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MEDIA VIOLENCE AND SELF-REPORTED HOSTILITY IN ADOLESCENTS

ABSTRACT. Jankowiak John, Olson George, *Media violence and self-reported hostility in adolescents* [Przemoc w mediach i w szkole w opinii młodzieży]. „Neodidagmata” 25/26, Poznań 2003. Adam Mickiewicz University Press, pp. 97–108. ISBN 83-232-1366-6, ISSN 0077-653X.

Celem podjętych badań było zbadanie percepcji mediów oraz wrogości i przemocy w szkole. Badaniami objęto 527 uczniów szkół średnich z czterech okręgów szkolnych w północnej Karolinie. Młodzież pytano o spostrzeganie mediów oraz wrogości – złości, agresji oraz cynizmu.

Wyniki badań generalnie potwierdzają założenie, że oglądanie mediów wzbudzających emocje, może prowokować naśladowanie. Wzmaganie ofert i aktywności związanej z gramami komputerowymi (z elementami przemocy), oglądanie programów telewizyjnych z przemocą może wzmacniać wrogość i bójki w szkole. Przyszłe badania powinny koncentrować się na przewidywaniu, jak bardzo wrogość oglądana w mediach odzwierciedla się w przemocy w szkole. Bardzo ważne jest też uczenie się radzenia sobie z wrogością w szkole, stąd wskazane byłoby włączanie tej problematyki do programów szkolnych.

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INTRODUCTION

The Surgeon General in the report of Health Objectives for the Nation stated, “Violent behavior in many forms – exacts a huge toll on Americans’ mental health” (P. Fontanarosa, 1995). Violence reaches all levels of society; however, young children, adolescents, and minorities seem to be more susceptible. In a longitudinal study of 4500 high school seniors more than half the sample had engaged in violent behavior during the last year, and one in four had committed predatory violence (P. Ellickson, 1997). What has also increased over the past four years is the multiple-victim, video-game-like shootings that led up to the Littleton, Colorado school massacre. The one thing that nearly every school shooting has in common is the chorus of parents declaring that “I never thought it could happen here.”

At a time when youth violence is declining, less than 1% of teen gun-related deaths occur in schools. According to the journal *Criminal Justice Ethics*, more than 99.99% of public schools have never had a homicide of any kind, let alone a mass killing, yet last year there were 16 violent deaths on U.S. campuses (N. Labi,

2001). Collectively these tragedies have produced a national conversation about the causes of school violence. According to psychologists, adolescents are at a high risk for violence because of the physical and psychological changes associated with puberty, and the transition from childhood to adulthood. Among the major developmental tasks of adolescents are (a) individuation from family members through a narcissistic period of self-development; (b) development of sexual identity often accompanied by extremes, such as the macho image for boys; (c) development of moral character and personal value system through experimentation; and (d) preparation for future work and responsibility (R. Jessor, S. Jessor, 1977).

Adolescents may encounter more anger-producing situations such as disappointment, embarrassment, and frustration than their adult counterparts. The challenge for most adolescents is to learn how to recognize, manage, and express anger in acceptable ways. Teachers who confront angry students often fear that the potential for assault is present. It has been estimated that one in five teachers have been threatened by students (R. Simon, 1998). However, anger does not always precede an assaultive episode. In fact, the ability to verbalize anger often represents a positive sign of control. Understanding the causes of school violence is crucial to determining appropriate solutions.

One antecedent of adolescent hostility can be attributed to viewing media violence. Since the Littleton, Colorado shooting a chill has settled over American movie makers on the subject of violence. In response to the anti-Hollywood climate in Washington Republican Congressman Henry Hyde blasted "toxically poisoning" entertainment by introducing an amendment making it a crime to expose children to violent movies. Hyde's amendment failed but the House recently passed a "sense of Congress" resolution accusing the entertainment industry of including "pointless acts of brutality" in movies and TV (A. Cohen, 1999).

A report of the National Institute of Mental Health, *Television and Behavior: Ten Years of Scientific Progress and Implications for the Eighties*, documents that exposure to television violence increases children's physical aggressiveness (D. Pearl, et al., 1982). The critical period of exposure to television is during pre-adolescent childhood. Later variations in exposure, in adolescence and adulthood, do not exert any additional effect (J. Milavsky, et al., 1982). However, the aggression-enhancing effect of exposure to television is chronic, extending into later adolescence and adulthood (B. Centerwall, 1989).

METHOD

Participants. The sample of public schools was selected from the North Carolina Education Directory. Six middle schools (grades 6–8) from four school districts in Western North Carolina agreed to participate in the study. Schools were chosen by instructional level (middle), geographic region (West), school size (less than 300) and by percent of minority enrollment (less than 25%). The sample size was comprised of approximately 550 students. Accordingly, 550 survey packets were

distributed. Of these, 527 (96%) surveys were returned. The subjects ranged in age from 11 to 14 years of age with 33.4% (176) of the sample in sixth grade; 29.6% (156) in seventh grade; and 37% (195) in eighth grade. Respondents consisted of 51.8% (273) boys and 47.4% (250) girls. A majority of the total sample (77.4%) were Caucasian with the remainder being of Hispanic (13.6%) and African-American descent (4.9%). Three-hundred seventy-nine (72%) of the respondents reported living in two-parent homes.

Instruments. The survey packets consisted of two inventories: a *Hostility Questionnaire* (HQ), and a *Hostility Research Survey* (HRS). The HQ was a scale adapted from the J. Barefoot, et al. (1989) adaptation of Cook and Medley's MMPI-based Hostility Scale. In the current study, the scale contained 46 items yielding scores on three rationally constructed (see J. Barefoot, et al. 1989) factors of hostility: a belief component, cynicism; an emotional component, anger, and a behavioral component, aggression. The HRS was a 44-item questionnaire designed to obtain information relative to respondents' age and other personal demographic characteristics, family composition, movie and television viewing habits, video game play, school extra-curricular activities, and incidence of violent behavior in school. Research protocols were approved by the institutional review board at Appalachian State University.

Procedure. The surveys were given to guidance counselors in the six schools who were trained for two days in violence prevention education and one day in administering group surveys prior to the study. The counselors in turn administered the packets within the context of regularly scheduled class periods. Classroom teachers were not present during the administration of the surveys and questionnaires. Students were told that their non-participation would have no adverse effect on their class standing or grade, but that by participating they would receive a gift certificate to McDonalds restaurant. Special efforts were made to reinforce the understanding that all responses would remain confidential and anonymous. Adjacently seated students were given alternate forms (either the survey or the questionnaire first) in an attempt to prevent students from sharing responses and to minimize the feeling that other subjects were looking at their responses. The guidance counselors reported that students seemed to treat the instruments seriously yet were relaxed during its administration. Following administration and collection of the instruments, the counselors returned them to the researchers.

Analysis. The authors were interested in whether the three factors of the HQ could be considered functions of the variables measured by the HRS. Accordingly, the scores on three hostility factors were used as dependent variables in a series of analyses of variance (or *t* tests) in which the classifications defined by the permissible response categories of the items in the survey served as independent variables. To keep the overall probability of a Type 1 error within reasonable limits, we set this probability at $\alpha = .1$ and followed the Bonferroni procedure (see Stevens, 1992;

p. 7) in dividing this overall alpha level by 37, the total number of statistical tests computed for each hostility factor. Hence, for each test any result with a probability under the null hypothesis less than .0027 was accepted as significant.

RESULTS

Table 1 displays the frequencies and percentages of response to each choice for each of the 37 items the researchers used from the *Hostility Research Survey*. For the study reported here, the researchers did not use items that called for respondents to supply answers. Furthermore, whenever the number of respondents selecting a particular choice for an item was judged unreasonably low, the researchers combined that response with an adjacent choice. For example, in Item 5 the number of respondents selecting choices d and e was 24 and 11, respectively. These frequencies were judged unacceptably low in relation to the numbers selecting the other choices. Hence the researchers combined these responses with that to choice c, resulting in a response frequency of 125 to the choice, "two or more [brothers or step-brothers]."

Of the 37 comparative statistical tests computed, 10 yielded a significant difference among groups in mean scores on Aggression, Anger, or Cynicism. These 10 items are shown in Table 1, where the number of respondents, means, and standard deviations are given for each group included in the analysis (Tables, p. 101-102).

Grade and sex. As expected, boys evidenced higher scores on all three factors of the Hostility Scale than did girls. This was consistent with other studies. For instance, D. Perry and R. Weiss (1987) found that parental disapproval of expressions of anger was greater for girls than boys. On the other hand, the finding that scores on both Aggression and Cynicism were lower among seventh graders than among sixth graders and eighth graders could not be explained.

Television viewing. In the survey, items 9 through 21 and 29 through 32 queried students' television viewing habits, the number of hours of TV they viewed per day or week and who they watched it with. The items covered television viewing in general and cartoon programs and Music Television in particular. Only items related to students' viewing of Music Television or wrestling on television yielded significant effects. Cynicism scores were higher among those students indicating that they did watch Music Television (Item 17). In the minds of children and adolescents, television is a source of factual information regarding how the world operates. In fact, it has been demonstrated that infants as young as 14 months observe and incorporate behaviors seen on television (A. Meltzoff, 1988). In a survey of young male felons imprisoned for committing violent crimes, 22 to 34 percent reported having consciously imitated crime techniques learned from viewing television programs (M. Heller and S. Polsky, 1976). Among those students in the study indicating that they did watch Music Television, scores on the Anger factor increased with the number of hours watched per day and per week (Items 18 and 19).

Table 1
Items Yielding Significant Differences Among Groups in Mean Aggression, Anger, and/or Cynicism Scores^a

| Group | Aggression | | | Anger | | | Cynicism | | |
|--|------------|--------------|-------|-------|-------------|------|----------|-------------|------|
| | N | MEAN | SD | N | MEAN | SD | N | MEAN | SD |
| Item 2. What is your grade level? | | | | | | | | | |
| 6th Grade | 176 | 7.21 | 7.39 | 176 | 6.61 | 3.53 | 176 | 6.32 | 2.84 |
| 7th Grade | 143 | 6.82 | 3.27 | 143 | 6.84 | 2.93 | 143 | 5.96 | 2.71 |
| 8th Grade | 195 | 9.41 | 9.8 | 195 | 7.65 | 3.49 | 194 | 7.07 | 2.84 |
| Item 4. What is your sex? | | | | | | | | | |
| Male | 265 | 9.17 | 9.64 | 265 | 7.5 | 3.41 | 265 | 6.99 | 2.91 |
| Female | 245 | 6.58 | 4.51 | 245 | 6.58 | 3.29 | 244 | 5.89 | 2.66 |
| Item 17. Do you watch MTV? | | | | | | | | | |
| Yes | 248 | 7.30 | 6.92 | 248 | 6.82 | 3.41 | 247 | 6.13 | 2.70 |
| No | 242 | 8.06 | 4.47 | 242 | 7.44 | 3.32 | 242 | 6.90 | 2.89 |
| Item 18. If you watch MTV, how many hours each day? | | | | | | | | | |
| Less than 1 hr. | 80 | 6.9 | 3.87 | 80 | 6.36 | 3.23 | 80 | 6.25 | 3.61 |
| 1 hr. | 79 | 9.34 | 10.76 | 79 | 7.16 | 3.03 | 79 | 6.78 | 3.05 |
| 2 hrs. | 52 | 8.79 | 3.55 | 52 | 8.33 | 3.55 | 52 | 7.46 | 3.03 |
| 3 hrs. | 12 | 9.42 | 3.61 | 12 | 8.5 | 3.23 | 12 | 7.5 | 2.4 |
| 4 hrs. or more | 26 | 8.69 | 3.27 | 26 | 9.12 | 2.83 | 26 | 7.23 | 3.02 |
| Item 19. If you watch MTV, how many hours a week? | | | | | | | | | |
| Less than 1 hr. | 38 | 5.97 | 3.68 | 38 | 5.76 | 3.36 | 38 | 6.05 | 2.99 |
| 1 to 2 hrs. | 47 | 7.47 | 3.69 | 47 | 6.72 | 2.98 | 47 | 6.45 | 2.67 |
| 3 to 4 hrs. | 40 | 8.02 | 7.39 | 40 | 6.95 | 3.33 | 40 | 6.00 | 2.75 |
| 5 to 6 hrs. | 42 | 10.41 | 13.05 | 42 | 8.24 | 4.78 | 42 | 7.88 | 3.04 |
| 7 hrs. or more | 80 | 9.15 | 3.21 | 80 | 8.42 | 2.99 | 80 | 7.3 | 2.81 |
| Item 23. If you play video games, how many hours each day? | | | | | | | | | |
| Less than 1 hr. | 184 | 7.38 | 8.18 | 184 | 6.50 | 3.14 | 184 | 5.90 | 2.78 |
| 1 hr. | 106 | 7.78 | 8.90 | 106 | 6.56 | 3.00 | 106 | 6.24 | 2.88 |
| 2 hrs. | 68 | 9.78 | 10.54 | 68 | 7.03 | 3.52 | 68 | 6.74 | 2.60 |
| 3 hrs. | 38 | 6.16 | 3.72 | 38 | 8.79 | 3.11 | 38 | 6.84 | 2.83 |
| 4 hrs. or more | 42 | 8.74 | 3.73 | 42 | 8.45 | 3.44 | 42 | 7.60 | 3.14 |
| Item 28. How often do you watch your favorite video? | | | | | | | | | |
| Once a week | 141 | 8.76 | 8.55 | 141 | 7.77 | 3.42 | 140 | 6.72 | 2.98 |
| Every two weeks | 94 | 8.12 | 10.10 | 94 | 7.54 | 3.59 | 94 | 2.78 | 2.83 |
| Once a month | 97 | 6.84 | 3.44 | 97 | 2.58 | 3.11 | 97 | 6.46 | 7.67 |
| Item 29. Do you watch wrestling on TV? | | | | | | | | | |
| Yes | 175 | 9.09 | 7.78 | 175 | 7.70 | 3.32 | 175 | 6.98 | 2.88 |
| No | 320 | 6.85 | 4.24 | 320 | 6.77 | 3.37 | 319 | 6.25 | 2.75 |
| Item 30. If you watch wrestling on TV, how many hours a day? | | | | | | | | | |
| Less than 1 hr. | 88 | 9.59 | 10.74 | 88 | 6.74 | 3.43 | 88 | 6.53 | 3.09 |
| 1 hr. | 60 | 9.83 | 10.64 | 60 | 8.27 | 3.34 | 60 | 7.12 | 2.60 |
| 2 hrs. or more | 35 | 8.80 | 3.33 | 35 | 8.66 | 2.86 | 35 | 7.94 | 2.67 |
| Item 38. Has another student threatened to hurt you during this school year? | | | | | | | | | |
| Yes | 182 | 8.09 | 3.78 | 182 | 7.83 | 3.28 | 182 | 6.91 | 2.85 |
| No | 387 | 7.39 | 6.82 | 307 | 6.70 | 3.23 | 306 | 6.32 | 2.76 |
| Item 40. How often have you been threatened by another student this year? | | | | | | | | | |
| Not at all - | 292 | 7.03 | 6.05 | 292 | 6.66 | 3.32 | 291 | 6.26 | 2.75 |
| Once | 90 | 7.72 | 5.53 | 90 | 7.78 | 3.10 | 90 | 6.71 | 2.77 |
| Twice | 58 | 11.29 | 15.48 | 58 | 7.09 | 3.76 | 58 | 6.72 | 3.24 |
| 3 or more times | 63 | 8.81 | 3.16 | 63 | 8.02 | 3.49 | 63 | 7.22 | 2.73 |

cont. tab. 1

| Group | Aggression | | | Anger | | | Cynicism | | |
|---|------------|------|------|-------|-------------|------|----------|-------------|------|
| | N | MEAN | SD | N | MEAN | SD | N | MEAN | SD |
| Item 41. [With respect to violence], what worries you most during the school day? | | | | | | | | | |
| Grades | 318 | 8.13 | 9.36 | 318 | 6.73 | 3.25 | 318 | 6.14 | 2.84 |
| Kids liking me | 46 | 8.26 | 3.49 | 46 | 8.13 | 3.76 | 46 | 6.87 | 2.54 |
| Physical appear. | 49 | 9.55 | 3.54 | 49 | 8.65 | 3.43 | 48 | 8.42 | 2.41 |
| Family problems | 38 | 6.34 | 3.43 | 38 | 6.45 | 3.38 | 38 | 6.87 | 2.17 |
| Violence | 41 | 6.85 | 3.28 | 41 | 7.12 | 2.99 | 41 | 6.56 | 2.90 |

* Italicized bold entries represent means that are significantly different at $p < .0027$

Item 29 asked students if they watched wrestling on TV. About a third of the respondents, primarily boys, indicated that they did. On average, scores on Aggression were significantly higher for this group than for those who did not watch wrestling on television. Furthermore, Anger scores increased with the increase in the number of hours of wrestling these students watched per day (Item 30). In a case study of nine elementary schools Lemish (1998) found that girls were much less frequent viewers of TV wrestling in comparison to boys. School fights were found to reach their peak among 69% of the boys who claimed that they viewed wrestling every week.

Video games. Items 22 through 26 addressed students' playing of video games. Eighty-two percent of the students responding to the survey indicated that they did play video games (Item 22). The Hostility scores for these students were not significantly different from the 18 percent of students who apparently did not play video games. Among those reporting that they played video games, the expression of anger as measured by the *Hostility Questionnaire* increased in proportion to the number of hours per day respondents reported playing video games (Item 23). Playing with friends or with family members (Item 25) was not related to scores on the Hostility factors.

A recent content analysis study found that violence was the major theme of 40 of the 47 most popular video games (E. Proveno, 1991). Funk reported a significant relationship between playing violent video games and aggressive behavior in younger children (Funk, 1990). Reports from the mid-1980s indicate playing times ranging from an average of about two hours per day (G. Ellis, 1983) to about two hours per week (G. Creasey, B. Myers, 1986), with boys generally playing much more than girls. If the frequency of video game playing remains high then related issues, such as sex and age differences, should be studied further. The results here indicate that video game playing is a relatively high-frequency activity among middle school adolescents which may play an important role in influencing hostility due to the violent content of many video games.

Movie videos. Item 27 asked students if they watched videos. Nearly 90 percent indicated that they did. Among these respondents, scores on the Anger subscale were considerably higher for those who watched videos as often as once a week or every two weeks than for those who watched videos once a month or less (Item 28).

Participation in sports and extracurricular activities. Items 33 and 34 asked students if they participated in organized sports or extracurricular activities, either in school or outside school. Fifty-nine percent indicated that they participated in sports and 52 percent reported that they participated in extracurricular activities. However, participation was unrelated to any of the scores on Hostility.

Involvement in violent activities at school. Several items (35 through 40) inquired into students' personal involvement, either directly or indirectly, in violent activities in school during the previous year. Two-thirds of the students responded that they had not been involved in any fights during the year (Item 35), and 60 percent indicated that they had not been threatened by another student (Item 38). Of greater note, perhaps, is that one-third of the students reported that they had been threatened; 22 percent reported that another student had threatened to hurt them with a weapon. Involvement in violent activities at school was related to scores on the Hostility factors in terms of whether or not students had been threatened by other students (Item 38) and the frequency with which they had been threatened (Item 40). Students who had been threatened had higher factor scores on Anger. The effect of incidence of threatening behavior on Aggression scores was not clear. Students reporting being threatened twice during the year scored higher on this factor than students who reported having been threatened once or not at all, or three or more times.

Feelings of safety from violence. The final four items on the Hostility Survey inquired into students' perception of safety from violence, at school or in the community. The first of these (Item 41) asked the students what worried them most during the school day. By a wide margin, what worried them the most was getting good grades in school (62%). Worries over their physical appearance or whether other students liked them were ranked as a distant second and third (9.3% and 8.7%, respectively). Few (7.8%) of the students picked school violence as a major worry (7.8%). On the other hand, scores on both the Anger and Cynicism scales of the Hostility Survey could be differentiated according to the type of concern students tended to worry most about. Scores on the Anger component were highest for those students who worried most about grades and physical appearance and lowest for those worrying about family problems and violence. As for Cynicism, scores were highest among those students who worried most about physical appearance. There was little difference among students in the other classifications.

Whereas the Aggression, Anger, and Cynicism scales measured latent components of Hostility, the items in the survey dealing with violent activities in school could be viewed as manifest expressions of violent behavior. Because manifest expressions of violence have been associated, in the literature, with the variables measured in this study, we examined the relationship between incidence of watching Music Television and wrestling on television, playing video games, and watching video movies on the one hand, and whether or not students were involved in fights on the other. Frequencies and percentages are given in Table 2.

Table 2
Crosstabulations of Involvement in Fights This Year and TV and Video Game Habits

| Item 35. Have you been involved in fights this year? | | | | | | |
|--|--------------------|-------|------------------------|-------|----------|-----|
| | Involved in fights | | Not Involved in fights | | Total | |
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| Item 17. Do you watch MTV?* | | | | | | |
| Yes | 96 | 40.17 | 143 | 59.83 | 239 | 100 |
| No | 59 | 24.08 | 186 | 75.92 | 245 | 100 |
| Item 22. Do you play video games?*** | | | | | | |
| Yes | 139 | 33.82 | 66 | 66.18 | 411 | 100 |
| No | 20 | 22.99 | 67 | 77.01 | 87 | 100 |
| Item 27. Do you watch videotaped movies? | | | | | | |
| Yes | 144 | 31.79 | 309 | 68.21 | 453 | 100 |
| No | 12 | 32.43 | 25 | 67.57 | 37 | 100 |
| Item 29. Do you watch wrestling on TV?**** | | | | | | |
| Yes | 87 | 50.29 | 86 | 49.71 | 173 | 100 |
| No | 69 | 21.97 | 245 | 78.03 | 314 | 100 |

* $\chi^2 = 14.38$; $df = 1$; $p < .001$

** $\chi^2 = 3.88$; $df = 1$; $p < .05$

*** $\chi^2 = 41.074$; $df = 1$; $p < .001$

Having been involved in at least one fight during the past year was significantly related to whether the students watched Music Television, played video games, or watched wrestling on television.

DISCUSSION

The purpose of this study was to examine media viewing and measures of hostility in adolescents as well as their views about school violence. Furthermore, because discussions about children's exposure to television violence have become part of the current public health agenda, we were also concerned with the context of media viewing.

Few studies have directly questioned adolescents about their hostility and systematically examined conceptual aspects of anger among adolescents. In our study, we followed R. Williams and V. Williams (1993) in defining cynicism as a mistrusting attitude of others' motives, anger as an emotional reaction to the expectation of others' unacceptable behavior, and aggression as the behavioral tendency to react aggressively to others' unacceptable behaviors. All three of these factors are components of hostility. A hostile person, then, is a cynical person who mistrusts the actions of others, tends to become angry when perceiving others' behaviors as unacceptable, and is moved toward aggressive behavior when taking action against the perceived unacceptable behaviors of others.

Our study supported the findings of others that hostility among adolescents is predominantly a male trait. Boys in our sample scored higher on all three hostility components than did girls. We also found that most of our adolescents engaged in video game playing. Among this group of youngsters, scores on the anger component increased with number of hours played. We found it interesting that about a third of those students reporting that they regularly played video games also reported having been involved in fights at school. Video game playing for some adolescents may be a way of handling stress. However, excessive amounts of game play has the potential of negatively affecting psychological health and increasing aggressive behavior. Studies have found that more aggressive children watch more television, prefer and play more violent video games and perceive media violence as more real than less aggressive youngsters (*America the Violent*, 1995).

We found greater amounts of cynicism among those students who watched Music Television. Also, scores on the anger component increased with number of Music Television hours watched per day and per week. A surprising 40% of students who reported watching Music Television also reported having been involved in fights as compared to those who did not watch Music Television. L. Trostle (1986) noted that rock music videos feature many themes but none more obtrusive than that of adolescent defiance of freedom-curtailling impositions by persons or institutions in power. The lyrical, musical expression and vivid imagery of protest and defiance may be related to the higher degree of cynicism among adolescent viewers in our study. A content analysis of Music Television provides further evidence that video aggression is usually perpetrated by older adults whereas adolescents tend to be portrayed as victims who heroically stand up against their oppressors (L. Trostle, 1986).

One-half of the students (all males) in our sample who reported that they routinely watched wrestling on TV also reported having been involved in school fights. Their scores on the aggression component were higher than those for students who did not watch wrestling. Research examining gender as a possible intervening variable in the process of violent television effects suggests that girls have less preference for violent television programs than boys and they are frightened by it more easily and they express less approval of it (I. Van Evra, 1990). The absence of ag-

gressive female models for identification and imitation in television, video and computer games, and girls' early socialization into normative female behaviors and tastes are offered as possible explanations for these differences. Our findings support previous research that males are more susceptible to aggressive male models and to violence which legitimize the masculine world view of "the toughest guy wins" (D. Sabo, S. Jansen, 1990).

In our study, students from one- and two-parent homes did not differ in terms of their Hostility scores. Other studies have found conflicting findings in this area (R. Matsueda, K. Heimer, 1987). G. Selnow (1987) has suggested that parent/child relationships may be more important than the actual number of parents who live at the home with the child.

In our study nearly 90 percent of the students reported that they watched movie videos at home. Furthermore, their scores on the Anger component of the hostility scale tended to increase in proportion to their frequency of viewing. C. Hansen and R. Hansen (1990) have reported that "visual violence", that includes graphic physical abuse scenes, viewed in rock music videos affects anger as well as six other emotional states.

On the basis of social support theory we hypothesized that participation in sports or extracurricular activities would result in lower hostility scores. Our failure to confirm this relationship might have been due to inadequacies in our instruments. More focused research in the area of physical education suggests that participation in athletics improves the general well-being of adolescents (L. Davis, R. Kathryn, 1994).

Our main interest concerned violence in school. Accordingly, we included in our survey questions concerning school fighting, threatening behavior (with and without weapons), and perceptions of safety in school and in the community. We found it interesting that students who had been threatened had higher scores on the anger component. We also specifically asked students, "What worries you most during the school day?" Nearly two-thirds responded that getting good grades concerned them most, while worries over physical appearance, being liked by other students, and family problems were rated lower in importance. Only eight percent indicated that school violence was a major concern. These findings were not surprising since the incidence of violence in rural West North Carolina schools is appreciably lower than that reported in larger urban areas of the state. In general, scores on the anger component tended to be higher among students who worried most about physical appearance and grades, and lower among students who worried most about family problems and violence.

Our findings tend to support the hypothesis that viewing emotion-eliciting media has the capacity to provoke a variety of psychological patterns as measured by the hostility survey. An escalation of video game playing, Music Television viewing, and other factors may contribute to hostility and fighting in school. Future studies should examine the predictive validity of the hostility questionnaire in rela-

tion to media viewing and school violence. Hostility continues to be a complex concept with a variety of determinants. Learning to acknowledge and manage hostility, as taught in K-12 violence education curriculums, is recommended to help prevent violent behavior. The challenge for adults who influence adolescents is to encourage them in the life-long process of learning to manage their hostility.

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