

Psychosocial Predictors of Heavy Television Viewing Among Preadolescents and Adolescents

Jon A. Krosnick, Sowmya Narayan Anand, and Scott P. Hartl

*Department of Psychology
Ohio State University*

This article describes three general theoretical orientations regarding the psychosocial determinants of children's television viewing habits. A series of specific hypotheses are then tested via multiple regression analyses of data from 23 large-scale representative sample surveys. Consistent with the *need satisfaction* perspective, television-viewing frequency was related to social integration with peers, intelligence, book reading, and the hostility of parental punishment methods. Among preadolescents, television viewing was positively related to time spent with parents in families where parent-child coviewing is common, but among preadolescents who rarely coview and among all adolescents, parent-child contact was unrelated to viewing time. Frequency of interpersonal conflict with parents was also unrelated to television exposure. Consistent with the *parental influence* perspective, amount of viewing was associated with parental values for self-direction and with the imposition of rules restricting viewing. And consistent with the *resource availability* perspective, television viewing was related to the amount of time spent working at after-school jobs but, surprisingly, not to family income. The strengths of some of these relations varied according to age. Implications of these findings regarding the psychosocial determinants of media exposure and regarding child development are discussed.

Children vary a great deal in terms of the amount of time they spend watching television. Some watch none at all, and others spend six hours or more each day in front of a television set (Alexander, Wartella, & Brown, 1981; Battin, 1953; Brown, Childers, Bachman, & Koch, 1990; Huston et al., 1992; Koch, 1952; Lull, 1980a; Lyle & Hoffman, 1972a; Schramm, Lyle, & Parker, 1961; Tangney & Feshbach, 1988). At the highest end of this spectrum are people who are addicted to television and show many of the classic symptoms of withdrawal when they are unable to watch (Kubey & Csikszentmihalyi, 2002).

During the past 40 years, a large literature has evolved exploring why some children watch so much more television than others. However, this body of research is seriously limited in three major respects. First, the existing evidence is largely in the form of bivariate correlations, which might reveal the *causes* of heavy viewing but which might instead reflect the *effects* of heavy viewing or the spurious effects of third variables that determine both viewing habits and their correlates. Second, there is often substantial conflict among

the conclusions of studies testing the same hypothesis, possibly because of variation in the impact of determinants of viewing habits as children progress through preadolescence and adolescence. And third, much past research has been relatively atheoretical. Empirical investigations have typically examined one or two predictors of television exposure without much theoretical justification.

This article attempts to redress these shortcomings. We begin by describing three general theoretical orientations regarding the determinants of television viewing habits among children. These orientations, emphasizing need satisfaction, parental influence, and resource availability, suggest a series of specific hypotheses that are tested using data collected in 23 representative sample surveys of preadolescents and adolescents.

THREE THEORETICAL PERSPECTIVES

Need Satisfaction

A number of psychological theories, including the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), social learning theory (Bandura, 1977; Bandura &

Requests for reprints should be sent to Jon A. Krosnick, Department of Psychology, Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. E-mail: Krosnick@osu.edu

Walters, 1963), and other expectancy-value theories, assert that people perform behaviors that are rewarding and avoid behaviors that are not. Consistent with these theories, the most widely recognized theoretical orientation regarding the determinants of television exposure is its uses and gratifications (see, e.g., Katz, Blumler, & Gurevitch, 1974; Katz, Gurevitch, & Haas, 1973; McQuail, 1984; McQuail, Blumler, & Brown, 1972; Palmgreen & Rayburn, 1985; Palmgreen, Wenner, & Rosengren, 1985; Rubin, 1986); also consistent with this perspective is the media system dependency theory (Ball-Rokeach, 1985). This perspective argues that people watch television in order to satisfy personal needs.

Principal catalysts of this process are beliefs about the consequences of television exposure, which develop through direct and indirect experience with television. People who believe that watching television will satisfy an important personal need watch more television than people who lack either the belief or the need (Lin, 1993). Need satisfaction may also occur in the absence of such beliefs. An individual may not recognize the benefits gained from television exposure at a conscious level, but those benefits may nonetheless reinforce the behavior and encourage it in the future. Thus, regardless of beliefs about television's consequences, children whose needs can be satisfied by television would be expected to watch more than those without such needs.

Uses and gratifications researchers have employed a variety of approaches to identify the needs that people perceive can be satisfied by television exposure, including direct questioning and correlational analyses (for a review, see Palmgreen et al., 1985). Various schemes have been proposed to organize perceived gratifications; taken together, they suggest that the major perceived effects of media exposure are (a) information gain, (b) diversion or escape, (c) personal and social identity formation or reinforcement, (d) social affiliation or avoidance, and (e) mood management (e.g., Blumler, 1979; Kubey & Csikszentmihalyi, 1990; Lasswell, 1948; Lull, 1980b; Wright, 1960; Zillmann, 1982). Given this list, the literature on the salient needs of children at various stages of development suggests a number of specific hypotheses regarding the causes of heavy television viewing (for examples of such integration, see, e.g., Baranowski, 1971; Dimmick, McCain, & Bolton, 1979), as outlined in the following paragraphs.

Peer integration. One predictor of viewing habits suggested by this perspective is social integration with peers. Although social contact with peers is important to all children, some are chronically socially isolated (Parker & Asher, 1987). These individuals may have two needs that television can satisfy. First, they may wish to develop self-confidence in social interactions in order to integrate themselves into their peer groups and may turn to television to learn how to behave in social situations (Van Evra, 1998). Alternatively, individuals who have few friends may turn to television for pseudosocial contact; for them, television may serve as a substitute companion (Kubey & Csikszentmihalyi, 1990).

Peer contact is typically more important to adolescents than to preadolescents (e.g., Coleman, 1980; Douvan & Adelson, 1966; Erikson, 1963), giving reason to believe that the association between poor peer integration and viewing habits may be stronger among the former individuals than among the latter. This reasoning suggests the following hypothesis:

Hypothesis 1: Preadolescents and adolescents who socialize infrequently with peers may watch television more than those who socialize with peers frequently, and this relation may be stronger for adolescents than preadolescents.

Consistent with this hypothesis, one study found that nearly 70% of a sample of 8- to 20-year-olds reported that they watched television in order to prevent or cope with feelings of loneliness (Woodward & Frank, 1988). Another study found that heavier viewers scored higher on measures of loneliness and shyness and lower on perceived attractiveness (Page, Hammermeister, Scanlan, & Ola, 1996). A number of studies have found that heavy television viewers tend to socialize with peers less often, to value peer relations less, to feel more socially insecure and anxious, to spend more time alone at home, and to feel rejected by their peers (Dorr, 1986; Friedson, 1953; Hendry & Patrick, 1977; Johnstone, 1974; Kubey & Csikszentmihalyi, 1990; Larson & Kubey, 1983; Lefkowitz, Eron, Walder, & Huesmann, 1972, 1977; Murray, 1972; Myerter, Scharff, Brügger, & Müller, 1996; Perloff, Quarles, & Drutz, 1983; Riley & Riley, 1951; Schramm et al., 1961; Williams, 1986), but a number of other studies failed to find these relations (Austin, 1985; Luker & Buerger, 1985; McLeod, Atkin, & Chaffee, 1972a, 1972b; Medrich, Roizen, Rubin, & Buckley, 1982; Milavsky, Kessler, Stipp, & Rubins, 1982; Wiegman, Kuttschreuter, & Baarada, 1986). Unfortunately, these studies mixed various age groups together instead of systematically exploring the effects of age on this relation.

Parent-child contact. Some parents spend more time with their children than do others, and children whose parents spend relatively little time with them may experience anxiety and feel a need for social contact (e.g., Yarrow, 1964). As Shaynon (1951) argued, "television is never too busy to talk to our children. It never shuts them off because it has to prepare dinner. Television plays with them, shares its work with them, ... brings them people to meet, informs them, [and] gives them things to do" (p. 37). Therefore, children who spend less time interacting with parents may compensate by watching more television. Because parent-child contact is more important to preadolescents than to adolescents (e.g., Coleman, 1980; Douvan & Adelson, 1966; Erikson, 1963; Gold & Douvan, 1970), lack of parent contact may be more likely to be associated with heavy viewing among the former individuals than among the latter. This suggests the following:

Hypothesis 2a: Preadolescents and adolescents who spend relatively little time with their parents may watch more television than those who spend relatively large amounts of time with their parents. This relation may be stronger among preadolescents than among adolescents.

All this reasoning ignores another obvious possibility: that parents and children may sometimes watch television together, and this shared social activity may serve as a bonding device for these individuals. Therefore, the more coviewing children do with parents, the more television exposure should be associated with increased time spent with parents, not decreased parent-child contact. Therefore, we propose the following:

Hypothesis 2b: Among preadolescents and adolescents who do little or no coviewing with parents, youth who spend little time with their parents may watch more television than youth who spend large amounts of time with their parents. This relation may be stronger among preadolescents than among adolescents. But among preadolescents and adolescents whose television viewing is most often done with parents, youth who spend more time with their parents may watch more television than youth who spend little time with their parents.

Some studies have found that children in homes with working mothers or absent fathers watched more TV than did children in homes with stay-at-home mothers and fathers present (Brown et al., 1990; Medrich et al., 1982). But Lawrence and Wozniak (1989) found no relation between time spent with the family and television viewing. And Kubey and Csikszentmihalyi (1990) found a positive relation between time spent with the family and television viewing.

This inconsistency of findings may be due to the failure to control for coviewing in these analyses. Children spend quite a bit of time watching television in the company of their parents (Carpenter, Huston, & Spera, 1989; Field, 1989; McDonald, 1986), and younger children have been found to coview more than older children (Dorr, Kovacic, & Doubleday, 1989; St. Peters, Fitch, Huston, Wright, & Eakins, 1991). Therefore, if the extent of coviewing were taken into account, we might observe a more systematic relation of parent-child contact and total viewing time.

Conflict with parents. Another hypothesis suggested by the need satisfaction perspective focuses on parent-child conflict. Some children experience a great deal of conflict

with their parents, whereas others experience relatively little (see, e.g., Hall, 1987). This conflict can come in the form of hostile (as opposed to warm) punishment styles, generation-gap-like discrepancies in attitudes or values, and disobedience (see, e.g., Becker, 1964; Montemayor, 1983, 1986; Wagner, Cohen, & Brock, 1996). Sitting in front of a television may be a way to avoid uncomfortable interactions with parents and to forget momentarily about the associated harsh tensions. Therefore, children who experience a great deal of interpersonal conflict at home may be especially motivated to watch television.

Because parent-child interactions are more important to preadolescents than to adolescents, we might expect to see a stronger relation between parent-child conflict and heavy viewing among preadolescents than among adolescents. Furthermore, adolescents are freer than preadolescents to leave home to avoid conflict with parents, which also suggests that the effect of conflict on viewing may be stronger among preadolescents. Therefore, we propose the following:

Hypothesis 3: Children who experience large amounts of conflict with their parents may watch more television than children who experience relatively little conflict with their parents. This difference may be greater among preadolescents than adolescents.

A number of studies have found that frequent parent-child conflict is positively correlated with amount of television viewing (Banks & Gupta, 1980; Maccoby, 1954; Milavsky et al., 1982; Schramm et al., 1961; Zill & Peterson, 1981; see also Rosenblatt & Cunningham, 1976), but other studies have found no relation between these two variables (Lyle & Hoffman, 1972a; McLeod et al., 1972a; Wiegman et al., 1986, p. 79). Again, these studies mixed age groups together instead of comparing them to one another.

Intelligence/school achievement. A fifth hypothesis regarding how needs may produce heavy viewing involves intelligence and performance in school. Children with less developed cognitive skills may prefer passive, nondemanding forms of entertainment to active, demanding ones. Television presents vivid, moving images; books and newspapers demand reader-generated imagery and are sketchier in terms of visual detail. Children who are less intelligent may therefore find the latter more taxing and less fulfilling and may therefore watch more television. A second line of reasoning also justifies this hypothesis. Less intelligent children may experience a great deal of frustration in school as a result of poor performance. The fantasy/diversionary world that television offers may provide a means for them to escape from these unpleasant emotions, much like it would for children experiencing parental conflict. For this reason, too, less intelligent children may be especially attracted to television. This suggests the following:

Hypothesis 4: Children who are lower in intelligence and school achievement may watch more television than children who are higher in intelligence and school achievement.

Consistent with this logic, people of all ages report that among common everyday activities done at home, television offers the least challenge and requires the lowest level of skill and concentration (Kubey & Csikszentmihalyi, 1990). Furthermore, many studies have found that heavier television viewers tend to have lower IQs; to do less well in school; to score lower on tests of math, reading, and writing ability; and to value academic achievement less (e.g., Anderson, Wilson, & Fielding, 1988; Comstock, 1989; Fetler, 1984; Gaddy, 1986; Gortmaker, Salter, Walker, & Dietz, 1990; Greenberg, Heeter, Burgoon, Burgoon, & Korzenny, 1983; Lefkowitz et al., 1972, 1977; Lyle & Hoffman, 1972b; MacBeth, 1996a; Milavsky et al., 1982; Morgan & Gross, 1980, 1982; Neuman, 1995; Peirce, 1983; Ritchie, Price, & Roberts, 1987; Roberts, Bachen, Hornby, & Hernandez-Ramos, 1984; Selnow & Bettinghaus, 1982; Singer & Singer, 1983; Timmer, Eccles, & O'Brien, 1985; Tucker, 1987). However, a number of studies failed to find these relations (Childers & Ross, 1973; Greaney, 1980; Hagborg, 1995; Heideman, 1957; Larson & Kubey, 1983; Perney, Freund, & Barman, 1976; Ridder, 1963; Tan & Gunter, 1979; Witty & Kinsella, 1958).

Reading. A sixth needs-related hypothesis involves reading. Children who spend lots of time reading books or comic books may satisfy natural inclinations to enjoy fantasy and escape. In contrast, reading magazines and newspapers may inspire a greater interest in watching television, because television offers an up-to-the-minute opportunity to learn about the current events and prominent people discussed in magazines and newspapers. Therefore, we propose the following:

Hypothesis 5: Children who spend more time reading books or comic books may watch less television than children who spend little time reading books or comic books. Children who spend more time reading magazines or newspapers may watch more television than children who spend little time reading magazines or newspapers.

Some past studies have measured total reading time, without separating books from comic books, magazines, or newspapers.¹ Some such studies found negative relations between television exposure and reading time (e.g., Long &

Henderson, 1970), but others have found no relation (e.g., Medrich et al., 1982; Morgan, 1980; Neuman, 1988; Zuckerman, Singer, & Singer, 1980). Interestingly, Ward, Mead, and Searls (1983) found no consistent relation between television viewing and spare-time reading time among 9-year-olds, but a significant negative relation appeared among 13-year-olds and among 17-year-olds.

Among scholars who separated different types of reading from one another, Whitehead, Capey, Maddren, and Wellings (1977) and Koolstra and van der Voort (1996) found television viewing to be negatively related to book reading, consistent with Hypothesis 5. Also as expected, Whitehead et al. (1977) found television viewing to be positively related to periodical reading. However, Koolstra and van der Voort (1996) found comic book reading and television viewing to be unrelated, and Neumann (1981) found no significant relations of television viewing with reading of comic books, magazines, or newspapers.

Parental Influence

A second general theoretical perspective on television viewing focuses on parental influence (Adelson, 1980; Blos, 1962; Gold & Douvan, 1970). Through both modeling and sanctioning, parental socializing behavior seems likely to be a powerful determinant of children's television viewing habits.

Parental values. Parents' child-rearing behavior is shaped in part by their child-rearing values, two especially important ones of which focus on self-direction and conformity. Some parents value conformity in their children more than they value self-direction, and others value self-direction more than conformity (Kohn, 1969, 1977, 1981; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Lenski, 1961; Miller & Swanson, 1958, pp. 55–58).

Parents' values for self-direction and conformity may shape children's television viewing habits in a number of ways. Parents who value conformity to their rules may be especially likely to require their children to spend greater amounts of time at home, where they can be supervised closely. Such increased restriction may lead these individuals to entertain themselves with resources available at home, which include television. Television may be particularly appealing to these children, because it can help to satisfy their desires for contact with the world away from home. In contrast, parents who value self-direction may be more liberal in allowing their children to leave home to entertain themselves on their own. Thus, these children may be less likely to spend time watching television. Because restricted access to the outside world may be more frustrating to adolescents (who may expect more freedom) than to preadolescents (who may expect less), the relation between parental values and viewing may be stronger among the former individuals than among the latter. Thus, we propose the following:

¹In this literature review, we cite only studies that did not treat TV viewing as an independent variable, setting aside studies such as those by Gadberry (1980); Himmelweit, Oppenheim, and Vince (1958); Murray and Kippax (1978); Mutz, Roberts, and van Vuuren (1993); Schramm et al. (1961); and Williams (1986), who looked at the effects of TV viewing.

Hypothesis 6: Children whose parents value conformity more than self-direction may watch more television than children whose parents value self-direction more than conformity, and this relation may be stronger among adolescents than among preadolescents.

This hypothesis has not yet been tested directly, but it is consistent with evidence on the relation of viewing habits to family communication patterns. A number of studies have shown that children whose families emphasize obedience and social harmony in discussions are typically unusually heavy viewers, whereas children whose families emphasize open communication and exchange of ideas tend to be especially light viewers (Chaffee & McLeod, 1972; Chaffee, McLeod, & Atkin, 1971; McLeod et al., 1972a; McLeod & Brown, 1976; see also Desmond, Singer, Singer, Calam, & Colimore, 1985).

TV viewing rules. Parents may shape children's viewing habits through explicit rules restricting television exposure. Most parents do not impose such rules, but some do (Bower, 1985; Huston & Wright, 1996; Medrich et al., 1982; Williams, 1986). Children who live with such rules may watch less television as a result. Parents tend to restrict younger children's viewing more (Atkin, Greeberg, & Baldwin, 1991), and the influence of rules may be greater among preadolescents than among adolescents due to the greater influence of parents on preadolescents in general. This suggests the following:

Hypothesis 7: Children whose parents do not restrict the amount of television they can watch may watch more television than children whose parents do impose rules to restrict their viewing time. This difference may be greater among preadolescents than among adolescents.

A number of studies have shown that children whose parents impose viewing restrictions do watch less than those whose parents do not impose such restrictions (Atkin et al., 1991; Brown et al., 1990; Fetler, 1984; Greenberg et al., 1983; Holman & Braithwaite, 1982; Huston & Wright, 1996; Medrich et al., 1982; Roberts, 1981; St. Peters et al., 1991), though some studies have failed to find this relation (e.g., Lyle & Hoffman, 1972a).

Resource Availability

A third general theoretical perspective on television viewing emphasizes the availability of resources. Performing any activity requires access to necessary resources, including

financial capital, time, and psychological abilities. Therefore, lifestyles and leisure activity choices are probably determined in part by the availability of resources (e.g., Juster & Stafford, 1985; Liska, 1984; McQuail, 1983, pp. 166-167; Meyersohn, 1972). Individuals for whom the necessary resources are less available are presumably less likely to partake in a particular activity.

Time. One resource necessary for television viewing is time, especially time at home (e.g., Pearl, Bouthilet, & Lazar, 1982, p. 3). The more time a child spends performing activities that are mutually exclusive with television viewing, the less time he or she has available to watch television. It is now well-known that not all activities are hydraulically related; that is, increasing the time a person spends performing one activity does not necessarily decrease time spent performing all other activities (Juster & Stafford, 1985; Kubey & Csikszentmihalyi, 1990; Mutz et al., 1993; Nock & Kingston, 1988; Robinson, 1986). For example, activities such as eating and doing housework could easily be accomplished while watching television (Bechtel, Achelpohl, & Akers, 1972). In fact, some authors have suggested that television viewing usually fills time that is not committed to any more active pursuit but would instead be spent on nonbehaviors, such as daydreaming (Comstock, 1989; Comstock & Scharrer, 1999; Mutz et al., 1993). It is, therefore, difficult to anticipate on theoretical grounds which activities, if any, supplant television exposure and which do not, and it is conceivable that extensive participation in some (e.g., highly stressful) activities may actually lead to increased television viewing (which may be especially relaxing). Therefore, some activities may be hydraulically related to television viewing time, whereas other activities are not.

One set of activities that seems likely to be hydraulically related to viewing is after-school participation in jobs, sports, musical groups, community organizations, and the like. Because these activities seem to be incompatible with television exposure and seem unlikely to inspire it, participation in these activities may be associated with less exposure to television. Therefore, we propose the following:

Hypothesis 8: Children who do not participate in structured extracurricular activities may watch more television than children who do participate in such activities.

Consistent with this idea, previous studies have often found a negative relation between television viewing time and participation in extramural sports, organizations, hobbies, artistic activities, work, and after-school chores, but this relation has usually been weak (Coleman, 1961; D'Amico, 1982; Heyns, 1976; Lyle & Hoffman, 1972a; Medrich et al., 1982; Mutz et al., 1993; Tucker, 1987; Williams, 1986).

Money. A second relevant resource is money. Many forms of entertainment, from going to the movies to visiting the zoo, require money to cover the cost of admission. Children from lower income families are less likely to have the funds available to finance frequent excursions outside of the home or to finance frequent purchases of games and toys for home entertainment. Consequently, these children may turn to television more often for lack of alternatives. Therefore, we propose the following:

Hypothesis 9: Children from lower income families may watch more television than children from families with more substantial incomes.

Consistent with this logic, some studies have found a negative relation between family income and television viewing (Comstock & Scharrer, 1999; Hagborg, 1995; Medrich et al., 1982).

Overview

These three theoretical perspectives are not in competition with one another. Rather, they are complementary in two senses. First, in some cases, two perspectives provide different justifications for the same hypothesis. For example, the hypothesis that children who spend less time socializing with peers will spend more time watching television is justified by both the need satisfaction perspective and by the resource availability perspective; likewise, reading. More importantly, though, each theoretical perspective complements the others by suggesting specific hypotheses that cannot be derived from them. For example, it is difficult to derive the intelligence hypothesis from the parental socialization perspective. Therefore, instead of conflicting, these perspectives reinforce one another and, taken together, generate a wide range of hypotheses about the determinants of television viewing habits.

Nearly all the existing evidence testing these hypotheses is in the form of cross-sectional bivariate correlations between television viewing amount and other variables. Instead of revealing the causes of heavy television viewing, these correlations might reflect the effects of heavy viewing, or they might reflect spurious relations due to common causes. Variables that are likely to be causes of heavy viewing can be identified with more confidence by conducting multiple regressions. If a variety of psychosocial and demographic variables are used to simultaneously predict television viewing, the probability that a spurious relation will appear can be dramatically reduced. This is just what the two studies reported later did.

A second difficulty with the existing literature is that some studies offer support for the hypotheses stated earlier, and others do not. The reasoning offered in the preceding paragraphs suggests that this inconsistency between studies

may have occurred because of variation in the impact of predictors across age groups. Some studies have systematically explored variation in the correlates of television viewing depending on the age of the child (e.g., Himmelweit et al., 1958; Mutz et al., 1993; Neuman, 1988; Schramm et al., 1961; Ward et al., 1983; Wright, Huston et al., 2001), and these studies have turned up instances in which correlates varied with age. However, most studies have not compared various age groups to one another. In some studies, toddlers, preadolescents, and adolescents were combined for analysis, while other studies examined only a single age group. If some psychosocial variables predict television viewing at certain ages and not at others, variation across studies in the ages of the children examined may have produced the observed variation in results. That is, age may be a moderating factor that could explain inconsistencies in the literature. Consequently, it seems important to investigate variation in the predictors of viewing habits across age groups. The studies reported in the following paragraphs did this as well.

In order to test the nine hypotheses listed previously more effectively than has been done in the past, secondary analyses were conducted of 23 existing survey data sets that were previously collected for other investigations. Study One involved analyses of data on preadolescents and adolescents collected in a survey of a representative sample of Detroit-area parents. Study Two involved analyses of 22 surveys of representative national samples of adolescents.

Measurement of Television Viewing Habits

Any empirical investigation of the causes of heavy television viewing must begin by conceptually and operationally defining the construct of television viewing. Conceptually, television viewing can be defined in a number of different ways, depending on the purpose of one's investigation (see Salomon & Cohen, 1978; Stipp, 1975; Webster & Wakshlag, 1985). The hypotheses listed earlier are intended to describe the determinants of the amount of time an individual typically spends watching television per unit time, regardless of whether television is serving as a social-situational factor, as a transmitter of a repertoire, or as a transmitter of particular contents (see Salomon & Cohen, 1978). It is certainly sometimes useful to differentiate television as a medium from its content and to differentiate various styles of watching television depending on an individual's level of attention, the degree to which he or she has selected particular programs, and the degree to which he or she likes those programs (see Webster & Wakshlag, 1985, pp. 36–39). However, the hypotheses listed previously treat both television and viewing as "monolithic entities" (see Webster & Wakshlag, 1985, p. 36). It is therefore most appropriate to measure the amount of time that children typically spend watching television per unit time so as to separate them into light viewers, moderate viewers, and heavy viewers.

Four primary self-report methods have been used in prior studies to measure children's television exposure as thusly defined (for reviews, see Stipp, 1975; Webster & Wakshlag, 1985). First, children have been asked to estimate the number of hours they spend watching TV per day or per week or on typical weekdays or weekend days (called *global estimates*). Second, children have been asked to complete checklists indicating the particular television shows they watched during a particular time period (called *aided recall*). Third, children have been asked to keep concurrent *diaries* recording their television viewing behavior each day for a specified time period. In some studies, parents have been asked to complete global estimates or aided recall checklists or diaries for their children. Fourth, Kubey and Csikszentmihalyi's (1990) *Experience Sampling Method* (ESM) involves supplying respondents with beepers that are set off at randomly chosen times during the day, and respondents then answer questions about their activities, including television viewing, at that moment and since their last report.

On intuitive grounds, it is not obvious which of these methods will produce the most valid data, and in general, the various methods appear to yield relatively comparable rank orderings of children in terms of viewing time. Considering only children's self-reports, a number of studies have documented strong associations among global estimates, aided recall, and diaries (e.g., Alexander et al., 1981; Anderson, Field, Collins, Lorch, & Nathan, 1985; Bechtel et al., 1972; Furu, 1971; Himmelweit et al., 1958; McLeod et al., 1972a; Ritchie et al., 1987; Rubin, 1976; van der Voort & Vooijs, 1990). Diary results and global estimates made by parents also correlate strongly with one another (Anderson et al., 1985). Most studies have documented moderate or strong correspondence between child reports and parental proxy reports (Alexander et al., 1981; Battin, 1953; Friedman, 1957; Greenberg, Ericson, & Vlahos, 1972; Kay, 1972). Furthermore, in a review of the literature on proxy reporting generally, Moore (1988) concluded that the literature provides no basis for rejecting the belief that proxy reports are of comparable validity to self-reports. ESM measures of the amount of time spent watching television correlate highly with similar estimates obtained via the diary method (Kubey & Csikszentmihalyi, 1990). All this indicates that the various methods of television viewing behavior measurement generally produce comparable rank orderings of respondents and do so reliably (see also MacBeth, 1996b).²

²In many households, a television set is often turned on, but people in its vicinity do not continually pay attention to it (e.g., Comstock, 1998; Huston et al., 1992; MacBeth, 1996b). Therefore, different results might be obtained depending on whether respondents are asked about the amount of time spent watching television or the amount of time spent in the presence of an operating television. However, this may not be as big a problem as it might appear to be. Studies have shown that children and adults who are in a room with a television set that is turned on spend a considerable amount of time paying attention to the screen (e.g., Anderson et al., 1985; Clancey, 1994), so rank orderings of people in terms of viewing quantities may be fairly comparable regardless of which behavior is gauged.

Each of the two studies reported in the following sections used a different method for measuring television viewing habits. The first study used parents' proxy reports of preadolescents' and adolescents' television watching behavior. In the second study, adolescents' reports of their own viewing habits were examined. Respondents in both studies were asked to estimate the amount of time spent watching television on a typical weekday. Our review of the literature provides no basis for inferring that either of these methods will be less successful than the other at identifying light, moderate, and heavy viewers.

STUDY ONE

Method

Sample. In May 1982, a representative sample of 544 parents in metropolitan Detroit was interviewed about their child-rearing experiences, values, attitudes, and practices for the 1982 *Detroit Area Study* (DAS). In building the sample, census tracts were first selected randomly in proportion to population, and households were then randomly selected from within chosen tracts. Interviews were completed in chosen households only if at least one child lived there. One of the parents living in each qualifying household was selected randomly to be interviewed, and if the selected respondent was unwilling or unable to be interviewed, no other adult from the household was used as a replacement. Instead, the household was dropped from the sample.

Of the respondents who were interviewed, 68% were White, 30% were Black, and 2% were of other races. Thirty-eight percent of respondents were men, and 62% were women. Twenty-one percent of respondents were between ages 18 and 29, 23% were between ages 30 and 34, 32% were between ages 35 and 44, and 24% were 45 or older. Sixty-eight percent of respondents were married; 14% were divorced; and 18% were widowed, separated, or never married. Approximately 22% had annual family incomes of less than \$15,000, about 34% had incomes between \$15,000 and \$29,999, and about 45% had incomes of \$30,000 or more. Twenty-one percent of respondents had less than a high school education, 36% graduated from high school, and the remaining 43% received at least some college education.

Some of the questions in the survey asked the respondent about a specific child in the family. For these items, one child was randomly selected from among all of the respondent's children between ages 2 and 17. Twenty-six percent of the selected children were between ages 2 and 5, 26% were between ages 6 and 10, 30% were between ages 11 and 15, and 18% were ages 16 or 17. Of the selected children, 53% were boys and 47% were girls.

Data collection. Face-to-face interviews were conducted with respondents in their homes by graduate students

enrolled in the University of Michigan's sociology department course on survey research methods and by staff from the Institute for Social Research's Survey Research Center (SRC). All interviewing was supervised by University of Michigan faculty and by staff from the SRC. Respondents' answers to questions were recorded by the interviewers.

Measures and coding. Items addressing the specific child measured his or her typical time spent watching television on weekdays, typical time spent reading on weekdays, the existence of rules restricting television viewing, the extent of parent-child contact, the extent of parent-child coviewing of television, the extent of parent-child conflict, and parental values for self-direction versus conformity. More general questions measured parent-child contact, parent-child conflict, and parental values. Family income, parental education, race, and the gender and age of the selected child were also measured. Shown in Appendix A are the wordings of the questions used in the analyses reported here, the numerical coding of answers to these questions, and the procedures implemented to construct the indices used in the analyses.

Analysis. Ordinary least squares regressions were conducted to test the hypotheses outlined earlier. Predictors were entered into the regression in four steps: demographic variables were entered first, and the psychosocial predictors were then added. Next, we added interactions of all psychosocial predictors with age. And finally, we trimmed all of the nonsignificant interactions from the model to yield a most efficient model. The resulting unstandardized and standardized coefficient estimates and their standard errors are shown in Table 1.³

Correlations among predictors. The results of such regressions can be misleading if there is substantial multicollinearity among the predictors (see, e.g., Cohen & Cohen, 1975, pp. 115-117). Fortunately, however, the strongest entry in a matrix of correlations among the predictors for the full sample had an absolute value of .35 (see Appendix B), not large enough to indicate problematic multicollinearity. Furthermore, 78% of the correlations had absolute values smaller than .15. Similar patterns were observed in correlation matrices for the two age groups as well. The Variance Inflation Factors (VIF) did not indicate a multicollinearity problem; the largest VIF was 1.40 for the full sample.

Results and Discussion

Hypothesis 2: Parent-child contact. When we estimated only the main effects of the psychosocial predictors,

³All significance levels are one-tailed *p*'s for tests of directional hypotheses with strong theoretical justifications when the observed coefficients were in the expected directions; two-tailed *p*'s are reported in all other instances.

the association between parent-child contact and television viewing was marginally significant and positive ($\beta = .09$, $p = .08$; see row 6, column 1 of Table 1). Surprisingly, this indicates that more parent-child contact was associated with more television viewing, not less, as expected according to Hypothesis 2a.

The interaction of Parent-child Contact with the extent of coviewing was nonsignificant when tested without regard to age ($\beta = .22$, $p = .19$; see row 14, column 2 of Table 1). And Coviewing had an unexpected negative coefficient in this model, suggesting that more coviewing was associated with less television exposure ($\beta = -.28$, $p = .05$; see row 13, column 2 of Table 1). But the three-way interaction of Age with Coviewing and Parent-child Contact was also significant ($\beta = -.76$, $p = .01$; see row 27, column 3 of Table 1).

Among preadolescents who were frequent coviewers, more contact was associated with more television viewing ($\beta = .21$, $p = .01$, $n = 148$). But among preadolescents who rarely coviewed and among all adolescents, amount of contact was not associated with amount of viewing ($\beta = -.04$, $p = .35$, $n = 97$; $\beta = .01$, $p = .95$, $n = 227$, respectively). Thus, parent-child contact was associated with enhanced television exposure in households in which parent-child coviewing was common.

Hypothesis 3: Conflict with parents. The seventh, eighth, and ninth rows in Table 1 display the coefficients estimating the associations between conflict with parents and television viewing. These associations did not vary according to age (see rows 16, 17, and 18 in column 3 of Table 1), so we focus on the effects shown in the trimmed model in column 4.

The strongest association here involves punishment style. Children whose parents used more hostile punishment styles watched more television ($\beta = .25$, $p < .01$). Heavier television viewing was also more common among children whose parents imposed many rules and enforced them more strictly ($\beta = .06$, $p = .08$). As the coefficient in the ninth row indicates, there was no association between television viewing and discord with parents ($\beta = .06$, $p = .21$). Thus, Hypothesis 3 received some support and some disconfirmation.

Hypothesis 5: Total nonschool reading time. There was a significant positive relation between total amount of time spent reading and amount of time spent watching television ($\beta = .11$, $p = .02$; see row 10, column 4 of Table 1), and this relation did not vary with age ($\beta = -.05$, $p = .58$; see row 19 of Table 1).

Hypothesis 6: Parental values. As expected, the more parents valued self-direction, the less television children watched ($\beta = -.08$, $p = .04$; see row 20, column 4 of Table 1). The interaction of Parental Values with Age was not significant ($\beta = -.15$, $p = .37$; see row 20, column 3 of Table 1). Thus, Hypothesis 6 was partly confirmed.

TABLE 1
Multiple Regressions Predicting Television Viewing (Detroit Area Study)

<i>Predictors</i>	<i>Demographics and Psychosocial Predictors</i>	<i>Demographics and Psychosocial Predictors with Coviewing</i>	<i>Demographics Psychosocial Predictors, and Interactions with Age</i>	<i>Nonsignificant Age Interactions Removed</i>
Demographics				
Income	-.02 -.75/1.71	-.04 -1.26/1.71	-.01 -.42/2.96	-.05 -1.51/1.70
Age	.06 .43/.33	.07 .48/.33	-.19 -1.29/2.77	-.24 -1.64/1.48
Parental Education	.00 .03/1.29	.01 .15/1.29	-.02 -.40/1.98	.01 .34/1.28
Race	.00 .01/.39	.00 -.03/.39	.08 .60/.55	.00 .00/.39
Gender	-.01 -.05/.31	-.01 -.04/.31	.00 -.01/.43	.01 .03/.31
Psychosocial Predictors				
Parent-child Contact	.09* 1.84/1.03	.05 1.09/1.56	-.07 -1.36/2.37	-.08 -1.65/2.31
Punishment Style	.25* 4.85/.91	.25* 4.80/.91	.27* 5.15/1.18	.25* 4.84/.90
Extent of Household Rules	.07+ .65/.42	.07* .62/.42	.01 .11/.59	.06+ .58/.42
Discord with Parents	.05 .74/.74	.05 .84/.74	.04 .65/1.16	.06 .92/.74
Total Nonschool Reading Time	.12* 4.11/1.56	.12* 4.10/1.55	.14* 4.77/2.27	.11* 3.71/1.55
Parental Values for Self-Direction	-.09* -1.62/.86	-.09* -1.56/.86	-.03 -.57/1.25	-.08* -1.44/.86
Extent of TV Viewing Rules	-.11* -.87/.37	-.11* -.83/.36	-.15* -1.14/.50	-.09* -.72/.36
Coviewing	-.28* -1.99/1.03	-.62* -1.99/1.03	-.66* -4.31/1.69	-.69* -4.64/1.65
Coviewing × Parent-child Contact		.22 2.58/1.98	.65* 7.41/3.02	.69* 7.95/2.95
Interactions with Age				
Age × Parent-child Contact			.35 4.82/3.22	.41+ 5.56/3.10
Age × Punishment Style			-.04 -.53/1.86	
Age × Household Rules			.10 .89/.85	
Age × Discord with Parents			.02 44/1.54	
Age × Total Nonschool Reading Time			-.05 -1.77/3.18	
Age × Parental Values			-.15 -1.58/1.75	
Age × TV Viewing Rules			.08 .83/.75	
Age × Income			-.07 -2.29/3.66	
Age × Parental Education			.17 1.63/2.66	
Age × Race			-.11 -1.11/.79	
Age × Gender			.02 .17/.63	
Age × Coviewing			.64* 5.07/2.21	.68* 5.40/2.17
Age × Coviewing × Contact w/ Parents			-.76* -11.51/4.23	-.80* -12.05/4.17
Constant/standard error	8.99/1.29	9.64/1.38	10.33/2.11	10.58/1.60
R ²	.12	.13	.16	.15
N	468	468	468	468

Note. Each cell entry is a standardized regression coefficient (β), with the unstandardized coefficient (b) and its standard error underneath.
* $p < .05$. + $p < .10$.

Hypothesis 7: Television viewing rules. More restrictive television viewing rules were significantly associated with less television viewing, as expected ($\beta = -.09$, $p = .02$; see row 12, column 4 of Table 1). Thus, adolescents and preadolescents whose parents limited their viewing time watched less television than those whose exposure was unrestricted. This supports Hypothesis 7. The interaction of Viewing Rules with Age was not significant ($\beta = .08$, $p = .27$; see row 21, column 3 of Table 1).

Hypothesis 9: Family income. Family income was not a significant predictor of television exposure (see row 1 of Table 1). Thus, television viewing was not reliably greater among lower income families, which disconfirms Hypothesis 9.

Demographics only. When we regressed television viewing on only the demographic predictors, Income ($\beta = -.04$, $p = .48$), Age ($\beta = .02$, $p = .61$), Parental Education ($\beta = -.07$, $p = .15$), Race ($\beta = .01$, $p = .77$), and Gender ($\beta = .00$, $p = .95$) all had nonsignificant effects.

STUDY TWO

Method

Sample. Each year from 1976 to 1997, the Survey Research Center at the University of Michigan conducted the *Monitoring the Future* surveys (MTF) of representative samples of high school seniors from the 48 coterminous states. Sampling for each study was done in three steps, beginning with selection of geographic regions of the country, then selection of approximately 125 high schools within selected regions, and finally selection of students within selected high schools. Participation rates ranged from three-fourths to five-sixths of selected students each year (for additional details on the sampling procedure, see Bachman & Johnston, 1978). Sample sizes ranged between approximately 16,000 and 19,000 per year.

In order to collect responses to a wide variety of questions, different forms of the paper-and-pencil questionnaires were distributed each year. The measures of television viewing habits were included on only one of the five forms, so about one-fifth of each sample contributed to the present analyses. The subsamples responding to questions relevant to this study ranged from 2,500 to 3,800 per year, with 68,450 participating across all years. About 90% of the sample was between 18 and 20 years old, and nearly all the rest were more than 20 years old. About 49% of each sample was men, and approximately 51% was women. Whites comprised approximately 85% of each sample; Black comprised about 12%; and the rest were Native Americans, Hispanics, Asian Americans, or other races. About 23% of respondents were from the northeast region of the country, 26% were

from the north-central region, 31% were from the south, and 19% were from the west. Approximately 19% of respondents' fathers did not complete high school, about 31% of respondents' fathers completed high school and got no further education, and about 50% of respondents' fathers got at least some college education. Figures for mothers' education were very similar.

Data collection. Students completed the self-administered questionnaires during regular school hours in classrooms. The administration was coordinated by Survey Research Center staff members, who took steps to protect the confidentiality of students' responses.

Measures and coding. The survey questions used in the analyses reported here measured typical amount of television viewing on weekdays, amount of peer contact, amount of idea conflict with parents, perceived intelligence/school achievement, the number of optional books read per year, time spent at after-school jobs, parental education, race, age, and gender. The question wordings and response codings are shown in Appendix C.

Analysis. Ordinary least squares regressions were performed predicting television viewing. A separate regression was conducted with each year's data set, and another regression was conducted using data from all years combined (see Table 2). A post hoc power analysis revealed that for each year and combined across years, standardized regression coefficients of .04 could be detected at $p < .05$, one-tailed at a power of greater than .99.

Changes in relations between predictors and television viewing were tested by adding interactions with year to the full sample regressions (see Table 3). In this analysis, year was coded to range from zero (meaning 1976) to one (meaning 1997).

Correlations among predictors. An examination of the correlations among the predictor variables revealed no threat of multicollinearity problems (see Appendix D). In the 1976 matrix, for example, the strongest correlation had an absolute value of .26, and 80% of the correlations had absolute values less than .15. Similar patterns were observed in the remaining years' correlation matrices as well.

Variance Inflation Factors (VIF) did not indicate a multicollinearity problem; the largest VIF in a single given year was 1.21, and the largest VIF combining across all the years was 1.17.

Results

Hypothesis 1: Peer contact. Across all 22 years, peer contact was negatively associated with television exposure, significantly so in 11 years and marginally significantly so

TABLE 2
Multiple Regressions Predicting Television Viewing (Monitoring the Future)

Predictor	Year												All Years											
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
Demographics																								
Parental																								
Education																								
Race	.13*	.19*	.15*	.16*	.16*	.21*	.16*	.16*	.15*	.22*	.21*	.20*	.20*	.19*	.18*	.27*	.23*	.21*	.24*	.23*	.27*	.30*	.20*	
Gender	.05*	.04*	.01	.04*	-.01	-.01	.02	.01	-.02	-.01	-.01	-.01	-.02	-.05*	-.02	-.04	-.04	-.05*	-.05*	-.05*	-.03	-.03	-.01*	
	.02/.01	.02/.01	.00/.01	.02/.01	-.01/.01	-.01/.01	.01/.01	.00/.01	-.01/.01	-.01/.01	-.01/.01	-.00/.01	-.01/.01	-.02/.01	-.01/.01	-.01/.01	-.02/.01	-.02/.01	-.02/.01	-.02/.01	-.01/.01	-.01/.01	-.01/.01	-.01/.00
Psychosocial Predictors																								
Peer Contact	-.08*	-.02	-.05*	-.04+	-.04+	-.03	-.05*	-.06*	-.04*	-.01	-.06*	-.02	-.05*	-.07*	-.04+	-.05*	-.01	-.03	-.07*	-.03	-.04+	-.10*	-.04*	
	-.09/.02	-.03/.02	-.05/.02	-.04/.02	-.04/.02	-.03/.02	-.05/.02	-.06/.02	-.04/.02	-.01/.02	-.06/.02	-.02/.02	-.06/.02	-.09/.03	-.04/.03	-.05/.03	-.01/.03	-.03/.03	-.07/.03	-.03/.03	-.04/.03	-.04/.03	-.11/.03	-.05/.01
Idea Conflict with Parents Perceived	.05/.03	-.02/.03	-.01/.03	.01/.03	.01/.03	-.01/.03	-.01/.03	-.04/.03	-.01/.03	-.02/.03	-.02/.03	-.02/.03	-.01/.03	-.05/.03	-.02/.03	.04/.03	.01/.03	.04/.03	-.01/.03	-.01/.03	-.04/.03	.04/.03	.12/.03	.00/.01
Intelligence/School	-.17*	-.16*	-.16*	-.17*	-.18*	-.15*	-.18*	-.16*	-.18*	-.14*	-.15*	-.13*	-.15*	-.15*	-.13*	-.14*	-.14*	-.18*	-.16*	-.13*	-.14*	-.15*	-.16*	
	-.27/.04	-.25/.03	-.26/.03	-.27/.03	-.28/.03	-.23/.03	-.25/.03	-.28/.03	-.28/.03	-.22/.03	-.24/.03	-.20/.03	-.22/.03	-.23/.04	-.20/.04	-.22/.04	-.23/.04	-.28/.04	-.25/.04	-.19/.04	-.21/.04	-.25/.04	-.24/.01	
Achievement																								
Optional Book Reading	.01	-.06*	-.04*	-.01	-.05*	-.03	.00	-.01	-.01	-.03	.02	-.02	-.02	-.05*	-.03	-.01	-.04+	-.05*	-.02	-.01	-.07*	-.04	-.02*	
	.01/.02	-.04/.02	-.03/.02	-.01/.02	-.04/.02	-.02/.02	.00/.02	-.01/.02	-.01/.02	-.02/.02	.01/.02	-.01/.02	-.01/.02	-.03/.02	-.02/.02	-.01/.02	-.03/.02	-.03/.02	-.01/.02	-.01/.02	-.06/.02	-.03/.02	-.01/.00	
Frequency																								
Work hours	-.16*	-.14*	-.18*	-.15*	-.16*	-.10*	-.15*	-.14*	-.13*	-.14*	-.12*	-.10*	-.15*	-.16*	-.12*	-.14*	-.12*	-.14*	-.13*	-.11*	-.12*	-.13*	-.14*	
	-.13/.02	-.11/.02	-.15/.02	-.13/.02	-.13/.02	-.08/.02	-.12/.02	-.10/.02	-.10/.02	-.12/.02	-.09/.02	-.08/.02	-.08/.02	-.14/.02	-.10/.02	-.12/.02	-.11/.02	-.12/.02	-.10/.02	-.08/.02	-.09/.02	-.11/.02	-.11/.00	
Constant/SE	.90/.04	.86/.03	.90/.03	.84/.03	.91/.04	.84/.03	.89/.03	.89/.03	.89/.03	.82/.04	.86/.04	.79/.03	.89/.04	.91/.04	.84/.04	.84/.04	.80/.04	.89/.04	.85/.04	.79/.04	.79/.04	.82/.04	.86/.01	
R ²	.15	.13	.14	.12	.13	.14	.13	.12	.12	.12	.13	.11	.14	.12	.10	.16	.12	.16	.13	.11	.16	.19	.13	
N	1964	2632	2720	2514	2487	2680	2631	2419	2345	2339	2234	2359	2394	1978	1824	1718	1795	1742	1698	1682	1527	1386	47,068	

Note. Each cell entry is a standardized regression coefficient (B), with the unstandardized coefficient (b) and its standard error underneath.
*p < .05. +p < .10.

TABLE 3
Multiple Regressions Testing Variation in Demographic and Psychosocial Predictors Across Years (Monitoring the Future)

Predictors	Regression Coefficients	Nonsignificant Interactions with Year Removed
Demographics		
Parental Education	-.14* -.17/.01	-.14* -.17/.01
Race	.16* .14/.01	.16* .14/.01
Gender	.03* .02/.00	.03* .02/.00
Year of Study	-.08* -.08/.03	-.07* -.07/.02
Psychosocial Predictors		
Peer Contact	-.04* -.05/.01	-.04* -.05/.01
Idea Conflict with Parents	-.01 -.02/.01	.00 .00/.01
Perceived Intelligence/School Achievement	-.17* -.26/.01	-.17* -.26/.01
Optional Book Reading Frequency	-.03* -.02/.01	-.03* -.02/.00
Work Hours	-.15* -.13/.01	-.15* -.13/.01
Interactions with Year of Study		
Year × Parental Education	.03* .04/.02	.03* .04/.02
Year × Race	.04* .06/.01	.04* .06/.01
Year × Gender	-.05* -.05/.01	-.05* -.05/.01
Year × Peer Contact	-.01 -.01/.02	
Year × Idea Conflict with Parents	.02 .03/.02	
Year × Perceived Intelligence/School Achievement	.03+ .04/.03	.03 .04/.02
Year × Optional Book Reading Frequency	.00 .00/.01	
Year × Work Hours	.02* .03/.01	.02* .03/.01
Constant/standard error	.89/.01	.89/.01
R ²	.13	.13
N	47,068	47,068

Note. Each cell entry is a standardized regression coefficient (β), with the unstandardized coefficient (b) and its standard error underneath.
* $p < .05$. + $p < .10$.

in 4 more years (see the fourth row of Table 3). For all years combined, the association was significant ($\beta = -.04$, $p < .01$, see the last column of Table 2). And this association did not manifest a consistent trend across years ($\beta = -.01$, $p = .75$; see row 13 of Table 3). Thus, Hypothesis 1, which asserts that adolescents who have more peer contact will watch less television, was supported by these data.

Hypothesis 3: Parent-child conflict. We found no robust association between Television Viewing and Idea Conflict with Parents among adolescents (see the fifth row of Table 2). Consistent with the hypothesis that parental conflict is not especially consequential for adolescents, the association combined across all years was not significant ($\beta = .00$,

$p = .69$), and there was no consistent trend in this association across years ($\beta = .02$, $p = .18$, see row 14 of Table 3).

Hypothesis 4: Perceived intelligence/school achievement. As predicted, the association between the Perceived Intelligence/School Achievement index and television viewing was negative and significant in all years (see the sixth row of Table 2). Thus, adolescents who perceived themselves as lower in terms of intelligence/school achievement watched more television, supporting Hypothesis 4 ($\beta = -.16$, $p < .01$ for all years combined). This relation became marginally significantly weaker over the years ($\beta = .03$, $p = .08$, see row 15 of Table 3, column 1) when tested with all interactions in the model, but the trend

became nonsignificant when nonsignificant interactions were trimmed from the model (see column 2).

Hypothesis 5: Optional book reading. More optional book reading was associated with less television viewing (see the seventh row of Table 2). For all years combined, the relation was significant as well ($\beta = -.02, p < .01$), a finding that offers further support for Hypothesis 5. This association did not manifest a consistent trend across years ($\beta = .00, p = .94$, see row 15 of Table 3).

Hypothesis 8: Extracurricular activities. Adolescents who spent more time working watched less television (see the eighth row of Table 2). The coefficients for time spent at work are negative in all years (for all years combined, $\beta = -.14, p < .01$). All this is consistent with Hypothesis 8. This association weakened slightly over the span of the data ($\beta = .02, p = .05$, row 16 of see Table 3).

Parental education, race, and gender. When we regressed television viewing on only the demographic predictors combining the data from all years, parental education ($\beta = -.15, p < .01$), race ($\beta = .24, p < .01$), and gender ($\beta = -.01, p = .02$) all had significant effects. Adolescents whose parents were less educated, adolescents who were not White, and male adolescents watched more television than adolescents with relatively well-educated parents, Whites, and females, respectively. The effects persisted even when these demographic predictors were entered along with the psychosocial ones (all years combined, $\beta = -.13, p < .01$; $\beta = .20, p < .01$; and $\beta = -.01, p = .03$, respectively; see rows 1, 2, and 3 of Table 2).

The coefficient for parental education weakened significantly over the 22-year period ($\beta = .03, p = .04$; see row 10 of Table 3). At the same time, the association for race increased notably over the same years ($\beta = .04, p < .01$, see row 11 of Table 3).

A significant and interesting trend appeared in the association between gender and television exposure: It became significantly more negative over the 22 years ($\beta = -.05, p < .01$, see row 12 of Table 3). The relation was positive in 6 of the first 8 years (significantly so in 3 of the first 4 years) and negative in the last 14 years (significantly so in 3 of the last 5 years; see row 3 of Table 2). Thus, women watched more television than men toward the beginning of the time span, but men watched more than women toward the end of the time span.

DISCUSSION

These studies represent advances over past research in two primary ways. First, nearly all past research on the predictors of heavy television viewing has involved bivariate correlations. It is impossible to be certain about whether these correlations reveal something about the causes of heavy viewing or

whether they highlight the effects of heavy viewing or the spurious effects of third variables that determine both viewing habits and their correlates. The present studies therefore improve on past work by yielding simultaneous multiple regressions, which reduce the chances of spuriousness. Longitudinal studies will be necessary for determining with more certainty whether the predictors identified here actually influence viewing habits, but the regression approach employed here clearly represents a step toward greater certainty.

A second difficulty with previous research in this area is that it has generated many contradictory findings. It is certainly conceivable that methodological differences between studies may be responsible for these discrepancies. However, it is also possible that the potency of any given predictor will vary as children progress through preadolescence and adolescence. Therefore, the discrepancies between the findings of previous studies may be due to variations in the ages of the children being studied. The present research represents an advance over past work both because its hypotheses recognize this possible variation according to age and because such variation was empirically assessed.

The findings reported here provide support for some of the hypotheses tested while challenging others. As the need satisfaction perspective predicts, adolescents who did not socialize with peers and who were low in perceived intelligence/school achievement were more likely to be heavy television viewers. Adolescents who watched more television were less likely to choose to read optional books, suggesting that their television viewing may have been motivated by a desire for fantasy and escape through less demanding forms of entertainment than reading.

Also consistent with the need satisfaction perspective, preadolescents and adolescents whose parents used hostile punishment styles and adolescents whose parents imposed and enforced many household rules watched more television. Contrary to our expectations, we did not find that punishment styles and rule imposition had greater impact on preadolescents than on adolescents. The equivalence of impact in these two age groups is consistent with other evidence indicating that parental influence does not necessarily decrease at adolescence (see, e.g., Chassin, Presson, Sherman, Montello, & McGrew, 1986; Krosnick & Judd, 1982). Surprisingly, the amount of discord parents reported having with children was found to be unrelated to viewing habits. Taken together with other evidence, this finding suggests that it is not the number of parent-child conflicts in general that determines viewing habits but rather the extent and hostility of conflict to formal family rules in particular.

Consistent with the parental influence perspective, preadolescents and adolescents whose parents valued self-direction watched less television than those whose parents valued conformity. This finding reinforces the more general conclusion that parental influence does not necessarily decrease at adolescence. Also consistent with the parental influence perspective, preadolescents whose parents imposed rules restricting television viewing watched less television. These sorts of

rules appear to have the same effect on preadolescents as on adolescents.

Consistent with the resource availability perspective, adolescents who spent more time socializing with peers watched less television. Also as this perspective proposes, television viewing was heavier among adolescents who spent fewer hours working at after-school jobs. However, two findings contradict predictions derived from the resource availability perspective. First, heavy viewing was no more common among children whose families had smaller incomes. This suggests that television may not serve as a substitute for more expensive forms of entertainment, a conclusion consistent with evidence that heavy television viewers are especially likely (instead of being especially unlikely) to be heavy movie-goers (Milavsky et al., 1982; Morgan, 1980; Timmer et al., 1985). And although Study 2's results suggest that greater frequency of optional book reading was associated with less television viewing, Study 1's results indicate that total nonschool reading time was positively associated with television viewing time. This latter finding illustrates that there was not necessarily a hydraulic relation between any two aspects of time use.

Contrary to the need satisfaction perspective, children who spent less time with their parents were not heavier television viewers. In fact, among preadolescents who usually watch television with their parents, more contact with parents was associated with heavier television viewing. Thus, for these children, time spent watching television is spent with parents, a phenomenon confirmed by a variety of past studies (Carpenter et al., 1989; Field, 1989; McDonald, 1986; Newspaper Advertising Bureau, 1980; Timmer et al., 1985). This finding is consistent in spirit with St. Peters et al.'s (1991) evidence that parents who encouraged television viewing coveiwed more, and their children watched more television as compared to children of parents who did not encourage television viewing.

Among the oldest adolescents (in the MTF samples), non-Whites watched more television than Whites, and this gap widened significantly between 1976 and 1997. One possible explanation for this finding is that the increasing presence of minority actors on television may have made its programming increasingly more relevant, inviting, and rewarding for minorities, thus perhaps satisfying needs more effectively.

Limitations. The significant regression coefficients shown in Tables 1, 2, and 3 do not demonstrate that predictors of television viewing determined exposure levels. Some of the associations shown there may actually reflect the effects of heavy television exposure, or the relations may be spurious. However, these analyses assessed the association between each psychosocial predictor and viewing habits controlling for the other psychosocial predictors and demographics. This decreases the likelihood of spuriousness and enhances the likelihood that the associations represent causal influences. Furthermore, it is difficult to imagine how

a child's television viewing habits could shape parental values, punishment styles, and some of the other predictors, so reverse causal effects seem unlikely in these cases. Nonetheless, spuriousness is possible, so conclusions about causality cannot be reached using cross-sectional data. Future empirical work should use longitudinal data in order to assess the direction(s) of causal influence between the variables examined here.

The confirmation of certain hypotheses here enhances the credibility of the general theoretical orientations that justify them. For example, evidence of a negative relation between frequency of peer contact and television viewing among adolescents is consistent with the notion that some adolescents use television to satisfy a need for pseudosocial contact or a need to develop social skills. However, the present data do not conclusively demonstrate that the desire to satisfy these needs motivated heavy viewing among these individuals. And, in fact, it could be that this relation reflects resource availability more than need satisfaction: Adolescents who had relatively little peer contact may have watched more television simply because they had more time available than adolescents who are frequently socializing with friends. Thus, although the evidence reported here confirming some hypotheses lends credibility to their theoretical justifications, it cannot offer definitive support for them.

Past studies of the correlates of television viewing suggest that the content of television programs moderates some of these relationships. For example, whether more reading is associated with more television viewing or less depends to some extent on what is being viewed—children's educational programs versus general or adult entertainment programs (Neuman, 1981; Potter, 1987; Smyser-O'Sullivan, 1981). Similarly, whether TV displaces other activities appears to depend on program content (Huston, Wright, Marquis, & Green, 1999). Although the data we analyzed do not permit us to explore the differential effects of program content, it is a topic worthy of further investigation.

The effect sizes found here are relatively small, and, when taken together, the predictors of television viewing account for relatively small proportions of the variance in viewing habits. This is probably attributable in part to a great deal of random error in measurements of viewing (e.g., Robinson, 1977, 1986; Stipp, 1975) and of the independent variables. Although it is impossible to assess the reliabilities of most measures in the data sets we analyzed, it seems likely that the reliability of the viewing measure is typical of most single indicators in social science research: perhaps about .6 (for consistent evidence regarding television viewing, see Allen, 1981; Huesmann, Lagerspetz, & Eron, 1984).

As a result of such unreliability in measures of the dependent and independent variables, the effect sizes and R^2 s in Tables 1, 2, and 3 may be quite a bit smaller than they would have been had more elaborate measurement techniques been utilized. Nonetheless, the small R^2 s and effect sizes suggest that other needs, parental influence mechanisms, and resources in addition to those considered here

probably regulate television viewing habits as well. Therefore, future research ought to attempt to improve both measurement precision and the comprehensiveness of the sets of predictors evaluated. While we await such work, it would be inappropriate to conclude that because the amount of variance explained by the predictors examined here is small, they are unimportant determinants of viewing habits (see Abelson, 1985).

Another possible limitation may involve the measure of television viewing used in Study 1. As we discussed earlier, the literature on television exposure measurement does not provide any indication that parental proxy reports are less effective than child self-reports at separating light, moderate, and heavy viewers. Nonetheless, Study 1's measure of parents' perceptions of children's viewing may reflect biases in parents' perceptions and biases in parents' willingness to report those perceptions accurately. For example, upper middle-class parents' norms may make them more prone than working-class parents to underreport their children's television exposure. Of course, such reporting biases may affect children's reports of their own behavior as well. Nonetheless, factors that bias reports of television viewing may be mistaken for factors that influence viewing habits, particularly in the case of data collected from parents.

In order to assess the magnitude of this potential danger, it is useful to recognize that the significant associations observed in Study 1 are consistent with those identified in prior studies using children's reports with regard to peer contact (e.g., Friedson, 1953; Johnstone, 1974; Larson & Kubey, 1983; Murray, 1972), conflict with parents (e.g., Banks & Gupta, 1980; Milavsky et al., 1982), intelligence and school achievement (e.g., Fetler, 1984; Gaddy, 1986; Greenberg et al., 1983; Milavsky et al., 1982; Ritchie et al., 1987; Roberts et al., 1984; Timmer et al., 1985), parental values (e.g., Chaffee & McLeod, 1972), television viewing rules (e.g., Fetler, 1984; Greenberg et al., 1983; Medrich et al., 1982; Roberts, 1981; Van den Bulck & Van den Bergh, 2000), and time availability (e.g., Coleman, 1961; Medrich et al., 1982). All this suggests that our findings regarding these predictors are probably not artifactual results of biases in parents' reports.

Another limitation of this investigation worth noting involves our analysis of archival data. Collecting data from large representative samples on the correlates of television viewing is a costly enterprise, and relevant data have already been collected in many past studies. We therefore sought to capitalize on those past resource investments by testing our hypotheses as well as possible with existing data. However, the surveys we analyzed were not designed explicitly to test our hypotheses, which means we were forced to use measures that in some cases were not ideally suited to our goals (e.g., Study 1's measure tapped total reading time, rather than differentiating various different types of reading). With findings such as those reported here in hand, future researchers may have an easier time justifying extensive investment of resources in large-scale studies explicitly designed to study the causes of television exposure, for the sake of understanding

that behavior in particular and for the broader purpose of evolving theories of the causes of human social behavior.

Reading. In Study 1, a positive relation appeared between television viewing and total nonschool reading time among preadolescents and adolescents. This finding is consistent with one reported by Murray and Kippax (1978), who also found that children who spent more total nonschool time reading watched more television. However, Long and Henderson (1970) found a negative relation between television exposure and total reading time, and various other studies found no relation (e.g., Medrich et al., 1982; Morgan, 1980; Neumann, 1988; Zuckerman et al., 1980). Furthermore, Ward et al. (1983) found no consistent relation between television viewing and spare-time reading time among 9-year-olds, but a significant negative relation appeared among 13-year-olds and among 17-year-olds. Clearly, there is much inconsistency among these findings, but we are inclined to attribute this inconsistency to the lumping of all sorts of reading together into a single total measure of time spent. If indeed different sorts of reading have different relations to television viewing, then this lumping would make it difficult to discern replicable patterns. It therefore seems that future research may benefit from using separate measures of different types of reading.

Comparing the DAS and MTF results. Although it would seem useful to compare results on preadolescents and adolescents from the DAS sample to those on the oldest adolescents from the MTF samples, there are some reasons to hesitate before doing so. Many methodological differences between the studies could account for differences in their findings: The DAS is based on a Detroit-area sample, whereas the MTF studies involved national samples; the respondents in the DAS were parents, whereas the MTF respondents were adolescents; the DAS data were collected through face-to-face interviewing, whereas the MTF data were collected via self-administered paper-and-pencil questionnaires; and so on. Furthermore, the two studies' regression equations included nonoverlapping sets of psychosocial predictors. These predictors may partly mediate the effects of some predictors on viewing habits. Therefore, direct comparisons of the MTF and DAS results may be problematic.

Nonetheless, it is interesting to note one striking inconsistency between these studies' results. Whereas parental education, race, and gender all had significant associations with viewing in Study 2, none had significant associations among the adolescents in Study 1. The disappearance of these associations might seem likely to be due to the inclusion of punishment style, household rules, and parental values in the Study 1 regression equation. These three variables were all significantly correlated with parental education, race, and gender, so the former variables may well mediate the effects of the latter variables on viewing. However, parental education, race, and gender were all uncorrelated with television viewing in bivariate analyses using the Study 1 data. Therefore, perhaps the most straightforward possible explanation for the discrepancy

between the two studies is the fact that the MTF respondents were all high school seniors, in a very constrained age range. We look forward to future studies exploring this possibility.

CONCLUSIONS

The present findings augment the literature on the correlates of heavy viewing in a number of ways. Parent-child contact, parental values, rules restricting viewing, and time availability have only rarely been examined in relation to television viewing. The evidence here in terms of the latter three predictors helps to cement the case for them as important determinants of viewing habits. Previous studies of the relation of television exposure to peer integration and parent-child conflict have produced inconsistent results, some documenting correlations and other not. The present evidence lends new credibility to these associations and refines our understanding of the particular aspects of parent-child conflict that may inspire heavy viewing. Partial correlations between intelligence/school achievement and viewing controlling for other psychosocial predictors and demographics have rarely been assessed. The present evidence lends further credibility to this association. Finally, the evidence here that television exposure is negatively correlated with optional book reading among adolescents helps clarify the meaning of the correlation between intelligence/school achievement and viewing by suggesting that it may reflect a preference for less demanding entertainment media among the oldest adolescents lower in perceived intelligence/school achievement.

Finally, our results indicate that the three general theoretical perspectives on the determinants of television exposure discussed here can be used to generate useful hypotheses. Certainly, many more hypotheses can be derived from them, and much can be done to test the cognitive explanations proposed for the effects illustrated here. Future research should do so using more elaborate measurement techniques and longitudinal data. The present results suggest useful starting points for this work.

ACKNOWLEDGMENTS

This research was funded by grants from the Office of Social and Policy Research, CBS Inc., the Society for the Psychological Study of Social Issues, and the National Association of Broadcasters. The authors wish to thank Lee J. Jussim and Duane F. Alwin (who designed and supervised the 1982 Detroit Area Study), for their advice.

REFERENCES

- Abelson, R. P. (1985). A variance explanation paradox: When a little is a lot. *Psychological Bulletin*, *97*, 129-133.
- Adelson, J. (1980). *Handbook of adolescent psychology*. New York: Wiley.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Alexander, A., Wartella, E., & Brown, D. (1981). Estimates of children's television viewing by mother and child. *Journal of Broadcasting*, *25*, 243-252.
- Allen, R. L. (1981). The reliability and stability of television exposure. *Communication Research*, *8*, 233-256.
- Alwin, D. F., & Krosnick, J. A. (1985). The measurement of values in surveys: A comparison of ratings and rankings. *Public Opinion Quarterly*, *49*, 535-552.
- Anderson, D. R., Field, D. E., Collins, P. A., Lorch, E. P., & Nathan, J. (1985). Estimates of young children's time with television: A methodological comparison of parent reports with timelapse video home observation. *Child Development*, *56*, 1345-1357.
- Anderson, R. C., Wilson, P. T., & Fielding, L. G. (1988). Growth in reading and how children spend their time outside of school. *Reading Research Quarterly*, *23*, 285-303.
- Atkin, D. J., Greeberg, B. S., & Baldwin, T. F. (1991). The home ecology of children's television viewing: Parental mediation and the new video environment. *Journal of Communication*, *41*, 40-52.
- Austin, B. A. (1985). Loneliness and use of six mass media among college students. *Psychological Reports*, *56*, 323-327.
- Bachman, J. G., & Johnston, L. D. (1978). *The Monitoring the Future project design and procedures* (Occasional Paper #1). Ann Arbor: Institute for Social Research, The University of Michigan.
- Ball-Rokeach, S. J. (1985). The origins of individual media system dependency: A sociological framework. *Communication Research*, *12*, 485-510.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York: Holt, Rinehart & Winston.
- Banks, S., & Gupta, R. (1980). Television as a dependent variable, for a change. *Journal of Consumer Research*, *7*, 327-330.
- Baranowski, M. D. (1971). Television and the adolescent. *Adolescence*, *6*, 369-396.
- Battin, T. C. (1953). The use of the diary and survey method involving the questionnaire-interview technique to determine the impact of television on school children in regard to viewing habits and formal and informal education. *Speech Monographs*, *20*, 135.
- Bechtel, R. B., Achelpohl, C., & Akers, R. (1972). Correlates between observed behavior and questionnaire responses on television viewing. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior* (Vol. 4). Washington, DC: U.S. Government Printing Office.
- Becker, W. C. (1964). Consequences of different kinds of parental discipline. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research* (Vol. 1). New York: Russell Sage Foundation.
- Blos, P. (1962). *On adolescence*. New York: Free Press.
- Blumler, J. G. (1979). The role of theory in uses and gratifications studies. *Communication Research*, *6*, 9-36.
- Bollen, K. A. (1984). Internal consistency or no necessary relationship? *Quality and Quantity*, *18*, 377-385.
- Bower, R. T. (1985). *The changing television audience in America*. New York: Columbia University Press.
- Brown, J. D., Childers, K. W., Bauman, K. E., & Koch, G. E. (1990). The influence of new media and family structure on young adolescents' television and radio use. *Communication Research*, *17*, 65-82.
- Carpenter, C. J., Huston, A. C., & Spera, L. (1989). Children's use of time in their everyday activities during middle childhood. In M. Bloch & A. Pellegrini (Eds.), *The ecological context of children's play*. Norwood, NJ: Ablex.
- Chaffee, S. H., & McLeod, J. M. (1972). Adolescent television use in the family context. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior*, (Vol. 3). Washington, DC: U.S. Government Printing Office.

- Chaffee, S. H., McLeod, J. M., & Atkin, C. (1971). Parental influences on adolescent media use. *American Behavioral Scientist*, 14, 16-34.
- Chassin, L., Presson, C. C., Sherman, S. J., Montello, D., & McGrew, J. (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation. *Developmental Psychology*, 22, 327-334.
- Childers, P. R., & Ross, J. (1973). The relationship between television and student achievement. *Journal of Educational Research*, 66, 317-319.
- Clancey, M. (1994). The television audience examined. *Journal of Advertising Research*, 34, 1-10.
- Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the Behavioral Sciences*. Hillsdale, NJ: Erlbaum.
- Coleman, J. C. (1980). Friendship and the peer group. In J. Adelson (Ed.), *Handbook of adolescent psychology*. New York: Wiley.
- Coleman, J. S. (1961). *The adolescent society*. New York: The Free Press.
- Comstock, G. (1989). *The evolution of American television*. Newbury Park, CA: Sage.
- Comstock, G. (1998). Television research: Past problems and present issues. In J. K. Asamen & G. L. Berry (Eds.), *Research paradigms, television, and social behavior*. Thousand Oaks, CA: Sage.
- Comstock, G., & Scharrer, E. (1999). *Television: What's on, who's watching, and what it means*. San Diego: Academic Press.
- D'Amico, R. (1982). The time-use behavior of adolescents. In M. E. Borus (Ed.), *Pathways to the future: A longitudinal study of young Americans*. Columbus, OH: The Ohio State University, Center for Human Resources.
- Desmond, R. J., Singer, J. L., Singer, D. G., Calam, R., & Colimore, K. (1984). Family mediation patterns and television viewing: Young children's use and grasp of the medium. *Human Communication Research*, 11, 461-480.
- Dimmick, J. W., McCain, T. A., & Bolton, W. T. (1979). Media use and the life span. *American Behavioral Scientist*, 23, 7-31.
- Dorr, A. (1986). *Television and children: A special medium for a special audience*. Newbury Park, CA: Sage.
- Dorr A., Kovacic, P., & Doubleday, C. (1989). Parent-child coviewing of television. *Journal of Broadcasting and Electronic Media*, 33, 35-51.
- Douvan, E., & Adelson, J. (1966). *The adolescent experience*. New York: Wiley.
- Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: Norton.
- Fetler, M. (1984). Television viewing and school achievement. *Journal of Communication*, 34, 447-461.
- Field, D. E. (1989). *Television coviewing related to family characteristics and cognitive performance*. Unpublished doctoral dissertation, University of Massachusetts, Amherst.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MS: Addison-Wesley.
- Friedman, M. (1957). *Television program preference and televiewing habits of children as related to their socioeconomic status*. Unpublished Ph.D. dissertation, Yeshiva University.
- Friedson, E. (1953). The relation of the social situation of contact to the media in mass communication. *Public Opinion Quarterly*, 17, 230-238.
- Furu, T. (1971). *The function of television for children and adolescents*. Tokyo: Monumenta Nipponica, Sophia University.
- Gadberry, S. (1980). Effects of restricting first graders' TV-viewing on leisure time use, IQ change, and cognitive style. *Journal of Applied Developmental Psychology*, 1, 45-57.
- Gaddy, G. D. (1986). Television's impact on high school achievement. *Public Opinion Quarterly*, 50, 340-359.
- Gold, M., & Douvan, E. (1970). *Adolescent development*. Boston: Allyn & Bacon.
- Gortmaker, S. L., Salter, C. A., Walker, D. K., & Dietz, W. H. (1990). The impact of television viewing on mental aptitude and achievement: A longitudinal study. *Public Opinion Quarterly*, 54, 594-604.
- Greaney, V. (1980). Factors related to amount and type of leisure time reading. *Reading Research Quarterly*, 15, 337-357.
- Greenberg, B. S., Ericson, P. M., & Vlahos, M. (1972). Children's television behaviors as perceived by mother and child. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior*, Vol. 4. Washington, DC: U.S. Government Printing Office.
- Greenberg, B. S., Heeter, C., Burgoon, M., Burgoon, J. K., & Korzenny, F. (1983). *Mexican Americans and the mass media*. Norwood, NJ: Ablex.
- Hagborg, W. J. (1995). High school student television viewing time: A study of school performance and adjustment. *Child Study Journal*, 25, 155-167.
- Hall, J. A. (1987). Parent-adolescent conflict: An empirical review. *Adolescence*, 22, 767-789.
- Heideman, P. J. (1957). A study of the relationship between televiewing and reading abilities of eighth grade students. Unpublished Ph.D. dissertation, University of Minnesota.
- Hendry, L. B., & Patrick, H. (1977). Adolescents and television. *Journal of Youth and Adolescence*, 6, 325-336.
- Heyns, B. (1976). *Exposure and the effect of schooling*. Washington, DC: National Institute of Education.
- Himmelweit, H. T., Oppenheim, A. N., & Vince, P. (1958). *Television and the child*. London: Oxford University Press.
- Holman, J., & Braithwaite, V. A. (1982). Parental lifestyles and children's television viewing. *Australian Journal of Psychology*, 34, 375-382.
- Huesmann, R., Lagerspetz, K., & Eron, L. (1984). Intervening variables in the TV violence-aggression relation: Evidence from two countries. *Developmental Psychology*, 20, 746-775.
- Huston, A. C., Donnerstein, E., Fairchild, H. H., Feshbach, N. D., Katz, P. A., Murray, J. P., Rubinstein, E. A., Wilcox, B. L., & Zuckerman, D. (1992). *Big world, small screen: The role of television in American society*. Lincoln: University of Nebraska Press.
- Huston, A. C., & Wright, J. C. (1996). Television and the socialization of young children. In T. M. MacBeth (Ed.), *Tuning into young viewers: Social science perspectives on television*. Thousand Oaks, CA: Sage.
- Huston, A. C., Wright, J. C., Marquis, J., & Green, S. B. (1999). How young children spend their time: Television and other activities. *Developmental Psychology*, 35, 912-925.
- Johnstone, J. W. C. (1974). Social integration and mass media use among adolescents: A case study. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communication: Current perspectives on gratification research*. Beverly Hills, CA: Sage.
- Juster, F. T., & Stafford, F. P. (1985). *Time, goods, and well-being*. Ann Arbor, MI: Institute for Social Research.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communication: Current perspectives on gratifications research*. Beverly Hills, CA: Sage.
- Katz, E., Gurevitch, M., & Haas, H. (1973). On the use of mass media for important things. *American Sociological Review*, 38, 164-181.
- Kay, H. (1972). Weaknesses in the television-causes-aggression analysis by Eron et al. *American Psychologist*, 27, 970-973.
- Koch, F. P. (1952). *Children's television habits in the Columbus, Ohio, Area*. Columbus, Ohio: Television Committee, Franklin County, Ohio Section, White House Conference on Children and Youth.
- Kohn, M. L. (1969). *Class and conformity: A study in values*. Homewood, IL: Dorsey.
- Kohn, M. L. (1977). Reassessment 1977. In M. L. Kohn (Ed.), *Class and conformity: A study in values* (2nd ed.). Chicago: University of Chicago Press.
- Kohn, M. L. (1981). Personality, occupation, and social stratification: A frame of reference. In D. J. Treiman & R. V. Robinson (Eds.), *Research in social stratification and mobility*, Vol. 1. Greenwich, CT: JAI.
- Koolstra, C. M., & van der Voort, T. H. A. (1996). Longitudinal effects of television on children's leisure-time reading. *Human Communication Research*, 23, 4-35.
- Krosnick, J. A., & Judd, C. M. (1982). Transitions in social influence at adolescence: Who induces cigarette smoking? *Developmental Psychology*, 18, 359-368.
- Kubey, R., & Csikszentmihalyi, M. (1990). *Television and the quality of life: How viewing shapes everyday experience*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

- Kubey, R., & Csikszentmihalyi, M. (2002). Television addiction is no mere metaphor. *Scientific American*, 286, 74-80.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62, 1049-1065.
- Larson, R., & Kubey, R. (1983). Television and music: Contrasting media in adolescent life. *Youth and Society*, 15, 13-31.
- Lasswell, H. (1948). The structure and function of communications in society. In L. Bryson (Ed.), *The communication of ideas*. New York: Harper & Row.
- Lawrence, F. C., & Wozniak, P. H. (1989). Children's television viewing with family members. *Psychological Reports*, 65, 395-400.
- Lefkowitz, M. M., Eron, L. D., Walder, L. O., & Huesmann, L. R. (1972). Television violence and child aggression: A followup study. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior* (Vol. 3). Washington, DC: U.S. Government Printing Office.
- Lefkowitz, M. M., Eron, L. D., Walder, L. O., & Huesmann, L. R. (1977). *Growing up to be violent*. New York: Pergamon.
- Lenski, G. (1961). *The religious factor*. Garden City, NY: Doubleday.
- Lin, C. A. (1993). Modeling the gratification-seeking process of television viewing. *Human Communication Research*, 20, 224-244.
- Liska, A. E. (1984). A critical examination of the causal structure of the Fishbein/Ajzen attitude-behavior model. *Social Psychology Quarterly*, 47, 61-74.
- Long, B. H., & Henderson, E. H. (1970). *Children's use of time: Some personal and social correlates*. Baltimore: Goucher College; Charlottesville: Virginia University. (ERIC Document Reproduction Service No. ED 054 475)
- Luker, R., & Buerger, V. (1985). *Adolescent relationships and the media: A glimpse at differences in media preference and use between teens in low and high quality relationships*. Unpublished manuscript, University of Michigan.
- Lull, J. (1980a). Family communication patterns and the social uses of television. *Communication Research*, 7, 319-334.
- Lull, J. (1980b). The social uses of television. *Human Communication Research*, 6, 197-209.
- Lyle, J., & Hoffman, H. (1972a). Children's use of television and other media. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior* (Vol. 4). Washington, DC: U.S. Government Printing Office.
- Lyle, J., & Hoffman, H. (1972b). Explorations in patterns of television viewing by preschool-age children. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior* (Vol. 4). Washington, DC: U.S. Government Printing Office.
- MacBeth, T. M. (1996a). Indirect effects of television: Creativity, persistence, school achievement, and participation in other activities. In T. M. MacBeth (Ed.), *Tuning into young viewers: Social science perspectives on television*. Thousand Oaks, CA: Sage.
- MacBeth, T. M. (1996b). Introduction. In T. M. MacBeth (Ed.), *Tuning into young viewers: Social science perspectives on television*. Thousand Oaks, CA: Sage.
- Maccoby, E. E. (1954). Why do children watch television? *Public Opinion Quarterly*, 18, 239-244.
- McDonald, D. G. (1986). Generational aspects of television coviewing. *Journal of Broadcasting and Electronic Media*, 30, 75-85.
- McLeod, J. M., Atkin, C. K., & Chaffee, S. H. (1972a). Adolescents, parents, and television use: Adolescent self-report measures from Maryland and Wisconsin samples. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior*. Washington, DC: U.S. Government Printing Office.
- McLeod, J. M., Atkin, C. K., & Chaffee, S. H. (1972b). Adolescents, parents, and television use: Self-report and other-report measures from the Wisconsin sample. In G. A. Comstock, E. A. Rubinstein, & J. P. Murray (Eds.), *Television and social behavior*. Washington, DC: U.S. Government Printing Office.
- McLeod, J. M., & Brown, J. D. (1976). The family environment and adolescent television use. In R. Brown (Ed.), *Children and television*. London: Collier Macmillan.
- McQuail, D. (1983). *Mass communication theory*. Beverly Hills, CA: Sage.
- McQuail, D. (1984). With the benefit of hindsight: Reflections on uses and gratifications research. *Critical Studies in Mass Communication*, 1, 177-193.
- McQuail, D., Blumler, J. G., & Brown, J. R. (1972). The television audience: A revised perspective. In D. McQuail (ed.), *Sociology of mass communication*. Harmondsworth: Penguin.
- Medrich, E., Roizen, J., Rubin, V., & Buckley, S. (1982). *The serious business of growing up*. Berkeley, CA: University of California Press.
- Meyersohn, R. (1972). Leisure. In A. Campbell & P. E. Converse (Eds.), *The human meaning of social change*. New York: Russell Sage Foundation.
- Milavsky, J. R., Kessler, R. C., Stipp, H. H., & Rubins, W. S. (1982). *Television and aggression*. New York: Academic Press.
- Miller, D. R., & Swanson, G. E. (1958). *The changing American parent*. New York: Wiley.
- Montemayor, R. (1983). Parents and adolescents in conflict: All families some of the time and some families all of the time. *Journal of Early Adolescence*, 3, 83-103.
- Montemayor, R. (1986). Family variation in parent-adolescent storm and stress. *Journal of Adolescent Research*, 1, 15-31.
- Moore, J. C. (1988). Self/proxy response status and survey response quality. *Journal of Official Statistics*, 4, 155-172.
- Morgan, M. (1980). Television viewing and reading: Does more equal better? *Journal of Communication*, 30, 159-165.
- Morgan, M., & Gross, L. (1980). Television viewing, IQ, and academic achievement. *Journal of Broadcasting*, 24, 117-133.
- Morgan, M., & Gross, L. (1982). Television and educational achievement and aspiration. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.), *Television and behavior: Ten years of scientific progress and implications for the eighties* (Vol. 1). Washington, DC: U.S. Department of Health and Human Services.
- Murray, J. P. (1972). Television in inner-city homes: Viewing behavior of young boys. *Television and Social Behavior*, 4, 345-394.
- Murray, J. P., & Kippax, S. (1978). Children's social behavior in three towns with differing television experience. *Journal of Communication*, 28, 19-29.
- Mutz, D. C., Roberts, D. F., & Van Vuuren, D. O. (1993). Reconsidering the displacement hypothesis: Television's influence on children's time use. *Communication Research*, 20, 51-75.
- Myrtek, M., Scharf, C., Brügger, G., & Müller, W. (1996). Physiological, behavioral, and psychological effects associated with television viewing in schoolboys: An exploratory study. *Journal of Early Adolescence*, 16, 301-323.
- Neuman, S. B. (1995). *Literacy in the television age: The myth of the TV effect*. Norwood, NJ: Ablex.
- Neuman, S. B. (1988). The displacement effect: Assessing the relation between television viewing and reading performance. *Reading Research Quarterly*, 23, 414-440.
- Neuman, S. B. (1981). *The effects of television viewing on reading behavior*. Willimantic: Eastern Connecticut State College. (ERIC Document Reproduction Service No. ED 205 941)
- Newspaper Advertising Bureau. (1980). *Mass media in the family setting*. New York: Author.
- Nock, S. L., & Kingston, P. W. (1988). Time with children: The impact of couples' work-time commitments. *Social Forces*, 67, 59-85.
- Page, R. M., Hammermeister, J., Scanlan, A., & Ola, A. (1996). Psychosocial and health-related characteristics of adolescent television viewers. *Child Study Journal*, 25, 155-167.
- Palmgreen, P., & Rayburn, J. D. (1985). An expectancy-value approach to media gratifications. In K. E. Rosengren, L. A. Wenner, & P. Palmgreen (Eds.), *Media gratifications research: Current perspectives*. Beverly Hills, CA: Sage.

- Palmgreen, P., Wenner, L. A., & Rosengren, K. E. (1985). Uses and gratifications research: The past ten years. In K. E. Rosengren, L. A. Wenner, & P. Palmgreen (Eds.), *Media gratifications research: Current perspectives*. Beverly Hills, CA: Sage.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin*, *102*, 357-389.
- Pearl, D., Bouthilet, D., & Lazar, J. (1982). *Television and behavior: Ten years of scientific progress and implications for the eighties*. Washington, DC: U.S. Government Printing Office.
- Peirce, K. (1983). Relation between time spent viewing television and children's writing skills. *Journalism Quarterly*, *60*, 445-448.
- Perloff, R. M., Quarles, R. C., & Drutz, M. (1983). Loneliness, depression, and uses of television. *Journalism Quarterly*, *60*, 352-356.
- Perney, J., Freund, J., & Barman, A. (1976). *Television viewing: Its relationship to early school achievement*. Evanston, IL: National College of Education.
- Potter, W. J. (1987). Does television viewing hinder academic achievement among adolescents? *Human Communication Research*, *14*, 27-46.
- Ridder, J. M. (1963). Pupil opinions and the relationships of television viewing to academic achievement. *Journal of Educational Research*, *57*, 204-206.
- Riley, M. W., & Riley, J. W. (1951). A sociological approach to communication research. *Public Opinion Quarterly*, *15*, 445-460.
- Ritchie, D., Price, V., & Roberts, D. F. (1987). Television, reading, and reading achievement. *Communication Research*, *14*, 292-315.
- Roberts, C. (1981). Children's and parent's television viewing and perceptions of violence. *Journalism Quarterly*, *58*, 556-581.
- Roberts, D. F., Bachen, C. M., Hornby, M. C., & Hernandez-Ramos, P. (1984). *Communication Research*, *11*, 9-49.
- Robinson, J. (1977). *How Americans use time*. New York: Praeger.
- Robinson, J. (1986). Alternative methods of measuring time use. In T. Juster (Ed.), *Studies in the measurement of time allocation*. Ann Arbor, MI: Institute for Social Research.
- Rosenblatt, P. C., & Cunningham, M. R. (1976). Television watching and family tensions. *Journal of Marriage and the Family*, *38*, 105-111.
- Rubin, A. M. (1976). *A developmental examination of the uses of television by children and adolescents*. Unpublished Ph.D. dissertation, University of Illinois.
- Rubin, A. M. (1986). Uses, gratifications, and media effects research. In J. Bryant & D. Zillmann (Eds.), *Perspectives on media effects*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Salomon, G., & Cohen, A. A. (1978). On the meaning and validity of television viewing. *Human Communication Research*, *4*, 265-270.
- Schramm, W. L., Lyle, J., & Parker, E. B. (1961). *Television in the lives of our children*. Stanford, CA: Stanford University Press.
- Selnow, G. W., & Bettinghaus, E. P. (1982). Television exposure and language development. *Journal of Broadcasting*, *26*, 469-479.
- Shayon, R. L. (1951). *Television and our children*. New York: Longmans, Green.
- Singer, J. L., & Singer, D. G. (1983). Psychologists look at television: Cognitive, developmental, personality, and social policy implications. *American Psychologist*, *38*, 826-834.
- Smyser-O'Sullivan, S. (1981). *A study of the relationship between television viewing habits and early reading achievement*. Unpublished Ph.D. dissertation, Ball State University.
- Stipp, H. H. (1975). *Validity in social research: Measuring children's television exposure*. Ph.D. dissertation, Columbia University.
- St. Peters, M., Fitch, M., Huston, A. C., Wright, J. C., & Eakins, D. J. (1991). Television and families: What do young children watch with their parents? *Child Development*, *62*, 1409-1423.
- Tan, A. S., & Gunter, D. (1979). Media use and academic achievement of Mexican-American high school students. *Journalism Quarterly*, *56*, 827-831.
- Tangney, J. P., & Feshbach, S. (1988). Children's television-viewing frequency: Individual differences and demographic correlates. *Personality and Social Psychology Bulletin*, *14*, 145-158.
- Timmer, S. G., Eccles, J., & O'Brien, K. (1985). How children use time. In F. T. Juster & F. P. Stafford (Eds.), *Time, goods, and well-being*. Ann Arbor, MI: The Institute for Social Research.
- Tucker, L. A. (1987). Television, teenagers, and health. *Journal of Youth and Adolescence*, *16*, 415-425.
- van der Voort, T. H. A., & Vooijs, M. W. (1990). Validity of children's direct estimates of time spent television viewing. *Journal of Broadcasting and Electronic Media*, *34*, 93-99.
- Van den Bulck, J., & Van den Bergh, B. (2000). The influence of perceived parental guidance patterns on children's media use: Gender differences and media displacement. *Journal of Broadcasting and Electronic Media*, *44*, 329-348.
- Van Evra, J. (1998). *Television and child development*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Wagner, B. M., Cohen, P., & Brock, J. S. (1996). Parent/adolescent relationships: Moderators of the effects of stressful life events. *Journal of Adolescent Research*, *11*, 347-374.
- Ward, B., Mead, N. A., & Searls, D. T. (1983). *The relationship of students' academic achievement to television watching, leisure time reading, and homework* (Report No., NAEP-11-R-51). Princeton, NJ: National Assessment of Educational Progress. (ERIC Document Reproduction Service No. ED 236 249)
- Webster, J. G., & Wakshlag, J. (1985). Measuring exposure to television. In D. Zillmann & J. Bryant (Eds.), *Selective exposure to communication*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Whitehead, F., Capey, A. C., Maddren, W., & Wellings, A. (1977). *Children and their books*. London: Macmillan Education.
- Wiegman, O., Kuttshreuter, M., & Baarada, B. (1986). *Television viewing related to aggressive and prosocial behavior*. The Netherlands: Stichting voor Onderzoek van het Onderwijs.
- Williams, T. M. (1986). *The impact of television: A natural experiment in three communities*. New York: Academic Press.
- Witty, P., & Kinsella, P. (1958). Children and TV—a ninth report. *Elementary English*, *35*, 450-456.
- Woodward, J. C., & Frank, B. D. (1988). Rural adolescent loneliness and coping strategies. *Adolescence*, *23*, 559-565.
- Wright, C. R. (1960). Functional analysis and mass communication. *Public Opinion Quarterly*, *24*, 605-620.
- Wright, J. C., Huston, A. C., Vandewater, E. A., Bickham, D. S., Scantlin, R. M., Kotler, J. A., Caplovitz, A. G., Lee, J. H., Hofferth, S., & Finkelstein, J. (2001). American children's use of electronic media in 1997: A national survey. *Applied Developmental Psychology*, *22*, 31-47.
- Yarrow, L. J. (1964). Separation from parents during early childhood. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research* (Vol. 1). New York: Russell Sage Foundation.
- Zill, N., & Peterson, J. L. (1981). Television viewing in the United States and children's intellectual, social, and emotional development. *Television and Children*, *4*, 21-28.
- Zillmann, D. (1982). Television viewing and arousal. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.), *Television and behavior: Ten years of scientific progress and implications for the eighties*, Vol. 2. Washington, DC: U.S. Government Printing Office.
- Zuckerman, D. M., Singer, D. G., & Singer, J. L. (1980). Television viewing, children's reading, and related classroom behavior. *Journal of Communication*, *30*, 166-174.

APPENDIX A

Measures and Index Construction for Study One

TV Viewing

"Thinking about an average weekday, how much time would you say (target child) spends watching TV? We'd like to get

your best estimate." Responses were recoded in minutes and ranged from 0 (*minimum reported time*) to 1 (*maximum reported time*). The square root of these values was then computed in order to reduce the impact of a few outliers.

Coviewing

"Of all the time (target child) spends watching TV on an average weekday, would you say you watch with him/her most of it, more than half, about half, less than half, or none?" Responses were coded 1, .75, .5, .25, and 0, respectively.

Parent-Child Contact

Time with children. "On a typical weekday, how many hours do you spend in the company of (any of your children/your child)—other than time when you or (they/he/she) are sleeping?" Responses were recoded to range from 0 to 1, with 0 representing the least time spent and 1 representing the most time spent.

Activities with children. "Here are some things that parents can do with or without their children. Please tell me for each one whether you always do it with your (children/child), almost always, sometimes, rarely, or never. If you don't do one of these things at all, just let me know. How about shopping for food for the family? And what about shopping for things you need for yourself? Eating out at restaurants? Playing sports or exercising? Going to movies? How about when you go out to see your friends?" Responses for each item were coded 1 (*always*), .75 (*almost always*), .5 (*sometimes*), .25 (*rarely*), and 0 (*never*) and averaged across the six activities.

Index construction. These two measures were averaged to produce a single index gauging parent-child contact. The correlation between the two constituents of this index was .24 ($n = 542, p < .01$), and both constituents correlated similarly with criterion variables.⁴ Cronbach's α for the index was .39.

⁴It might seem that the weak correlation between these two indicators suggests that they should not be treated as measures of the same underlying construct. However, as Bollen (1984) has demonstrated, it is quite possible for two indicators of the same construct to be only weakly positively correlated with one another, uncorrelated with one another, or even negatively correlated with one another. These conditions can all obtain when the two indicators are causes of a hypothetical construct, instead of being caused by it. When this is so, as is the case for most of the indices computed here, correlations between indicators cannot be used to assess the reliabilities of the indices. Consequently, we cannot determine the reliabilities of these indices. Obviously, we also cannot assess measurement reliability here for those constructs assessed by only single items.

Supporting the treatment of indicators here, each index was more strongly correlated with television viewing than were its constituent variables taken individually.

Punishment Style

Scolding versus talking things over. "Most parents find it necessary to punish their children at one time or another. I am going to read you a list of ways parents punish their children, and for each I would like you to tell me how often you use the methods to punish right now: Very often, often, sometimes, rarely, or never. The first is scolding or yelling. What about talking things over?" Responses were coded 1, .75, .5, .25, and 0, respectively, for each question.

Index construction. In order to measure the hostility of punishment styles, ratings of the frequency of "talking things over" were subtracted from ratings of the frequency of "scolding or yelling." As would be expected, these two measures were negatively correlated with one another ($r = -.09, n = 541, p < .05$), and they correlated inversely with criterion variables.

Extent of Household Rules

Number of rules. "Some families have lots of rules, and other families don't have very many rules. Which kind of family do you have?" Responses were coded 1 (*lots of rules*), 0 (*not very many rules*), and .5 (*in between*).

Strictness of rule enforcement. "Are your rules strictly enforced or not very strictly enforced?" Responses were coded 1 (*rules strictly enforced*), 0 (*rules not strictly enforced*), and .5 (*in between*).

Index construction. These two measures were averaged to yield an index. They were correlated .17 with each other ($n = 541, p < .01$) and correlated similarly with criterion variables. Cronbach's α for the index was .30.

Discord with Parents

Get along. "All in all, how well would you say you get along with (target child)? Would you say you get along very well, all right, or not very well?" Responses were coded 0, .5, and 1, respectively.

Problems. "Now here's a question about how easy or difficult it has been in raising (target child). Most parents have some problems in raising their children. Compared to the children you know of, would you say that (target child) has given you more problems than most, about the same as most, or less than most?" Responses were coded 1, .5, and 0, respectively.

Index construction. These two measures correlated .36 with each other ($n = 541, p < .01$), and they each correlated

similarly with criterion variables. Cronbach's α as calculated from the two measures was .50 for the index.

Nonschool Total Reading Time

[For children age 5 or younger] "How much time would you say that you (and your spouse) spend reading or looking through books, newspaper, and magazines with (target child) on an average weekday?" [For children adolescent age 6 and older] "How much time would you say (target child) spends reading or looking through books, newspapers, and magazines on an average weekday outside school?" The original responses (minutes per weekday) were recoded to range from 0 (*lowest reported time spent reading*) to 1 (*highest reported time spent reading*).

Parental Values for Self-Direction

Kohn parental values measure. Respondents were presented the following list of 13 qualities:

1. that (he/she) has good manners
2. that (he/she) tries hard to succeed
3. that (he/she) is honest
4. that (he/she) is neat and clean
5. that (he/she) has good sense and sound judgment
6. that (he/she) has self-control
7. that he acts like a boy or she acts like a girl
8. that (he/she) gets along well with other children
9. that (he/she) obeys (his/her) parents well
10. that (he/she) is responsible
11. that (he/she) is considerate of others
12. that (he/she) is interested in how and why things happen
13. that (he/she) is a good student

After viewing this list, respondents were asked these questions:

- a. Which three qualities listed on this card would you say are the most desirable for a (boy/girl) of (target child)'s age to have?
- b. Which one of these three is the most desirable of all?
- c. All of the things listed on this card may be desirable, but could you tell me which three you consider least important?
- d. And which one of these three is least important of all?

For the analyses reported, the 13 qualities were scored as follows: 1, the trait or quality most valued of all; .25, one of the three most valued qualities, but not the most valued; .5, neither one of the three most nor one of the three least valued qualities; .75, one of the three least valued, but not the least valued quality; and 0, the quality least valued of all.

A factor score was computed for each respondent by subtracting the average ranks of Manners, Neat and Clean, and Obey from the average ranks of Good Sense, Responsible, and Interested (see Alwin & Krosnick, 1985).

Lenski parental values measure. "Would you please look at this card? If you had to choose, which thing on this list would you pick as the most important for a child to learn to prepare him or her for life: to obey or mind his parents, to be well-liked or popular, to think for himself or herself, to work hard, or to help others when they need help? Which comes next in importance? Which comes third? Which comes fourth?"

The responses to each item on the list were coded 1 (*most important*), .75 (*next most important*), .50 (*third most important*), .25 (*fourth most important*), and 0 (*least important*). A factor score was computed for each respondent by subtracting the rank for Obey from the rank for Think (see Lenski, 1961).

Index construction. The two measures, which correlated strongly with each other ($r = .45$, $n = 510$, $p < .01$), were then averaged to produce a single index. Cronbach's α as calculated from the two factors was .62 for the index.

TV Viewing Rules

"Do you have any rules about how much time (target child) can watch TV in a day?" Responses were coded 1 (*yes*) or 0 (*no*).

Income

"Approximately what was your total family income in 1981 before taxes, considering all sources such as wages, profits, interest, social security, welfare payments, and so on from all family members combined?" The original responses (in dollars) were recoded to range from 0 (*lowest reported income*) to 1 (*highest reported income*).

Parental Education

"How many years of school have you completed?" The original responses (in years) were recoded to range from 0 (*lowest number of years*) to 1 (*highest number of years*).

Age, Race, and Gender

Interviewers recorded the age of the selected child and coded respondents' race and the selected child's gender. Selected children's ages were coded dichotomously to contrast pre-adolescents 2- to 10-years-old (coded 0) with adolescents 11- to 17-years-old (coded 1). Race was coded 0 for Whites and 1 for non-Whites. Gender was coded 0 for boys and 1 for girls.

APPENDIX B

Correlations Among Variables for Full Sample (Detroit Area Study)^a

Correlations

Variable	Mean	SD	Income	Age	Parental Education	Race	Gender	Contact with Parents	Punishment Style	Extent of Household Rules	Discord with Parents	Nonschool Total Reading Time	Parental Values for Self-Direction	TV Viewing Rules	Coviewing with Parents	
Income	0.13	0.10	1.00													
Age	0.48	0.50	0.13	1.00												
Parental Education	0.68	0.13	0.34	-0.01	1.00											
Race	0.30	0.46	-0.31	0.00	-0.17	1.00										
Gender	0.47	0.50	-0.07	-0.02	-0.07	0.02	1.00									
Contact with Parents	0.51	0.17	-0.29	-0.31	-0.11	0.16	0.05	1.00								
Punishment Style	0.42	0.18	0.01	-0.11	-0.09	-0.11	-0.07	-0.10	1.00							
Extent of Household Rules	0.53	0.38	-0.01	-0.03	0.04	0.10	0.05	0.17	-0.14	1.00						
Discord with Parents	0.16	0.21	0.00	0.06	0.02	-0.05	-0.05	-0.13	0.21	-0.16	1.00					
Nonschool Total Reading Time	0.12	0.10	-0.02	0.14	-0.07	0.19	0.10	0.05	-0.09	0.09	-0.05	1.00				
Parental Values for Self-Direction	0.56	0.20	0.25	0.10	0.29	-0.40	-0.12	-0.16	-0.06	-0.09	0.04	-0.05	1.00			
TV Viewing Rules	0.27	0.44	0.00	-0.05	0.15	0.20	-0.04	0.07	-0.17	0.11	0.00	0.12	-0.02	1.00		
Coviewing with Parents	0.57	0.50	-0.18	-0.08	-0.04	0.07	0.04	0.35	-0.04	0.02	0.02	0.04	-0.03	0.07	1.00	
TV Viewing	153.11	91.04	-0.06	0.01	-0.08	0.04	0.02	0.07	0.24	0.05	0.08	0.09	-0.12	-0.12	-0.12	-0.07

^aN = 468.

APPENDIX C

Measures and Index Construction from Study Two

TV Viewing

"How much TV do you estimate you watch on an average weekday?" Response choices were *none* (coded 0), *half-hour or less* (coded .17), *about one hour* (coded .34), *about two hours* (coded .51), *about three hours* (coded .68), *about four hours* (coded .85), and *five hours or more* (coded 1).

Peer Contact

Evenings out. "During a typical week, on how many evenings do you go out for fun and recreation?" Response choices were *less than one*, *one*, *two*, *three*, *four* or *five*, and *six* or *seven*.

Dating. "On the average, how often do you go out with a date (or your spouse, if you are married)?" Response choices were *never*, *once a month or less*, *two or three times a month*, *once a week*, *two or three times a week*, and *over three times a week*.

Index construction. Preliminary analyses indicated that adolescents who never dated or spent evenings out for fun watched more television than adolescents who did, but there was no further decrease in viewing with increasing frequency of socializing. That is, among adolescents who did have peer contact in these ways, there was no correlation between amount of contact and amount of television exposure. The measures of evenings out and dating were therefore dichotomized; *never* was coded 0, and all other categories were coded 1 and averaged to form a peer contact index. These two measures were typically correlated approximately .36 in each year; Cronbach's α was .52 across all years.

Idea Conflict with Parents

"How closely do your ideas agree with your parents' ideas about what you should do with your life? what you do in your leisure time? how you dress—what clothes you wear? how you spend your money? what things are O.K. to do when you are on a date? whether it is O.K. to drink? whether it is O.K. to use marijuana? whether it is O.K. to use other drugs? what values are important in life? the value of education? what are appropriate roles for women? conservation and pollution issues? racial issues? religion? politics?"

Responses to each item were coded 0 (*very similar*), .33 (*mostly similar*), .66 (*mostly different*), and 1 (*very different*). Then, the 14 items were averaged to yield an index. Correlations among the items typically ranged from approximately .16 to about .51 in each year; Cronbach's α was .88 across all years.

Perceived Intelligence/School Achievement

Grades. "Which of the following best describes your average grade so far in high school?" Responses were coded 0 [*D (69 or below)*], .13 [*C- (70-72)*], .26 [*C (73-76)*], .39 [*C+ (77-79)*], .52 [*B- (80-82)*], .65 [*B (83-86)*], .78 [*B+ (87-89)*], .91 [*A- (90-92)*], and 1 [*A (93-100)*].

Intelligence. "How intelligent do you think you are compared with others your age?" Responses were coded 0 (*far below average*), .17 (*below average*), .34 (*slightly below average*), .51 (*average*), .68 (*slightly above average*), .85 (*above average*), and 1 (*far above average*).

School ability. "Compared with others your age throughout the country, how do you rate yourself on school ability?" Responses were coded 0 (*far below average*), .17 (*below average*), .34 (*slightly below average*), .51 (*average*), .68 (*slightly above average*), .85 (*above average*), and 1 (*far above average*).

Index construction. These three measures were averaged to yield an index. The constituents were strongly and positively correlated with one another, with correlations ranging between .4 to about .75 over the 22 years. Cronbach's α was .76 across all years.

Optional Book Reading Frequency

"In the past year, how many books have you read just because you wanted to—that is, without their being assigned?" Responses were coded 0 (*none*), .25 (*one*), .5 (*two to five*), .75 (*six to ten*), and 1 (*ten or more*).

Work Hours

"On the average over the school year, how many hours per week do you work in a paid or unpaid job?" Responses were coded 0 (*none*), .14 (*5 or less hours*), .28 (*6 to 10 hours*), .42 (*11 to 15 hours*), .56 (*16 to 20 hours*), .70 (*21 to 25 hours*), .84 (*26 to 30 hours*), and 1 (*more than 30 hours*).

Parental Education

Father's education. "What is the highest level of schooling your father completed?" Response were coded 0 (*grade school or less*), .20 (*some high school*), .40 (*completed high school*), .60 (*some college*), .80 (*completed college*), and 1 (*graduate or professional school after college*).

Mother's education. "What is the highest level of schooling your mother completed?" Responses were coded

0 (*grade school or less*), .20 (*some high school*), .40 (*completed high school*), .60 (*some college*), .80 (*completed college*), and 1 (*graduate or professional school after college*).

Index construction. These items were averaged to yield an index score. These items were typically correlated approximately .55 across the years; Cronbach's α was .71 across all years.

Race, Gender, and Age

Respondents indicated their race, gender, and year of birth. Race was coded 0 for Whites and 1 for non-Whites. Gender

was coded 0 for men and 1 for women. Year of birth was recoded to reflect age: 0 (*16 years or lower*), .25 (*17 years*), .5 (*18 years*), .75 (*19 years*), 1 (*20 years and above*).

Year

The year in which the survey was conducted was coded as follows: 0 (*1976*), .05 (*1977*), .10 (*1978*), .14 (*1979*), .19 (*1980*), .24 (*1981*), .29 (*1982*), .33 (*1983*), .38 (*1984*), .43 (*1985*), .48 (*1986*), .52 (*1987*), .57 (*1988*), .62 (*1989*), .67 (*1990*), .71 (*1991*), .76 (*1992*), .81 (*1993*), .86 (*1994*), .90 (*1995*), .95 (*1996*), and 1 (*1997*).

APPENDIX D

Correlations Among Variables Across Years (Monitoring the Future)^a

	Mean	SD	Parental Education	Race	Gender	Peer Contact	Idea Conflict with Parents	Perceived Intelligence/ School Achievement	Optional Book Reading Frequency	Work Hours	TV Viewing
Parental Education	.55	.23	1.00								
Race	.12	.32	-.12	1.00							
Gender	.53	.50	-.05	.04	1.00						
Peer Contact	.90	.23	.05	-.09	-.02	1.00					
Idea Conflict with Parents	.37	.20	-.11	-.01	-.08	.04	1.00				
Perceived Intelligence/ School Achievement	.67	.18	.26	-.10	.03	.01	-.22	1.00			
Optional Book Reading Frequency	.50	.33	.08	-.01	.18	-.04	-.04	.21	1.00		
Work Hours	.43	.33	-.09	-.11	-.06	.09	.10	-.09	-.03	1.00	
TV Viewing	.52	.27	-.19	.25	.01	-.08	.03	-.20	-.06	-.14	1.00

^aN = 47,068.

Basic and Applied Social Psychology 25(2)

Queries for MS1

“Psychosocial Predictors of Heavy Television Viewing...”

Krosnick, Anand, Hartl

Reference

1. Roberts et al. (1984): please provide article title.