills, T. A., Baker, E., & Botvin, G. J. (1989). Dimensions of assertiveness: Differential relationships to substance use in early adolescence. *Journal of Consulting & Clinical Psychology*, 57, 473–478.