

Television viewing and aggressive behavior during adolescence

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Abstract

Introduction: Children spend a lot of time watching television and a great deal of what they see portrays violence. Time spent watching television during preschool years has been found to predict antisocial behavior at ages 6 to 11 years and viewing time in adolescence and early adulthood has been shown to be associated with subsequent aggression. **Material and methods:** We assessed 300 adolescent boys and girls of urban slum area, Bhopal of age 10-14 years with regression analysis to investigate the association between television viewing hours and criminal convictions and aggressive personality trait. **Results:** Adolescence who had spent more time watching television was significantly more likely to have a criminal conviction. The associations were statistically significant after controlling for sex, IQ, socioeconomic status, previous antisocial behavior and parental control. **Conclusion:** More time spent watching television in childhood and adolescence is associated with antisocial behavior in early adulthood. We believe that identifying ways to reduce children's and adolescents' television viewing should be considered a priority for public health.

Keywords: Television, aggressive behavior, adolescence.

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Introduction

Children spend a lot of time watching television and a great deal of what they see portrays violence [1]. Time spent watching television during preschool years has been found to predict antisocial behavior at ages 6 to 11 years [2] and viewing time in adolescence and early adulthood has been shown to be associated with subsequent aggression [3].

Much of the media directed at children contains violent content. While media violence exposure may have short-term effects on adults, its negative impact on children is enduring. Most of the study suggests, early exposure to television watching places both male and female children at risk for the development of aggressive and violent behavior in adulthood. Hence we plan this study to investigate whether excessive television viewing in adolescence is associated with antisocial behavior.

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Material & Methods

Study design: Present descriptive cross-sectional study.

Study place: It was conducted in the field practice area Gandhi Nagar Community Health Center, Bhopal.

Study duration: between August 2015 and January 2016.

Sample size: A sample size of 297 early adolescent were calculated using formula $Z^2P(1-P)/d^2$, where prevalence of 25% was taken from the pilot study in the same setting, α was taken as 5% and relative precision as 20%, thus a total of 300 adolescent were included in the study sample.

Procedure: House to house survey was carried out and one adolescent per house was selected, house having no adolescent were skipped and house having more than one adolescent, the eldest was selected. The survey was continued until the desired sample size was achieved. Verbal Informed consent was taken from the study subject before the collection of data. Interviews were

conducted which included questionnaires that assessed a wide range of aggressive acts.

Ethical clearance and consent: Permission from the institutional ethical committee was sought and written informed consent was obtained for each assessment.

Television Viewing: Parents and youth were asked how much time Study members spent watching weekday television. They were asked how long they usually watched television on weekdays and at weekends. Our summary variable was adolescent viewing calculated as the mean viewing hours per day.

Youths and their mothers were interviewed separately by extensively trained and supervised lay interviewers who were blind to the responses of the other informant. If there was a difference between the information of the two respondents with regard to television viewing, the response with more hours of television viewing was considered.

The parent and youth versions of the Diagnostic Interview Schedule for Children (DISC-I) [4] were administered to assess offspring psychiatric disorders and aggressive or criminal behavior. Aggressive acts and psychiatric symptoms were considered present if reported by either informant. The reliability and validity of the DISC-I as used in the present study are comparable to those of other structured interviews [5,6].

Outcome Measures: Violent convictions included aggravated robbery, manslaughter, assault with intent to injure, rape, using an attack dog on a person, and disorderly behavior likely to cause violence [5].

Antisocial personality disorder was assessed by using the Diagnostic Interview Schedule, which was modified in the following ways: (1) questions were limited to the assessment of Diagnostic and Statistical Manual of Mental Disorders Third Edition-Revised criteria only; (2) only symptoms occurring in the previous 12 months were assessed; (3) only the most commonly occurring

disorders were assessed; and (4) response options were limited to “0 = no,” “1 = yes, sometimes,” or “2 = yes, definitely.” Only responses receiving a “2 = yes definitely” were counted toward diagnostic criteria [6].

Covariates: SES of the Study members’ families was measured by using parental self-reported occupational status. Each parent was assigned an occupational code (from 1 [professional] to 6 [unskilled laborer]) based on the educational level and income associated with that occupation.

Low family income was defined as mean income below the Indian Poverty Level. Low parental education was defined as less than a high school education for either parent. Verbal intelligence (IQ) was assessed by using a picture-vocabulary test [7].

IQ scores were averaged, and scores below 90 were considered to be low. Childhood neglect was assessed and from the maternal interviews [8]. Additional items in the study protocol assessed neighborhood characteristics, peer aggression, and school violence[9].

Statistical Analyses: Logistic regression was used to test associations between adolescent and television viewing and subsequent convictions and antisocial personality disorder. Linear regression was used to examine the relationship between adolescent and television viewing and Aggression.

We checked linear regression models by visual inspection of the residuals to ensure that they were randomly scattered versus the fitted values. Analyses using the total sample were adjusted for sex. Additional analyses were adjusted for childhood SES, childhood IQ, under controlled temperament, parent and teacher ratings of antisocial behavior.

Initial analyses used mean weeknight television viewing time as a continuous variable. Additional analyses divided the viewing time into categories of <1 hours, 1 to 3 hours, and >3 hours.

Results

There were a total of 300 families with a child (51% male and 49% females) between the ages of 10 and 14 years. These families generally represented families in the low socioeconomic status and out of total 300 families; there were 54% Hindus and 46% Muslims. There were significant associations between television viewing during adolescence and

subsequent aggressive acts against other persons after the covariates that were significantly associated with television viewing and aggressive behavior were controlled statistically (**Table 1**).

Television viewing at mean age 14 remained significantly associated with aggressive act against another person after controlling for prior and subsequent television viewing. Television viewing at mean age 14 was not associated with risk for property crimes, including arson, vandalism or theft.

Time spent watching television during early adolescence was associated with risk for subsequent aggressive acts among youths with and without a history of aggressive behavior (**Fig. 1**).

The statistical interactions of television viewing with sex and previous aggression were not significantly associated with subsequent aggressive behavior.

Table 1: Television viewing at mean age 14 and aggressive acts reported at mean age 14.
(*n* = 300).

Aggressive acts reported at mean age 14	Television viewing at mean age 14		
	<1 hour/day % (<i>n</i>)	1 to 3 hours/day % (<i>n</i>)	3 hours/day % (<i>n</i>)
Assault or physical fights resulting in injury	5 (5 of 100)*	18(18 of 100)	25 (25 of 100)
Males	6(3 of 50)*	28(14 of 50)	36(18 of 50)
Females	4(2 of 50)	8(4 of 50)	14 (7 of 50)
Robbery, threats to injure someone, or weapon used to commit a crime	6(3 of 100)*	30(30 of 100)	20 (20 of 100)
Males	6(3 of 50)	40(20of 50)	06 (03 of 50)
Females	0 (0 of 50)	20 (10 of 50)	14 (07of 50)
Any aggressive act against another person	5(5 of 100)*	25 (25of 100)	30 (30of 100)
Males	3 (3 of 50)*	40 (20 of 50)	44 (22 of 50)
Females	2(2 of 50)	10 (5 of 50)	16 (08of 50)

Discussion

The present findings indicate that extensive television viewing by adolescents and young adults is associated with an increased likelihood of committing aggressive acts against others.

Our findings suggest that this association is only partially attributable to environmental characteristics that are associated with both television viewing and aggressive behavior. These findings are also consistent with the hypothesis that extensive television viewing partially mediates, or helps to explain the association between certain

environmental risks and subsequent aggressive behavior [10].

Children who spent more time watching television also had lower Positive Emotionality as adults. These associations persisted after controlling for sex SES, IQ,

early antisocial behavior, and parental control. The associations between television viewing and subsequent antisocial behavior were similar for boys and girls, even

though antisocial outcomes were less common in women.

There are a number of plausible mechanisms that could explain a long-term effect of television viewing on antisocial behavior.

These include observational learning theory (whereby what is seen is imitated and internalized), emotional desensitization, and the development of aggressive normative beliefs and cognitive biases in response to repeated exposure to violence [11,12].

A limitation of our study is that we do not know what programs were viewed and therefore cannot be certain that it is viewing violence that contributes to antisocial behavior.

The American Academy of Pediatrics recommends that parents limit children's total entertainment media time to no more than 1 to 2 hours of quality programming per day [13].

Our findings provide support for this recommendation: we found that each additional hour of weekday television viewing increased the odds for antisocial outcomes.

Conclusion

More time spent watching television in childhood and adolescence is associated with antisocial behavior in early adulthood.

These associations were not explained by preexisting antisocial behavioral problems, lack of parental control, socioeconomic background, or IQ.

We believe that identifying ways to reduce children's and adolescent's television viewing should be considered a priority for public health.

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