



POLICY STATEMENT

Media Use by Children Younger Than 2 Years

abstract

FREE

In 1999, the American Academy of Pediatrics (AAP) issued a policy statement addressing media use in children. The purpose of that statement was to educate parents about the effects that media—both the amount and the content—may have on children. In one part of that statement, the AAP recommended that “pediatricians should urge parents to avoid television viewing for children under the age of two years.” The wording of the policy specifically *discouraged* media use in this age group, although it is frequently misquoted by media outlets as *no* media exposure in this age group. The AAP believed that there were significantly more potential negative effects of media than positive ones for this age group and, thus, advised families to thoughtfully consider media use for infants. This policy statement reaffirms the 1999 statement with respect to media use in infants and children younger than 2 years and provides updated research findings to support it. This statement addresses (1) the lack of evidence supporting educational or developmental benefits for media use by children younger than 2 years, (2) the potential adverse health and developmental effects of media use by children younger than 2 years, and (3) adverse effects of parental media use (background media) on children younger than 2 years. *Pediatrics* 2011;128:1040–1045

INTRODUCTION

From built-in DVD players in minivans to smart cell phone technology, today’s children have more access to electronic media than those of any previous generation. As predicted in the 1999 American Academy of Pediatrics (AAP) policy statement,¹ industry has also targeted those in the 0- to 2-year age group (and their parents) as key consumers of electronic media. Educational DVDs/videos, television programs, and even entire cable networks are geared toward this age group.

Currently, 90% of parents report that their children younger than 2 years watch some form of electronic media.² By 3 years, almost one-third of children have a television in their bedroom.³ Parents report that they view television as a peacekeeper and a safe activity for their children while they are preparing dinner, getting ready for work, or doing household chores.³ Many parents report feeling better knowing that the programming their children watch has been described as educational. Parents who believe that educational television is “very important for healthy development” are twice as likely to have the television on all or most of the time.⁴

Some children are watching television programs or recorded programs (DVDs/videos) intended for their viewing, termed “foreground

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KEY WORDS

media, development, infants, young children, television, screen time

ABBREVIATION

AAP—American Academy of Pediatrics

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media.” Others are exposed to programs intended for adults, termed “background media,” because the television is on while they are present in the room. Some children are exposed to 4 hours or more of televised programs per day. Other children may be watching a 30-minute DVD while a parent is just taking a shower or preparing dinner. Some children are watching shows with parents or siblings, and some are watching alone. On average, children younger than 2 years watch televised programs 1 to 2 hours/day.² Fourteen percent of children aged 6 to 23 months watch 2 or more hours/day of media.³

Some media industry executives claim that educational media programs are meant to be watched by both the parent and the child to facilitate social interactions and the learning process.⁵ However, it is not clear whether this happens in the real world. In fact, it seems that audible television is associated with decreased parent-child interactions.⁶ Although a leading survey of family media use has reported that 40% of parents watch with their child all the time and 28% watch with their child most of the time, parents also report that they avoid co-viewing because their child’s media time provides an opportunity for them to do other things.³

Although there is equal access to media among children of different socioeconomic groups, the amount of media consumption is unequal. Children who live in homes with lower socioeconomic status and children with single mothers or mothers with less than a high school education are spending more time in front of a screen on a daily basis.^{3,7} Another study found no association between family income and early childhood media use but did find a relationship between lower parental education and higher levels of media use in early childhood.⁸

This revised policy statement addresses the past 10 years of research on the effect of media on young children, clarifies the rationale for the position of the AAP on media use by children younger than 2 years, and provides updated recommendations for families, clinicians, and researchers. For the purposes of this policy statement, the term “media” refers to television programs, prerecorded videos, Web-based programming, and DVDs viewed on either traditional or new screen technologies.

LOST IN TRANSLATION: CAN CHILDREN LEARN FROM MEDIA?

Research has found that certain high-quality programs have educational benefits for children older than 2 years. Children who watch these programs have improved social skills, language skills, and even school readiness.⁹ However, the educational merit of media for children younger than 2 years remains unproven despite the fact that three-quarters of the top-selling infant videos make explicit or implicit educational claims.⁵ To be beneficial, children need to understand the content of programs and pay attention to it. Children older than 2 years and those younger than 2 years are at different levels of cognitive development and process information differently.¹⁰ In fact, 2 studies have found that watching a program such as “Sesame Street” has a negative effect on language for children younger than 2 years,^{11,12} and 2 studies have found no evidence of benefit.^{13,14} There is a paucity of research on this topic, but the existing literature suggests that media use does not promote language skills in this age group.

Young children have difficulty discriminating between events on a video and the same information presented by a live person, which is referred to as “video deficit.”^{15–17} Children 12 to 18

months of age are more likely to learn from a live presentation than from a televised one and are also more likely to remember the information from a live presentation afterward.¹⁸ These studies have only been performed on noncommercial videos. Some studies have found that children 1 to 2 years of age can remember an event on video if the screen demonstration repeats several times.¹⁹ Two studies have shown that infants as young as 12 months learn emotional responses after media viewing.^{20,21} One longitudinal study performed has thus far found that children younger than 2 years who watch television have no statistical improvement in their cognitive development compared with their nonviewing peers by 3 years of age.²²

Children aged 12 months and younger do not follow sequential screen shots or a program’s dialogue.^{23,24} Other research has found that children younger than 18 months do not pay much attention to televised programs.²⁵ However, there are significant individual differences in attention to and interest in television in this age group that depend on content, setting, and whether a parent is watching with the child.²⁶ A developmental shift in attention to televised programs occurs between 1.5 and 2.5 years of age.^{24,25}

Children progress through developmental milestones on a continuum. Where each individual child is on that continuum determines what that child is capable of learning from a televised program. Some 18- to 24-month-olds might be capable of learning from media, but others might not. Other variables that influence a child’s ability to learn are the content of the program, the amount of television watched, and whether a parent is watching with the child.^{13,27}

Despite the explicit or implicit marketing claims of educational programs for infants, whether they are actually

learning something from these programs is questionable. More research is needed to determine if early television exposure has any long-term effects on learning.

SECONDHAND TELEVISION: FOREGROUND VERSUS BACKGROUND MEDIA

Many families have reported that they have a television on at least 6 hours/day or that a television is “always on” as background noise.²⁸ Thirty-nine percent of families with infants and young children have a television on constantly.²⁹ When a parent has an adult television program on, children are often in the room; 61% are there at least some of the time, including 29% who are there all or most of the time.³

Young children may not be paying close attention to a televised program that they cannot understand, but their parents are watching. It might be background media to the child, but it is foreground media to the parent. It distracts the parent and decreases parent-child interaction.^{30,31} Infant vocabulary growth is directly related to the amount of “talk time” or the amount of time parents spend speaking to them.³² Heavy television use in a household can interfere with a child’s language development simply because parents likely spend less time talking to the child.³³

Even if the program is not intended for the child to watch, research has found that children play and interact less with adults when a television is on, perhaps because the adult’s attention is focused on the television program. A study that examined 12-, 24-, and 36-month-olds found that background television not only reduced the length of time that a child played but also that it reduced the child’s focused attention during play.³⁴ Children stop to look at a televised program, halt their ongoing play, and move on to a different activity

after the interruption.³⁴ Although most research has been performed on adolescents, study results suggest that background media might interfere with cognitive processing, memory, and reading comprehension.^{4,34–36} Only 1 research study, conducted in 1996, resulted in evidence to the contrary. In that study, 10-month-old infants tuned out surrounding noise and concentrated more during play.³⁷

Background television has the direct effect of distracting a child and the indirect effect of taking a parent’s attention away from the child. In addition, parents’ media diet influences the media habits of their children.³

A GOOD USE OF TIME?

Children younger than 5 years who watch television spend less time in creative play and less time interacting with parents or siblings.³⁸ For every hour of television that a child younger than 2 years watches alone, he or she spends an additional 52 minutes less time per day interacting with a parent or sibling. For every hour of television, there is 9% less time on weekdays and 11% less time on weekends spent in creative play for a child younger than 2 years.

Does television displace more developmentally valuable playtime? No research exists at this point to know whether a child would find better things to do with his or her time if all screens were turned off, although evidence suggests that the child would hear more adult speech and talk more.⁶ Heavy media use is defined as the television being on always or most of the time. Heavy media use may be a sign of parenting style, so one cannot assume that parents will spend developmentally nurturing time with their child with the television off.³⁸

Heavy media use in a household does not seem to affect the amount of time a child of any age plays outside.⁴ How-

ever, children who live in households with heavy media use spend between 25% (for 3- to 4-year-olds) and 38% (for 5- to 6-year-olds) less time being read to or reading.^{3,4} These children have a lower likelihood of being able to read compared with their peers from households with low media use.⁴ What is known is that unstructured playtime is critical to learning problem-solving skills and fostering creativity.³⁹

HEALTH CONSEQUENCES

Media use has been associated with obesity, sleep issues, aggressive behaviors, and attention issues in preschool- and school-aged children.^{1,40} Studies are lacking on the health effects in children younger than 2 years. One area of concern, however, is media’s effect on sleep. Television is part of the bedtime routine for many children. In 1 survey, 19% of parents of children younger than 1 year reported that their children have a television in their bedrooms. Twenty-nine percent of children 2 to 3 years of age have a television in their bedroom, and 30% of parents have reported that watching a television program enabled their children to fall asleep.³ Although parents perceive a televised program to be a calming sleep aid, some programs actually increase bedtime resistance, delay the onset of sleep, cause anxiety about falling asleep, and shorten sleep duration.⁴¹ Specifically, in children younger than 3 years, television viewing is associated with irregular sleep schedules.⁴² Poor sleep habits have adverse effects on mood, behavior, and learning. Although the effects of media on infants’ cognitive and emotional development are still being explored, there are ample reasons to be concerned.

DEVELOPMENTAL CONSEQUENCES

Since 1999, 3 studies have evaluated the effects of heavy television use on language development in children 8 to

16 months of age. In the short-term, children younger than 2 years who watch more television or videos have expressive language delays,^{12,43,44} and children younger than 1 year with heavy television viewing who are watching alone have a significantly higher chance of having a language delay.⁴⁴ Although the long-term effects on language skills remain unknown, the evidence of short-term effects is concerning.

Two studies have examined infant media use and subsequent attention problems in school-aged children.^{45,46} One of these studies found that the effects of television watching on infants' attention span varied with the content of the programming.

Research findings to date might suggest a correlation between television viewing and developmental problems, but they cannot show causality. Are infants with poor language skills placed in front of the television more? Are infants with shorter attention spans more attracted to screens? Does media exposure contribute to a delay in social or communication skills and diminished attentional capacity? Because these questions remain unanswered, more research is needed.

CONCLUSIONS AND RECOMMENDATIONS

This updated policy statement provides further evidence that media—both foreground and background—have potentially negative effects and no known positive effects for children younger than 2 years. Thus, the AAP reaffirms its recommendation to discourage media use in this age group. This statement also discourages the use of background television intended for adults when a young child is in the room. Although infant/toddler programming might be entertaining, it should not be marketed as or presumed by parents to be educational.

No longitudinal study has determined the long-term effects of media use on infants and children younger than 2 years. The AAP supports research to understand the consequences of early electronic media exposure.

Recommendations for Pediatricians

1. The AAP discourages media use by children younger than 2 years. Pediatricians should discuss these recommendations with parents.
2. The concept of setting “media limits” before 2 years of age should be discussed at health maintenance/well-child visits, because many parents are not aware of the AAP recommendations. It is important to set limits and create balance at an early age. Only 15% of parents report that their pediatrician discusses media use with them.³ Families should be encouraged to provide supervised independent play for infants and young children during times at which a parent cannot sit down and engage in play with the child. Simply having a young child play with nesting cups on the kitchen floor while a parent prepares dinner is useful playtime.
3. Pediatricians should explain to parents the importance of unstructured, unplugged play in allowing a child's mind to grow, problem-solve, think innovatively, and develop reasoning skills. Unstructured play occurs both independently and cooperatively with a parent or caregiver. The importance of parents sitting down to play with their children cannot be overstated.
4. Families should be strongly encouraged to sit down and read to their child to foster their child's cognitive and language development.

Recommendations for Parents

1. The AAP discourages media use by children younger than 2 years.
2. The AAP realizes that media exposure is a reality for many families in today's society. If parents choose to engage their young children with electronic media, they should have concrete strategies to manage it. Ideally, parents should review the content of what their child is watching and watch the program with their child.
3. Parents are discouraged from placing a television set in their child's bedroom.
4. Parents need to realize that their own media use can have a negative effect on their children. Television that is intended for adults and is on with a young child in the room is distracting for both the parent and the child.
5. Unstructured playtime is more valuable for the developing brain than any electronic media exposure. If a parent is not able to actively play with a child, that child should have solo playtime with an adult nearby. Even for infants as young as 4 months of age, solo play allows a child to think creatively, problem-solve, and accomplish tasks with minimal parent interaction. The parent can also learn something in the process of giving the child an opportunity to entertain himself or herself while remaining nearby.

Recommendations for Industry

1. Independent research should be performed to assess the educational claims made in advertising for infant media products.
2. The Federal Trade Commission should improve its standards for scientifically valid educational claims in product advertising.

Recommendations for Research

1. Researchers should conduct prospective, longitudinal studies to determine the long-term effects of early media exposure on children's future physical, mental, and social health.
2. The AAP supports the National Children's Study by the Eunice Kennedy Shriver National Institute of Child Health and Human Development to examine the effects of environmental influences on children.
3. The mission of the AAP is to attain optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young

adults. To this end, the AAP supports continued research to examine the influence of media in children's lives and will offer evidence-based guidance to its members and the public.

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REFERENCES

1. American Academy of Pediatrics, Committee on Public Education. Media education. *Pediatrics*. 1999;104(2 pt 1):341–343
2. Zimmerman FJ, Christakis DA, Meltzoff AN. Television and DVD/video viewing in children younger than 2 years. *Arch Pediatr Adolesc Med*. 2007;161(5):473–479
3. Rideout VJ, Hamel E. *The Media Family: Electronic Media in the Lives of Infants, Toddlers, Preschoolers, and Their Parents*. Menlo Park, CA: Kaiser Family Foundation; 2006
4. Vandewater EA, Bickham DS, Lee JH, Cummings HM, Wartella EA, Rideout VJ. When the television is always on: heavy television exposure and young children's development. *Am Behav Sci*. 2005;48(5):562–577
5. Garrison MM, Christakis DA. *A Teacher in the Living Room? Educational Media for Babies, Toddlers, and Preschoolers*. Menlo Park, CA: Kaiser Family Foundation; 2005
6. Christakis DA, Gilkerson J, Richards JA, et al. Audible TV is associated with decreased adult words, infant vocalization, and conversational turns: a population based study. *Arch Pediatr Adolesc Med*. 2009;163(6):554–558
7. Certain LK, Kahn RS. Prevalence, correlates, and trajectory of television viewing among infants and toddlers. *Pediatrics*. 2002;109(4):634–642
8. Anand S, Krosnick JA. Demographic predictors of media use among infants, toddlers, and preschoolers. *Am Behav Sci*. 2005;48(5):539–561
9. Anderson DR, Huston AC, Schmitt KL, Linebarger DL, Wright JC. Early childhood television viewing and adolescent behavior. *Monogr Soc Res Child Dev*. 2001;66(1):I–VIII, 1–147
10. Piaget J. *Origins of Intelligence in Children*. New York, NY: International Universities Press; 1952
11. Nelson K. Structure and strategy in learning to talk. *Monogr Soc Res Child Dev*. 1973;38(1–2):1–135
12. Linebarger DL, Walker D. Infants' and toddlers' television viewing and language outcomes. *Am Behav Sci*. 2005;48(5):624–645
13. Christakis DA. The effects of infant media usage: what do we know and what should we learn? *Acta Paediatr*. 2009;98(1):8–16
14. Robb MB, Richert RA, Wartella E. Just a talking book? Word learning from watching baby videos. *Br J Dev Psychol*. 2009;27(pt 11):27–45
15. Krcmar M, Grela B, Lin K. Can toddlers learn vocabulary from television? An experimental approach. *Media Psychol*. 2007;10:41–63
16. Muentener P, Price K. Transferring the representation: infants can imitate from television. Presented at: annual meeting of the Eastern Psychological Association; April 15–17, 2004; Washington, DC
17. Anderson DR, Pempek TA. Television and very young children. *Am Behav Sci*. 2005;48(5):505–522
18. Barr R, Hayne H. Developmental changes in imitation from television during infancy. *Child Dev*. 1999;70(5):1067–1081
19. Barr R, Muentener P, Garcia A, Fujimoto M, Chavez V. The effect of repetition on imitation from television during infancy. *Dev Psychobiol*. 2007;49(2):196–207
20. Mumme DL, Fernald A. The infant as onlooker: learning from emotional reactions observed in a television scenario. *Child Dev*. 2003;74(1):221–237
21. Diener M, Pierroutsakos S, Troseth GL, Roberts A. Video versus reality: infants' attention and affective responses to video and live presentations. *Media Psychol*. 2008;11(3):418–441
22. Schmidt ME, Rich M, Rifas-Shiman SL, Oken E, Taveras EM. Television viewing in infancy and child cognition at three years of age in a US cohort. *Pediatrics*. 2009;123(3). Available at: www.pediatrics.org/cgi/content/full/123/3/e370
23. Pempek TA, Kirkorian HL, Lund AF, Stevens M, Richards JE, Anderson DR. Infant responses to sequential and linguistic distortions of Teletubbies. Poster presented at: Biennial Meeting of the Society for Research in Child Development; March 27–April 1, 2007; Boston, MA
24. Richards JE, Cronise K. Extended visual fixation in the early preschool years: look duration, heart rate changes, and attentional inertia. *Child Dev*. 2000;71(3):602–620
25. Valkenburg PM, Vroone M. Developmental changes in infants' and toddlers' attention to television entertainment. *Commun Res*. 2004;31(3):288–311
26. Barr R, Zack E, Garcia A, Muentener P. Infants' attention and responsiveness to television increases with prior exposure and parental interaction. *Infancy*. 2008;13(1):30–56
27. Close R. *Television and Language Development in the Early Years: A Review of the Literature*. London, United Kingdom: National Literacy Trust; 2004

28. Roberts DF, Foehr UG. *Kids and Media in America*. Cambridge, United Kingdom: Cambridge University Press; 2004
29. Vandewater EA, Park SE, Huang X, Wartella EA. No: you can't watch that—parental rules and young children's media use. *Am Behav Sci*. 2005;48(5):608–623
30. Anderson DR, Evans MK. Peril and potential of media for infants and toddlers. *Zero to Three*. 2001;22(2):10–16
31. Kirkorian HL, Pempek TA, Murphy LA, Schmidt ME, Anderson DR. The impact of background television on parent-child interaction. *Child Dev*. 2009;80(5):1350–1359
32. Hart B, Risley TR. *Meaningful Differences in the Everyday Experiences of Young American Children*. Baltimore, MD: Paul H. Brookes; 1995
33. Masako T, Okuma K, Kyoshima K. Television viewing and reduced parental utterance, and delayed speech development in infants and young children. *Arch Pediatr Adolesc Med*. 2007;161(6):618–619
34. Schmidt ME, Pempek TA, Kirkorian HL, Lund AF, Anderson DR. The effects of background television on the toy play behavior of very young children. *Child Dev*. 2008;79(4):1137–1151
35. Gottfried AW. *Home Environment and Early Cognitive Development: Longitudinal Research*. Orlando, FL: Academic Press; 1984
36. Armstrong GB, Greenberg BS. Background television as an inhibitor of cognitive processing. *Hum Commun Res*. 1990;16(3):355–386
37. Ruff HA, Capozzoli M, Salterelli LM. Focused visual attention and distractibility in 10 month old infants. *Infant Behav Dev*. 1996;19(3):281–293
38. Vandewater EA, Bickham DS, Lee JH. Time well spent? Relating television use to children's free-time activities. *Pediatrics*. 2006;117(2). Available at: www.pediatrics.org/cgi/content/full/117/2/e181
39. Ginsburg K; American Academy of Pediatrics, Committee on Communications, Committee on Psychosocial Aspects of Child and Family Health. The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*. 2007;119(1):182–191
40. Nunez-Smith M, Wolf E, Huang HM, Emanuel DJ, Gross CP. *Media and Child and Adolescent Health: A Systematic Review*. Washington, DC: Common Sense Media; 2008
41. Owens J, Maxim R, McGuinn M, Nobile C, Msall M, Alario A. Television habits and sleep disturbance in school children. *Pediatrics*. 1999;104(3). Available at: www.pediatrics.org/cgi/content/full/104/3/e27
42. Thompson DA, Christakis DA. The association between television viewing and irregular sleep schedules among children less than three years of age. *Pediatrics*. 2005;116(4):851–856
43. Zimmerman FJ, Christakis DA, Meltzoff AN. Associations between media viewing and language development in children under age two years. *J Pediatr*. 2007;151(4):364–368
44. Chonchaiya W, Pruksananonda C. Television viewing associates with delayed language development. *Acta Paediatr*. 2008;97(7):977–982
45. Christakis DA, Zimmerman FJ, DiGuiseppe DL, McCarty CA. Early television exposure and subsequent attentional problems in children. *Pediatrics*. 2004;113(4):708–713
46. Zimmerman FJ, Christakis DA. Associations between content types of early media exposure and subsequent attentional problems. *Pediatrics*. 2007;120(5):986–992

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