

Behavioral Correlates of Television Viewing in Young Adolescents in Turkey

ELIF N ÖZMERT, TOLGA İNCE, AYHAN PEKTAS, RAMAZAN ÖZDEMİR
AND YASEMIN ÜÇKARDES*

From Hacettepe University Faculty of Medicine, Department of Pediatrics; and *Baskent University Faculty of Medicine, Department of Pediatrics, Ankara, Turkey.

Correspondence to:
Elif N Özmert, Professor in
Pediatrics, Hacettepe University
Faculty of Medicine,
Department of Pediatrics,
Social Pediatrics Unit, 06100,
Sihhiye, Ankara, Turkey.
nozmert@hacettepe.edu.tr
Received: March 03, 2010;
Initial review: April 23, 2010;
Accepted: June 21, 2010.

We evaluated the behavioral effects of television (TV) viewing in 860 young adolescents as reported by parents ($n=581$) on Child Behavior Checklist (CBCL). The mean duration of TV viewing was 2.32 ± 1.77 hours/day according to parents and 2.08 ± 1.41 hours/day according to self report ($r=0.37$, $P<0.0001$). The linear regression analysis revealed a statistically significant relation between socioeconomic status ($P=0.019$) and aggressive behavior score of CBCL ($P=0.016$) and parent reported TV viewing hours. Self reported TV viewing for more than 2 hours was significantly associated with social problem score (OR 1.17; 95% CI: 1.016-1.349; $P=0.030$) and having a TV in bedroom (OR: 1.706; 95% CI: 1.065-2.731, $P=0.026$).

Key words: Adolescent, Behavior, Television, Turkey.

Published online 2010 November 30. PII: S097475591000184-2

Television viewing is associated with psychosocial health problems including stereotypical cultivation [1]; diminished school achievement [2,3]; behavioral problems, especially aggression or violent behavior [2,4-6] and, sleep disturbances [7]. We conducted this study to evaluate the behavioral effects of TV viewing in young Turkish adolescents.

METHODS

The subjects were all the 7th and 8th grade students of two randomly selected primary schools (5 hours/day education), one from low socioeconomic status (SES) and other from high SES district. The study was approved by Hacettepe University Institute of Child Health, and Ministry of Education. After verbal informed consent, parents and adolescents filled out a questionnaire. A good correlation has already been demonstrated ($r=0.6$) between diary and questionnaire reported TV viewing durations [6]. Parents also filled out the Child Behavior Checklist (CBCL). The

CBCL has strong psychometric properties [8] and has been adapted for Turkish children [9]. It consists of competency (school achievement, social and activity scale) and problem scores (somatic complaint, withdrawn, anxious/depressed, social problem, thought problem, attention problem, delinquent behavior, aggressive behavior, and sex problem scale). Scores from all these problem scales constitute the total problem score; anxious/depressed and withdrawn scores constitute internalizing; delinquent behavior and aggressive behavior scores constitute externalizing scores. The raw scores were used for the analysis. The data were analyzed by the student's *t*-test, Pearson correlation test, one-way analysis of variance and multivariate analysis.

RESULTS

The parents of 581 students (67.5% of all students), 331 from low, and 250 from high SES district (332 female, 249 male) answered the questionnaire and the CBCL. The self-questionnaire was answered by 462

TABLE I DAILY TELEVISION VIEWING DURATIONS (MEAN±SD) ACCORDING TO QUESTIONNAIRES

(Hour/d)	Parent reported (n=581)	Self reported (n=860)	Correlation coefficient*
Weekday	2.18±1.99	2.02±1.58	0.35
Weekend	2.66±2.16	2.23±1.71	0.30
Mean	2.32±1.77	2.08±1.41	0.37

* $P < 0.0001$ for all categories.

and 398 low and high SES district students, respectively (440 female, 420 male). The mean ± SD age of the students was 13.5 ± 0.7 (12-16 years).

The daily television viewing durations are shown in **Table I**. The mean CBCL scores are shown in **Table II**. A positive correlation was observed between parent reported TV viewing durations and aggressive behavior ($r=0.11$, $P=0.012$), externalization ($r=0.10$, $P=0.023$) and sex problem ($r=0.087$, $P=0.049$) scores.

Adolescents watching TV for more than 4 hours per day ($n=62$) had significantly higher attention problem (5.12 ± 3.55 vs 4.14 ± 3.23 ; $P=0.024$), aggressive behavior (8.05 ± 5.56 vs 6.28 ± 5.35 ; $P=0.015$), externalization (9.17 ± 6.53 vs 7.34 ± 6.36 ; $P=0.034$) and sex problem (0.20 ± 0.64 vs 0.11 ± 0.41 , $P=0.004$) scores. Sex problems score was significantly higher in children watching TV for more than 2 hours ($n=226$) compared to those watching less ($n=290$) (0.14 ± 0.49 vs 0.10 ± 0.39 , $P=0.038$).

According to self reported TV viewing durations, a difference for sex problems score was reported both for those watching TV more than 4 hours ($n=475$) or less ($n=39$) (0.26 ± 0.75 vs 0.11 ± 0.41 , $P < 0.0001$) and 2 hours ($n=204$) or less ($n=308$) (0.16 ± 0.54 vs 0.09 ± 0.31 , $P < 0.0001$). Children watching TV longer than 2 hours had a slightly higher social problem score (1.87 ± 1.87 vs 1.56 ± 1.68 ; $P=0.053$, respectively) compared to those watching less.

Gender, SES, age, having TV in bedroom, maternal education, paternal education, attention problems, aggressive behavior, delinquent behavior, sex problem and social problem scores were included to the multivariate analysis model. The linear

TABLE II MEAN CHILD BEHAVIOR CHECKLIST (CBCL) SCORES (N=581)

CBCL Scale	CBCL Score
Activity	9.21 ± 3.12
Social	10.98 ± 2.17**,**
School achievement	8.45 ± 1.16*.,**,\$
Total competence	27.93 ± 5.43*†
Withdrawn	3.12 ± 2.89*.,†,\$
Somatic complaints	2.17 ± 2.31**,\$
Depression and anxiety	5.93 ± 4.61**,\$
Internalization	11.23 ± 8.39**,\$,†
Social problems	1.64 ± 1.76
Thought problems	1.30 ± 1.48**
Attention problems	4.36 ± 3.37
Delinquent behavior	1.11 ± 1.64**
Aggressive behavior	6.65 ± 5.59
Externalization	7.78 ± 6.69
Sex problem	0.126 ± 0.45
Total problem	26.01 ± 18.37\$

$P < 0.05$ for *socioeconomic status, **gender, †maternal education, and \$paternal education.

regression analysis for family reported TV viewing hours revealed significance for socio-economic status ($P=0.019$) and aggressive problem score ($P=0.016$).

Binary logistic analysis for self reported TV viewing for more than 2 hours was associated significantly with social problem score (OR 1.17, 95 % CI 1.016-1.349; $P=0.030$) and having a TV in bedroom (OR 1.706, 95% CI: 1.065-2.731, $P=0.026$).

DISCUSSION

We observed a moderate correlation between parent and self reported television viewing durations. Parent reported durations were found to correlate with aggressive behavior, sex problem and externalization scores. Attention problem, aggressive behavior, externalization and sex problem scores differed significantly according to parent reported TV viewing durations. According to self report, a difference was found for sex problem and social problem subscale scores of CBCL.

In a recent study, it was found that, the relationship between television viewing and adolescent sexual experiences depends on the type of

WHAT THIS STUDY ADDS?

- TV viewing durations are associated with low socioeconomic status, having a TV in bedroom, aggressive behavior and social problems in young adolescents in Turkey.

sexual message viewed [10]. It has also been demonstrated that watching sex on television both hastens and predicts adolescent sexual behavior initiation [11]. The effect of television viewing on sexual behavior was also demonstrated independent of the program content. Among adolescents who reported strong parental disapproval of sex, watching television for 2 hours or more per day and lack of parental regulation of television programming increased the risk of initiating sexual intercourse [12]. In our study, the content of the programs were not analyzed, but sexuality and violence are as prevalent in Turkish television as in most other countries. The parental approval of sex was also not questioned. In Turkey, sex is mostly disapproved before marriage. Increased sex problems score could also be related to the developmental characteristics of adolescents.

Recently it has been shown that frequent television viewing during adolescence might increase the risk of attention problems and learning difficulties in the future years [3]. Although, an increased risk of attention problems with increased television viewing was found in our univariate analysis, this did not persist in multivariate analysis.

There are several studies about the effects of television viewing and aggressive behavior. Most of these have found association between viewing violent programs and aggressive behavior [5,13]. There are also studies demonstrating the effect of only prolonged viewing of television and aggressive behavior [14].

Contributors: ENO: study design, statistical analysis, manuscript writing; TI: Statistical analysis; AP and RO: data collection; and YU: data collection and manuscript revision.

Funding: None.

Competing interests: None stated.

REFERENCES

1. Signorielli N. Children, television and gender roles: messages and impact. *J Adolesc Health Care.* 1990;11:50-8.
2. Baron ME. The effects of television on child health: implications and recommendations. *Arch Dis Child.* 2000;83:289-92.
3. Johnson JG, Cohen P, Kasen S, Brook JS. Extensive television viewing and the development of attention and learning difficulties during adolescence. *Arch Pediatr Adolesc Med.* 2007;161:480-6.
4. Paik H, Comstock G. The effects of television violence on antisocial behavior; a meta-analysis. *Commun Res.* 1994; 21:516-46.
5. Huesmann LR, Moise-Titus J, Podolski CL, Eron LD. Longitudinal relations between children's exposure to TV violence and their aggressive and violent behavior in young adulthood: 1977-1992. *Dev Psychol.* 2003;39: 201-21.
6. Johnson JG, Cohen P, Kasen S, First M, Brook JS. Association between television viewing and sleep problems during adolescence and early adulthood. *Arch Pediatr Adolesc Med.* 2004;158:562-8.
7. Özmert E, Toyran M, Yurdakök K. Behavioral correlates of television viewing in primary school children evaluated by Child Behavior Checklist. *Arch Pediatr Adolesc Med.* 2002;156:910-4.
8. Achenbach TM. Manual for Child Behavior Checklist/4-18 and 1991 Profile. Burlington: University of Vermont, Department of Psychiatry. 1991.
9. Erol N, Arslan BL, Akçakın M. The adaptation and standardization of Child Behavior Checklist among 6-18 year old Turkish children. *In: Surgeant J, ed. Eunethydis: European Approaches to Hyperkinetic Disorders.* Zurich, Switzerland: Fotoratar; 1995:97-113.
10. Tolman DL, Kim JL, Schooler D, Sorsoli CL. Rethinking the association between television viewing and adolescent sexuality development: Bringing gender into focus. *J Adolesc Health.* 2007;40:84e9-6.
11. Collins RL, Eliot MN, Berry SH, Kanouse DE, Kunkel D, Hunter SB, *et al.* Watching sex on television predicts adolescent initiation of sexual behavior. *Pediatrics.* 2004;114:280-9.
12. Ashby SL, Arcari CM, Edmonson B. Television viewing and risk of sexual initiation by young adolescents. *Arch Pediatr Adolesc Med.* 2006;160:375-80.
13. Browne KD, Hamilton-Giachritsis C. The influence of violent media on children and adolescents: a public-health approach. *Lancet.* 2005;365:702-10.
14. Kuntsche E, Pickett W, Overpeck M, Craig W, Boyce W, Gaspar de Matos M. Television viewing and forms of bullying among adolescents from eight countries. *J Adolesc Health.* 2006;39:908-15.