Predictors of a New Typology of Youth Violence

SCOTT R. WEAVER

KATHERINE DUNHAM*

State University of New York
College at Plattsburgh

This exploratory study examined risk and protective factors for youth violence, with a new and more comprehensive measure of 6 subtypes of violence, to determine if some factors are predictive of certain violence subtypes and not others. A convenience sample of 131 college undergraduates provided data on locus of control, perceived parenting style, affective empathy, history of violent behaviors, academic performance, father presence throughout childhood and adolescence, and demographic variables via a self-report survey. The analyses revealed that different factors predicted each of the 6 subtypes and total violence scores, and not always in the predicted manner. The subtypes of violence examined in this study and their predictors have the potential to contribute to the design of violence prevention and intervention programs.

ONE OF THE MOST IMPORTANT PUBLIC HEALTH problems facing the country today is youth violence (Edelman, 1995). Perpetrators of violence are getting younger, and the severity of the violence is increasing (Dahlberg, 1998). Theoretically, the identification of factors that either precipitate or inhibit the development of violent behavior can assist in the identification of youth who are at risk for engaging in violent behavior and in the development of prevention and intervention strategies. Identification of youth who are at greater risk than the general population for engaging in violent behaviors is essential for directing intervention strategies toward those youth to prevent the onset or degeneration of violent behaviors. To focus more intensive prevention efforts toward at-risk youth using valid risk and protective identifiers is more cost effective than providing intensive interventions to the entire population or haphazardly to various subpopulations. In the latter instance, youth who might not need the intervention will be utilizing limited resources that would be better directed toward those youth who have a greater need, as determined by the presence of risk factors or the absence of protective factors. Additionally, if researchers can establish relations between risk and protective factors and youth engagement in violent activities, then the manipulation of these factors or of the processes through which these factors have their influence will (if causally related) result in a change in the level of violent behavior. It is this assumption that provides the basis for prevention science (Dahlberg, 1998; Group for the Advancement of Psychiatry, Committee on Preventive Psychiatry, 1999).

Basic violence research, effective communication between researchers and practitioners who are establishing interventions to reduce violent behavior, and evaluation of such interventions will benefit from the common acceptance of a valid definition of what constitutes violence (Kingery, 1998). Unfortunately, the conceptual and operational definitions of violence used by researchers have varied considerably, and thus significant disagreement exists over which definition is more valid and how to best measure violence

Author note. Scott R. Weaver, Department of Psychology, University at Albany, State University of New York; Katherine Dunham, PhD, Department of Psychology, State University of New York College at Plattsburgh.

Correspondence concerning this article should be addressed to Scott Weaver c/o Katherine Dunham, PhD, Department of Psychology, Plattsburgh State University, 101 Broad Street, Plattsburgh, NY 12901. Electronic mail may be sent to: sw4161@csc.albany.edu.

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(Kingery, 1998; Pettit, 1997). Some researchers have defined violence in terms of covert motivations and information-processing mechanisms, whereas others have viewed violence as overt behavioral manifestations. Kingery (1998) cited several instances in which previous studies on violence have used psychometrically untested or invalid measures of violence, conceptually limited operational definitions of violence, or measures of violence that combine multiple diverse behaviors, despite the fact that they might differ greatly in terms of their precipitating factors, perceived and actual effects, and form. Subsequently, there has been substantial variation among researchers regarding exactly what behaviors constitute violence (Kingery, 1998). Citing the problems that these conditions create for our understanding of the nature of violence and in the evaluation of prevention efforts, Kingery argued effectively for a psychometrically sound measure of youth violence appropriate for a diverse youth population and a broad range of violent behavior. He subsequently developed the Adolescent Violence Survey (AVS). The AVS consists of six subscales that define a typology of violence: (a) common violence, (b) inventive violence, (c) passive aggression, (d) severe menacing, (e) menacing language, and (f) impulsive violence. These six subtypes are the primary focus of the present study.

Of central relevance to the present study is the assumption that if these subscales truly depict different forms of violence, then it is conceivable that different factors might predict each subtype of violence. The identification of different predictors of the violence subtypes has meaningful implications for future violence intervention efforts. For example, Kingery (1998) found initial evidence that suggests that empathy might inhibit low-level anger from progressing to common acts of violence, but might not prevent more severe forms of anger from progressing to severe acts of violence. Substantiating evidence for these observations would validate the use of interventions that attempt to instill empathy within individuals displaying more common forms of violence but not for those persons committing the more severe forms of violence. Because effective prevention is dependent on the ability to accurately identify at-risk populations and the knowledge of the predictive factors and processes that lead to violence, the identification of violence subtypes that distinguish between different groups of youth and that are precipitated by different factors is of major importance to the development of effective prevention and treatment programs.

The present exploratory study examined the relation between the violence subtypes and several factors that predict violent behavior in adolescents: empathy, locus of control, parenting style, academic achievement, father presence, sex, and socioeconomic status (SES). This study expanded on Kingery's (1998) initial research on the subscales by including additional predictors (i.e., locus of control, parenting style, and SES) and by using a sample composed of adolescents who are older and possibly very different than that used by Kingery (this inference is based on the fact that the current sample was drawn from a college population). If the data from the present study suggest that the violence subtypes are predicted by different factors, then this finding would further generalize Kingery's initial findings to different populations and should encourage future study into this typology of violent behaviors. Given the exploratory nature of the study, we offer only one hypothesis based on Kingery's findings: we expect empathy to have a greater negative correlation with the common violence subscale than the inventive violence subscale. Other hypotheses based on Kingery's findings are not offered because his other conclusions regarding the differential prediction of the violence subtypes involved variables not included in this study. Also, Kingery did not report other differences between the violence subtypes because his primary focus was presenting the psychometrics of the AVS, not the differences in predictors of the subtypes. However, we hypothesize that all of the variables included in this study will correlate with the total violence composite. We discuss previous research on these predictors and the expected direction of the relations between the present study's predictors with the total violence composite below.

Previous researchers have found evidence that suggests that empathy might be a protective factor for violent behaviors (e.g., Kingery, 1998; Kingery, Biafora, & Zimmerman, 1996). Kaukiainen et al. (1999) found that empathy (with social intelligence partialled out) was negatively associated with physical, verbal, and indirect violence (i.e., passive aggression). These researchers reasoned that empathetic individuals are unlikely to harm others because they will be able to appreciate the emotional distress they inflict through such actions. Other studies have also found similar results (Bryant, 1982). However, Kingery (1998) found that empathy did not correlate with the more severe forms of violence, such as the use of a weapon or sexual assault.

Bryant (1982) found that empathy varies as a function of sex, with men displaying significantly lower levels of empathy than women. However, Karniol, Gabay, Ochion, and Harari (1998) suggested that gender-role orientation (i.e., the continuum from

feminine to masculine) accounts for most, if not all, of the sex differences in empathy. This finding notwithstanding, the connection between sex and empathy is important to take into consideration because being male is, unequivocally, a risk for violent behavior (Hastings & Hamberger, 1997; Jackson & Foshee, 1998, Kingery, 1998).

Another focus of youth violence research has been the family environment, and, more specifically, parenting practices (Dahlberg, 1998; Webber, 1997). Jackson and Foshee (1998) examined the link between two dimensions of parenting style, responsiveness and demandingness, and violent behavior during adolescence. A responsive parent is aware of, and empathetic with, the child's developmental and emotional needs. A demanding parent establishes and upholds clear behavior guidelines and provides the child with structure. Parents' use of a high degree of both demanding and responsive behaviors is considered ideal for healthy child development (although this arrangement may not be true for less individualistic and more familialistic or collectivistic cultures; Lee-Oh, 1995). Jackson and Foshee collected data on adolescents' perceptions of their parents' parenting style and self-reported history of violent behaviors. The results indicated that lower levels of both responsive and demanding parenting practices predicted greater levels of violent behavior. These effects were much more pronounced for women than men. Other researchers have found similar results using an African American sample (Taylor, Casten, & Flickinger, 1993; but see Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994, for possible differences between African American and Caucasian samples in outcomes of perceived authoritarian parenting).

Researchers have also found an association between father absence and violent behavior[1]. Austin and Arthur (1992) obtained evidence that suggests a positive relation exists between father absence and violent victimization, which they conclude is partially a function of an increase in violent interactions in which the adolescent is involved. Additionally, Bernadett-Shapiro, Ehrensaft, and Shapiro (1996) found that father participation is positively correlated with the development of empathy (a potential inhibitor of violent behavior; Kingery, 1998) in boys. Kingery (1998) found that participants from a father-absent family displayed greater levels of impulsive violence than those participants with a father present.

The research literature suggests that locus of control might play a role in increasing the tendency to engage in violent behavior. Hollin and Wheeler (1982) found that violent offenders reported a more external locus of control (however, that study was limited by a small sample size, $N = 20$). A hypothesis suggested by Dupper (1998) might explain the connection between an external locus of control and violent behavior: individuals possessing an external locus of control believe that they have little control over what happens to them and, as a result, often refuse to take responsibility for their behavior. Perhaps these individuals also are less deterred from using violence because they are less likely to connect their behavior to its consequences.

SES represents a combination of variables, such as employment status, education, and income. Previous research has suggested that adolescents of lower SES show a greater incidence of violent behavior than adolescents of a higher SES (Hastings & Hamberger, 1997; Heimer, 1997). The relation between SES and violence is complicated, involving mediation and moderation by several other variables (e.g., fewer resources, greater exposure to violence, fewer educational opportunities; Dahlberg, 1998). Therefore, individuals with lower SES should display more violence than individuals with higher SES.

The present study used a college sample to examine whether the predictors reviewed here would differentially predict the violence subtypes. Based on Kingery's (1998) research, we expected empathy to have a stronger negative correlation with common violence than with inventive violence. The results of this study have the potential to influence future research that might impact the design of future interventions for at-risk youth.

Method

Participants

A convenience sample of 131 students (86 women; 45 men) from undergraduate psychology classes at a small university in northern New York volunteered to participate in the present study. We excluded one male participant from further analyses due to written comments and irregular responses that brought into question the integrity of his answers. The sample was 80% Caucasian, 6.9% Hispanic, 4.6% African American, 3.1% Asian American, and 5.4 % other; ages ranged from 18 to 44 years ($M = 20.6$, $SD = 3.95$). The majority of the participants lived with both biological parents from birth to 12 years (77.2%) and 13 years to 18 years (65.4%).

[1]There is evidence to suggest that the relation between father absence and psychosocial outcomes may not be as strong in African American families. This relation perhaps occurs because continued father participation, despite not living with the child, and extended kinship support are often present in African American communities (Salem, Zimmerman, & Notaro, 1998).

Measures

Demographics. Participants provided their age, sex, year of college, and ethnicity. For data analysis, we categorized ethnicity as either Caucasian or Minority to avoid very small group sizes. Participants' self-reported grade point average (i.e., *A, B, C,* or *D)* represented academic achievement. Participants also described the primary structure of their family (i.e., *both biological parents, stepfather/biological mother, stepmother/biological father, mother only, father only, grandparents as guardians,* or *other)* from birth until 12 years of age and from 13 years of age until 18 years of age. By obtaining responses for both age categories we attempted to account for the fact that family structure might change between childhood and adolescence. Due to the small number of participants in some family structure categories, we collapsed family structure responses into either *father-present* (this included biological father- and stepfather-present households) or *father-absent* categories. Additionally, we used participants' self-reported parents' occupations to place them into occupational categories obtained from Stevens and Featherman (1981) as an indicator of participants' SES levels. We then combined the participants into either *high SES* (professional or managerial) or *low SES* (all other) categories to (a) create groups that were more equal in size, and (b) work with the lack of specificity in some of the participants' responses to these items that hindered assignment to one of the original categories.

Locus of control. We measured locus of control with Nowicki and Strickland's (1973) abbreviated scale for adolescents. The scale consists of 21 items (for example, "Do you believe that most problems will solve themselves if you just don't fool with them?") that ask for a "no" or "yes" response. Higher scores denote a more external locus of control. For the current sample, Cronbach's alpha was .74, indicating satisfactory internal consistency.

Empathy. Mehrabian and Epstein's (1972) Questionnaire of Emotional Empathy (QMEE) assessed empathy. This scale consists of 33 items (e.g., "It makes me sad to see a lonely stranger in a group"); each item uses a 9-point Likert scale ranging from *very strong agreement* to *very strong disagreement*. Higher scores on the QMEE indicate a greater accuracy in detecting the emotions of others and feeling, to some degree, those emotions. This scale's Cronbach's alpha coefficient for the current sample was .82.

Parenting style. The Authoritative Parenting Index (API; Jackson, Henriksen, & Foshee, 1998) measured perceived parenting practices. Participants completed separate versions for their mother and father (or other female or male caretakers if the participants were not under the guardianship of their biological mother or father). The scale consisted of 16 items with a 4-point rating scale consisting of *just like him (her), a lot like him (her), sort of like him (her),* or *not like him (her).* The demandingness subscale consisted of 7 items, and the responsiveness subscale consisted of 9 items. Higher scores indicated higher levels of responsiveness and demandingness. Stice and Barrera (1995) collected data on parental support and control (roughly equivalent to responsiveness and demandingness, respectively) from both the children and parents and were able to replicate all but one of the effects found using adolescent self-report data with the mother self-reported data. This finding lends support for the use of children's report of their parents' parenting behaviors. In the present study, mother demandingness, mother responsiveness, father demandingness, and father responsiveness subscales displayed Cronbach's alpha coefficients of .79, .86, .84, and .87, respectively.

Violence. Using Kingery's (1998) Adolescent Violence Survey (AVS), participants provided data on their use of violence throughout their lifetime. The AVS consists of 41 items, forming six subscales and a 1-item honesty check (i.e., participants indicated whether they were *completely honest, pretty honest, not very honest,* or *not honest at all).* The common violence subscale has 7 items (e.g., "Hit, punched, or slapped someone with your hand or fist"), inventive violence has 9 items (e.g., "Forced someone to hurt himself/herself"), passive aggression has 12 items (e.g., "Played rougher with someone than you normally would during sports to hurt him/her"), severe menacing has 4 items (e.g., "Threatened to hurt someone with a weapon"), menacing language has 4 items (e.g., "Threatened to harm someone"), and impulsive violence has 5 items (e.g., "When I'm angry and feel the sudden urge to hit someone, I usually do hit him/her"). All AVS items appeared to be appropriate for use with an older population, despite the fact that it was based on research with younger adolescents. Participants responded to all subscales except impulsive violence on a 9-point frequency scale (i.e., *never, once, twice, 3–5 times, 6–9 times, 10–19 times, 20–29 times, 30–39 times,* or *40 or more times).* The impulsive subscale items used a 5-point Likert scale ranging from *strongly disagree* to *strongly agree.* In response to the honesty check item, 70% indicated that they were *completely honest,* whereas 30% stated they were *pretty honest.* Although Kingery (1998) excluded all participants who did not select *completely honest,* the authors included participants who selected *pretty honest* in the present study because seven participants commented that they selected *pretty honest* due to not being able

TABLE 1

Descriptive Statistics for Main Study Variables

Predictors	*n*	Theoretical range	Obtained range	*M*	*SD*	*g*
Responsiveness						
Mother	122	9–36	13–36	29.93	5.60	–1.16 (.22)
Father	108	9–36	11–36	27.92	5.95	–.64 (.23)
Demandingness						
Mother	122	7–28	7–28	15.48	4.57	.29 (.22)
Father	108	7–28	7–28	13.55	5.06	.82 (.23)
Locus of control	127	0–21	1–17	6.14	3.55	.67 (.22)
Empathy	130	–132–132	–23–109	46.38	26.01	.02 (.21)
Overall violence	118	40–340	45–217	99.24	34.21	1.14 (.22)
Common violence	128	7–63	7–61	23.89	11.93	.77 (.21)
Inventive violence	128	9–81	9–42	14.42	6.72	1.75 (.21)
Passive aggression	125	12–108	12–74	30.59	12.64	.81 (.22)
Menacing language	127	4–36	4–36	17.05	6.84	.35 (.22)
Severe menacing	129	4–36	4–16	5.16	2.61	2.75 (.21)
Impulsive violence	129	5–25	5–24	8.16	3.76	1.28 (.21)

Note. Numbers in the parentheses represent the standard error of skewness values.

to remember the exact number of times they committed an act of violence during informal postsurvey discussions. Therefore, it is likely that most, if not all, of those participants who selected *pretty honest* were, in fact, being honest, but were unsure of the accuracy of their memory.

Internal consistency coefficients for the overall violence score and the six subscales (common violence, passive aggression, severe menacing, menacing language, impulsive violence, and inventive violence) for the current sample were .92, .89, .83, .60, .75, .79, and .80, respectively. Although the internal consistency coefficient for severe menacing is questionably low, this scale was composed of only four items; therefore, the obtained regression coefficients predicting this scale will be attenuated.

Procedure

Participants were recruited by visiting psychology classes. We informed the students of the opportunity to participate in a research project and that they would receive extra credit for their psychology course in return for their participation. We also informed the participants that their responses would be kept confidential. Participants completed the surveys in approximately 20 min in small groups outside of class time. The authors partially counterbalanced the AVS with the other scales (i.e., locus of control, empathy, and perceived parenting behaviors) and found no significant effects for scale order[2].

Results

Descriptive statistics for the main variables are presented in Table 1. Low-level acts of violence were more common than more severe acts of violence. Of those participants who reported at least one act of violence in their lifetime on the AVS, some of the more common acts were hitting (78%), kicking (67%), hitting with objects (71%), shoving/tripping (71%), talking about someone's faults so others would

[2]ANOVA tests were conducted for scale order effect for each scale and subscale (no *F*s were significant at the alpha = .05 level, except for mother demandingness, $F[3, 118] = 3.127$, $p < .05$). However, none of the post hoc tests for mother demandingness were significant using the Bonferroni correction to control for Type I error.

not like them (77%), playing rougher than normal in sports (46%), breaking something belonging to another (53%), making verbal threats (50%), yelling (95%), and using threatening body language (86%). Relatively few participants reported forcing someone to do something sexual against their will (5%), making unwanted sexual gestures (12%), and making threats with a weapon (17%). A fairly sizable portion indicated that when they feel a violent impulse, they do not stop to think about consequences before they act (12%) and feel that people should treat them with more respect if those people do not want them to respond violently (15%).

Not surprisingly, all but one of the violence subscales (i.e., menacing language) displayed considerable positive skewness. The authors used natural logarithmic transformations to reduce the skewness (thereby bringing the variables closer to normality) for total violence, common violence, and passive aggression: with transformations, *g*s = 0.31 (0.22), –0.30 (0.21), and –0.01 (0.22), respectively. Because of their more extreme skewness, severe menacing, impulsive violence, and inventive violence were transformed to their negative reciprocal: with transformations, *g*s = 1.64 (0.21), 0.23 (0.21), and 0.46 (0.21), respectively. The use of these transformations to reduce positive skewness, residual nonnormality, and heteroscedasticity is an accepted and common practice (Fox, 1991).

Only a few of the predictor variables were significantly correlated with the violence subscales and overall violence composite score after using multistage Bonferroni correction to control for Type I error rate inflation (see Table 2, Larzelere & Mulaik, 1977). There was considerable loss in power after using the multistage Bonferroni correction, and, therefore, it is likely that, with increased sample size, other significant correlations between the predictor and violence variables would emerge. Sex (i.e., being male) was positively correlated with severe menacing violence. Father responsiveness was positively correlated with impulsive violence. The authors did not conduct a statistical test on the difference in the correlations of empathy with common violence and empathy with inventive violence because the initial hypothesis presupposed negative correlations between empathy and the violence subscales. Instead, a positive correlation was obtained between empathy and common violence, therefore rendering this hypothesis untestable.

We used forward stepwise regression analyses to create models for each violence subscale and the overall violence composite score[3]. Mother responsiveness and sex (i.e., being male) predicted greater total violence, explaining 12.2% of the variance (see Table 3). Sex (i.e., being male), greater empathy, and lower mother responsiveness predicted increased levels of common violence, accounting for 10.3% of the variance (see Table 4). Sex (i.e., being male) was the only significant predictor of inventive violence (B = .01, adjusted R^2 = .06, p < .01) and passive aggression (B = .239, adjusted R^2 = .07, p < .01). Sex (i.e., being male) and greater empathy predicted menacing language, explaining 9.3% of the variance (see Table 5). Less father responsiveness, minority status, and sex (i.e., being male) predicted greater impulsive violence, explaining 27.3% of the variance (see Table 6). Sex (i.e., being male) and father absence during adolescence predicted greater severe menacing violence, explaining 24.7% of the variance (see Table 7).

Discussion

Consistent with previous research, male participants reported more violent behavior than female participants (Hastings & Hamberger, 1997; Kingery, 1998; Saner & Ellickson, 1996). Sex was a significant predictor of violence for the global violence score and all six subtypes of violence. Lower mother responsiveness predicted common violence, and lower father responsiveness predicted impulsive violence. However, parental responsiveness did not significantly predict any other violence subtype, and parental demandingness failed to predict any violence subtype. These findings are not consistent with previous research (Jackson & Foshee, 1998). The failure of perceived parental demandingness to significantly predict any of the violence subtypes might be due to the fact that the participants, as young adults, were underestimating the demandingness of their parents, which might decrease with age as the participant acquires greater autonomy and more privileges. Similarly, current parental demandingness may have interfered with participants' reports of parental demandingness during middle adolescence. This result could have occurred despite the fact that researchers explicitly instructed participants to report on their parents' behaviors during middle adolescence. Another alternative explanation could be that the previous findings regarding the connection between parental demandingness and violent behaviors do not generalize to the current sample, which is older than the sample of eighth and ninth graders used by Jackson and Foshee (1998).

Individuals whose fathers had been present throughout adolescence reported committing fewer severe menacing acts than those participants with a father-absent family structure. Kingery (1998) rea-

[3]Please note that the regression analyses were conducted using the transformed criterion variables (except menacing language) when interpreting the results.

TABLE 2

Correlations Between Predictors and Violence Scales

Predictor	Violence scale			
	Overall (*N* = 89)	Common (*N* =99)	Inventive (*N* = 99)	Impulsive (*N* = 100)
1. Age	–.05	–.03	–.02	–.01
2. Sex[a]	.26	.22	.26	.33
3. Academic achievement[b]	.08	–.05	–.05	.28
4. Ethnicity[c]	–.02	–.06	–.08	.32
5. Father presence (0–12 years)[d]	.07	.04	.14	.17
6. Father presence (13–18 years)[d]	.06	.11	.12	.12
7. Father SES[e]	.08	.05	.11	.18
8. Mother SES[e]	–.01	.04	.08	–.02
9. Mother responsiveness	–.27	–.19	–.11	–.30
10. Mother demandingness	.00	.11	–.03	–.16
11. Father responsiveness	–.18	–.09	–.14	–.42*
12. Father demandingness	.02	.08	.08	.01
13. Empathy	.06	.11	–.06	–.18
14. Locus of control	.25*	.11	.17	.26

Predictor	Violence scale		
	Passive aggression (*N* = 96)	Severe menacing (*N* = 100)	Menacing language (*N* = 98)
1. Age	–.11	–.07	–.01
2. Sex[a]	.28	.46*	.22
3. Academic achievement[b]	–.09	–.18	–.10
4. Ethnicity[c]			
5. Father presence (0–12 years)[d]	–.08	–.09	–.05
6. Father presence (13–18 years)[d]	.06	.27	.13
7. Father SES[e]	.04	.26	.14
8. Mother SES[e]	–.01	.13	.04
9. Mother responsiveness	–.16	–.07	–.16
10. Mother demandingness	–.01	–.12	.08
11. Father responsiveness	–.15	–.14	.00
12. Father demandingness	–.02	–.08	–.03
13. Empathy	.05	–.16	.16
14. Locus of control	.15	.12	.10

Note. All correlations were computed with the transformed violence scales, except menacing language. Listwise deletion of participants was used for each column of correlations.

[a]Male = 1, Female = 0.
[b]C = 1, B = 2, A = 3.
[c]White/Caucasian = 0, Minority = 1.
[d]Father present = 0, Father absent = 1.
[e]High SES = 1, Low SES = 2.

*$p < .05$, after using multistage Bonferroni correction to control for Type I error rate inflation (Larzelere & Mulaik, 1977).

TABLE 3

Forward Stepwise Regression Model for Transformed Total Violence

Predictor	β	*B*	sr^2
Mother responsiveness	–.27	–.02	.07**
Sex[a]	.27	.19	.07**

Note. Model-adjusted R^2 = .12***.

[a]Male = 1, Female = 0.

*p < .05. **p < .01. ***p < .001.

TABLE 5

Forward Stepwise Regression Model for Menacing Language

Predictor	β	*B*	sr^2
Sex[a]	.31	4.58	.09**
Empathy	.26	.07	.06*

Note. Model-adjusted R^2 = .09**.

[a]Male = 1, Female = 0.

*p < .05. **p < .01.

soned that youth reared in a home without a biological father might be less disciplined and might develop "stable attitudinal supports for violence" (p. 55). Another plausible explanation could be that the absence of a father might create an economic disadvantage, which is associated with several other risk factors for violent behavior (Heimer, 1997). It is important to note that the present study included participants with a stepfather under the father-present category. Future research should examine the stepfather- and biological father–present households separately.

Academic achievement, locus of control, and SES did not significantly predict any violence subtype or global violence. These results are not consistent with previous research (Farrington, 1991, as cited in Dahlberg, 1998; Heimer, 1997; Hollin & Wheeler, 1982). The failure of SES and academic achievement to predict any violence subtype or global violence could be due to the fact that SES was crudely measured (i.e., a dichotomous variable based only parents' occupations) or perhaps the previous findings concerning the relation between academic achievement and violence do not apply to a college sample.

The present research could not test the hypothesis that empathy would have a greater negative correlation with the common violence subscale than with the inventive violence subscale, derived from Kingery's (1998) initial analyses of the violence subtypes, because it presupposed that empathy would be negatively correlated with those subtypes. Readers are advised to proceed with caution in making any interpretations concerning the relation between empathy and the violence subtypes because greater empathy was associated with more menacing language and common violence, which is the opposite pattern found in previous research results (Kaukiainen et al., 1999; Kingery, 1998). The time frames for the empathy scale and the violence measure might be the source of this anomaly. Whereas the violence scale measured the frequency of violent acts over the course of the participants' lifetime, the empathy scale measured the current level of empathy. It is possible that the participants committed the majority of violent acts some time ago when their level of empathy was likely lower, as previous research has shown that empathy tends to increase with age (Adams, 1983; Bryant, 1982).

TABLE 4

Forward Stepwise Regression Model for Transformed Common Violence

Predictor	β	*B*	sr^2
Sex[a]	.29	.32	.08**
Empathy	.23	.00	.05*
Mother responsiveness	–.21	–.02	.04*

Note. Model-adjusted R^2 = .10**.

[a]Male = 1, Female = 0.

*p < .05. **p < .01.

TABLE 6

Forward Stepwise Regression Model for Transformed Impulsive Violence

Predictor	β	*B*	sr^2
Father responsiveness	–.34	.00	–.11***
Ethnicity[a]	.24	.03	.05**
Sex[b]	.23	.03	.05**

Note. Model-adjusted R^2 = .27***.

[a]White/Caucasian = 0, Minority = 1. [b]Male = 1, Female = 0.

*p < .05. **p < .01. ***p < .001.

TABLE 7

Forward Stepwise Regression Model for Transformed Severe Menacing

Predictor	β	B	sr^2
Sex[a]	.44	.05	.18***
Father presence (13–18 years)[b]	.22	.06	.05*

Note. Model-adjusted R^2 = .25***.

[a]Male = 1, Female = 0.
[b]Father present = 0, Father absent = 1.

*p < .05. **p < .01. ***p < .001.

In summary, as Kingery (1998) argued, the AVS subscales represent a typology of violence with different predictors for each subtype. Sex (i.e., being male) was the only variable that predicted all six violence types. Less father responsiveness and minority ethnic status were predictive of impulsive violence but not for any other violence subtype. Less mother responsiveness predicted common violence but was not significant for any of the other violence subscales, and higher levels of empathy predicted common violence and menacing language only. These results depict a typology of violence in which common violence, impulsive violence, severe menacing, and menacing language (to a lesser degree) differ in terms of their predictors from each other and other violence types. This study offers no evidence to suggest that inventive violence and passive aggression have different predictors. Sex was the only significant predictor for both violence subtypes. However, future studies that incorporate additional predictor variables that were not included here might reveal different predictors for these violence subtypes.

Several limitations of the current study need to be addressed. First, the external validity was limited by the restricted sample; the results might generalize only to the population from which the sample was drawn (i.e., largely nonminority, older adolescents and young adults attending a moderate-sized college in the northeastern United States). The small sample also limited the statistical power of the analyses. However, it is noteworthy that the results of the present study were similar to Kingery's (1998) findings with a sample of eighth- and ninth-grade students. Another limitation is that the authors crudely measured SES and academic achievement, and, therefore, the present study might not represent an adequate assessment of their relation to the violence subtypes.

A third limitation is that the time frames for certain measures differed from each other, possibly leading to the anomalous positive correlation between empathy and some of the violence scales. However, the authors believe that the time frame issue does not compromise the validity of the results regarding the role of perceived parenting behaviors and locus of control as predictors of violent behavior. All participants were asked to report on their perception of their parents' levels of demandingness and responsiveness when they were children and adolescents. Additionally, the authors are not aware of any research that shows locus of control varies with age.

A fourth limitation is that levels of some of the nominal variables (e.g., sex) were represented by unequal group sizes. However, the effect of unequal group sizes will only serve to attenuate the regression coefficients instead of creating spurious findings (Cohen & Cohen, 1983). As the probability of a category deviates from p = .5, in either direction, the variance of that variable is reduced. Because the correlations between that variable and other variables are directly dependent on the variance of the nominal variable (all other things being equal), the obtained relation will be reduced in size.

Fifth, the authors collected data from a single source (i.e., participant self-report), therefore possibly creating the problem of shared method variance. Future studies should collect data from other sources (e.g., parents, archived records, or direct observation). A final note should be made with regard to the effect sizes (i.e., percentage of variance accounted for) obtained in this study. The percentage of variance accounted for by the predictor variables ranged from 9% to 25%. Previous research has identified several factors that can account for unique, but relatively small, variations in violent behavior (Dahlberg, 1998). This result is likely a function of the multideterministic nature of violence. Furthermore, Abelson (1985) provides a cogent argument for how the variance contributions made by a factor, as determined in a single study, may underestimate the overtime variance contribution when the factor's influence cumulates over time. An argument could be made that many (if not all) of the predictor variables examined in this study could cumulate in their influence on violent behavior over time; therefore, the relatively small effect sizes obtained might underestimate their influences in the long run.

Even given these limitations, the findings from this study have significant implications for future research and practice. If a typology of violence does exist, as supported by the current study, future research is needed to build on the current understanding of different violence types. Future research should examine additional predictors of the violence sub-

types that were not examined by Kingery (1998) or this study. Such studies could have a meaningful role in the design of violence prevention and intervention programs. If predictors differentially predict the violence subtypes, the presence of different predictors will, if causally related, predispose a child to different types of violent behavior, and practitioners could use this information to circumvent the onset of violence through different intervention strategies. Future research needs to use longitudinal designs using the AVS to support causal conclusions about the predictors of the violence subtypes.

In conclusion, the current study built upon the initial research conducted by Kingery (1998) of a new typology of youth violence by examining additional predictors and utilizing a more comprehensive measure of empathy. The results from this study suggest that well-established predictors of global violence measures have varied relations with the more specific violence subtypes. Impulsive violence and common violence appear more distinct than passive aggression, severe menacing, and inventive violence. Greater understanding of this violence typology has the potential to positively impact violence prevention and intervention program design pending future longitudinal research.

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