

DEVELOPMENT OF AN ADULT RETROSPECTIVE
RECALL MEASURE OF CHILDHOOD
TELEVISION VIEWING

By

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CHAPTER I

INTRODUCTION

Almost all homes in the United States have televisions. By 1980 approximately 98% of homes in the United States had at least one television. Currently, the majority of families have 2 or more television sets. According to audience ratings, families have the television turned on an average of 7 hours per day, and somewhat longer if they have subscription services. Adults spend more time watching television than doing any other leisure activity. In fact, the only activities adults do more often than watch television are work and sleep. Clearly, a significant portion of the day for most Americans is spent watching television (Liebert & Sprafkin, 1988; Huston, et al, 1992; Harris, 1999).

The role of television in children's lives is of considerable concern to developmental psychologists. Children spend more time watching television than doing any other activity except sleeping. In fact, they spend more time watching television than they do attending school. The average American child watches between 2 and 4 hours of television per day, including weekends. Many households now have multiple television sets and many of the second or third televisions are located in children's bedroom. Because many children have their own television set in their own bedroom, they are able to make unsupervised program choices.

Children are exposed to television very early in life. Many parents report putting their infants in front of the television to quiet them (Huston, et al., 1992). The life-span pattern of television viewing can begin slowly, with as little as 15 minutes a day in infancy but increases rapidly during the preschool years to about 2.5 hours per day. Viewing time then drops slightly when children begin school, but increases to a peak in early adolescence of approximately 4 hours of viewing per day. Beginning in late adolescence and continuing through early adulthood, television viewing declines as individuals are gaining independence from their parents, studying, working, and spending more time away from the home. However, this decline in television viewing is only temporary. It resumes to approximately 4 hours per day until retirement and then increases slightly for most retirees until the age of 70. During retirement television viewing often takes the place of a job, child rearing, and/or a lost spouse (Harris, 1999; Huston et al., 1992).

With the mass consumption of television, researchers have begun to examine the uses of television and the complex influences that media has on our attitudes, beliefs, and behaviors. Behavioral scientists in both psychology and mass communication generally acknowledge that popular mass medias (e.g. television, movies, video games) reflect one of the four sources of socialization in children, along with parents, teachers, and peers. The amount of time spent watching television suggests that it is as influential as the other three sources of socialization.

The proliferation of television has presented a compelling reason for psychologists to study how it impacts one's beliefs, behaviors, and attitudes. The present study seeks to gain a viewing profile of individuals throughout their life-span and examine the relationship between an individual's viewing habits and their attitudes and beliefs about the world (cultivation). This paper will first outline the relevant theories examining the potential effects television can have on an individual. Second, it will present evidence of television's impact on social behavior including aggressive behavior, prosocial behavior, and risk-taking behavior. Third, memory for television will be addressed followed by the examination of a few studies of particular interest. Finally, the specific hypothesis, proposed method, and proposed analysis of the current project will be presented.

CHAPTER II
REVIEW OF THE LITERATURE
Theories of Media Effects

Psychologists and mass communication researchers have proposed several theories over the past 50 years concerning television viewing and its effects on our behaviors, attitudes, and beliefs about the world. Four major theories are of particular interest to this project and will be highlighted here. These are not the only theories involving television media and its effects, but they are the most relevant to a majority of media effects research. The theories described below include cultivation, uses and gratification, observational learning, and script theory.

There are several major theories that examine the selection, consumption and effects of exposure to television on beliefs and behaviors. Gerbner, a mass communication researcher, has spent over 30 years developing and studying the process of cultivation. Cultivation theory describes the process in which repeated exposure to television over time gradually shapes our view of the world and our perception of social reality. Cultivation theory addresses the relationships between the messages from television and the audiences' beliefs. Simply put, the messages from television cultivate our attitudes and beliefs about the world. For example, the more television one views, the more likely one will believe that

there is a high prevalence of crime because of the high frequency of crime on television. Gerbner and his colleagues also proposed two significant subprocesses in cultivation (Gerbner, Gross, Morgan, & Signorielli, 1984; Gerbner, Gross, Morgan, & Signorielli, 1986; Gerbner, Gross, Morgan, & Signorielli, 1994). Mainstreaming, the first subprocess, is the idea that the more television one consumes, the less influence other sources have in shaping one's view of the world. The process of mainstreaming occurs as viewers learn "facts" about the world from observing the "world" of television. Viewers then use their acquired knowledge to formulate beliefs about the real world and the social reality. For example, a population of television viewers initially have many different views about any given issue; mainstreaming occurs as individuals with these different views gain the same "experiences" through watching the same television programs and their once-divergent views converge into more of a "mainstream" view. Another subprocess of cultivation theory is called resonance (Gerbner, Gross, Morgan, & Signorielli, 1984; Gerbner, Gross, Morgan, & Signorielli, 1986; Gerbner, Gross, Morgan, & Signorielli, 1994). Resonance reflects the interaction between an individual's real-life experiences and the social reality "facts" he or she gains through watching television. As an individual has an increase in real-life exposure to a social problem (e.g., crime) and an increase in exposure to the same social problem on television, the resulting belief of the social reality of the problem will be amplified. For example, individuals who live in high crime neighborhoods and are frequent viewers of television, have even greater distortions of their perception of the frequency of crime in reality

than individuals who also live in high crime areas but do not watch as much television.

While cultivation theory merely addresses the processes which shape viewers beliefs and attitudes, social learning theory describes how viewers' overt behavior is changed from observing the social behavior of others. Bandura and his colleagues are credited with developing social learning theory (a.k.a. observational learning or modeling theory) (Bandura, 1965; Bandura, 1977; Bandura, Ross & Ross, 1961; Bandura, Ross & Ross, 1963). This theory posits that individuals learn behaviors by observing others' behavior and subsequently imitate that behavior. Behavior can be modeled by parents, teachers, peers, and/or television characters. In social learning theory, there is a wide range of models. In fact, anyone can be a model (e.g. peers, parents, television characters, etc.). The process of social learning occurs in four steps. First, one must attend to a model's behavior. Second, one must store in memory a representation of the model's behavior. Third, one must be physically able to imitate the behavior. In other words, one must have adequate motoric abilities to perform the target behavior. Finally, one must have sufficient motivation or reinforcement to imitate the model's behavior. Bandura began his research in the 1960's using a series of films showing a model interacting with an inflatable "bobo" doll. The films depicted the model hitting, kicking, and acting aggressively toward the bobo doll. Children in the studies viewed the films, then were observed at play in a room that contained many toys including a bobo doll. In one version of the film, the model was rewarded with cookies, candy, and soda

following the aggression toward the bobo doll. In another version of the film the model was punished after “beating-up” the bobo doll. The children who were in the rewarded-model condition immediately imitated the model’s behavior, but the children who were in the punished-model condition avoided the bobo doll. Those children did, however, eventually imitate the model’s behavior when presented with rewards to do so. This series of experiments demonstrated that one must have sufficient motivation to imitate a model’s behavior (the fourth step in Bandura’s theory). The theoretical process of social learning has been observed empirically in a variety of settings including learning and subsequent imitation of a television model (Bandura, 1965; Bandura, 1977; Bandura, Ross & Ross, 1961; Bandura, Ross & Ross, 1963).

A key component of social learning theory is that the observed behavior must be remembered for use at a later time. Some authors have applied a theory from cognitive psychology as an elaboration of this step in observational learning (Huesmann, 1986; Huesmann & Malamuth, 1986). Cognitive psychologists have theorized that some types of information gained from experiences are organized into memory scripts. A script is a cognitive schema of an activity that includes the temporal arrangement of behaviors and events (e.g., what happens when one goes to a restaurant). Scripts are acquired from a variety of sources including personal experiences as well as from vicarious experiences such as television viewing. Repeated exposure to similar situations allows individuals to form an abstract script for the common features of that particular situation. That abstract script gradually becomes a part of an individual’s permanent memory, which is

then used to interpret future events concerning that activity and/or to guide one's behavior in the situation. (Ahn, Brewer, & Mooney, 1992). Researchers have theorized that individuals can learn scripts from watching television (Janis, 1980; Luke, 1987, Huesmann, 1986). For example, when individuals watch programs with medical themes, which often include a patient dealing with a terminal illness, the information they acquire forms a script for dealing with that situation. The script may include an idea about how family members are told about the illness, what the doctors may say, and/or the types of feelings the patient may experience as a result of learning about his or her terminal illness and how the individuals cope with the illness. Thus, script theory describes how reoccurring subjects and themes of television plots are stored in memory as prototypic social routines.

While the theories described thus far deal with outcomes of television viewing, uses and gratification theory concerns how people choose the programs they view. In surveys, the most commonly nominated reasons to view a particular television programs include entertainment, education, companionship, and to avoid a less desirable activity. These reasons for viewing merely represent average group characteristics. There are other important reasons people choose the programs they will view including individual differences (e.g., personality) as well as situational variables (e.g., living alone). A further illustration of the point of situational variables is taken from Bryant and Zillmann (1984). In this study the researchers induced either a relaxed or stressed state in their participants. Following the manipulation of their emotional state, participants

were given a choice of programming that included both action-adventure and low-key relaxing programs. They found that those participants who were in a relaxed state were more likely to choose the exciting programming while those in the stressed-emotional state were more likely to choose the unexciting program. Another study helps illustrate the importance of individual characteristics such as personality in television program choice. Potts, Dedmon, and Halford (1996) examined the relationship between sensation seeking and television viewing preferences. They found that high sensation seekers did not watch any more television than low sensation seekers, but that they preferred more music videos, daytime talk shows, stand-up comedy programs, documentaries and cartoons than the low sensation seekers. These two example studies demonstrate how temporary states, such as mood, and personality characteristics, such as sensation seeking, are important factors in television program choice.

Cultivation theory, social learning theory, script theory, and uses and gratification theory all taken together describe a general process. The process begins with the selection of a program (uses and gratification theory). It is an important initial component in the process. Following the program selection, learning particular behaviors and acquiring particular beliefs (social learning theory and cultivation theory) from the program is important. One of the final components is storing the information in memory (script theory). The next section will examine the research findings in studies where many of the theories explored above have been tested.

Television and Social Behavior

As television went from the novel to the norm during the 1950's, parents, teachers, politicians, and scholars began to wonder how it would affect children and their behavior. Since that time there have been thousands of studies conducted to examine television's potential affect on children's behavior (Liebert & Sprafkin, 1988; Huston et al., 1992; Bryant & Zillmann, 1994; Bryant & Zillmann, 1986). Specifically, this section will review a sample of literature involving television and aggression, television and prosocial behavior, and television and risk-taking behavior. Researchers have been concerned with how television affects both children's and adult's social behavior in both the short term and the long term. Television and other mass media represent a vehicle that can shape our personalities as we grow into adults. According to Bandura's (1965, 1977) theory of observational learning, imitation of a model (on television or otherwise) can occur at any point in time because the modeled behavior is stored in memory. Additionally, given that Bandura has shown behavior can be imitated following one observation, it logically follows that repeated observations of a particular character (or behavior) increases the likelihood of imitation. Individuals viewing a "favorite" program are likely to view it at least once a week, most weeks of the year, for several years. Therefore, exposure to the typical behavior of a character (or model) is heavily repeated. Imitation of the program and a model's behavior can occur at any point because it is stored in memory for an indefinite amount of time. In the short term, television affects several behaviors of children including, but not limited to, violent behavior, prosocial behavior, and risk

taking behavior. These social behaviors will be explored throughout the following section beginning with aggressive behavior.

Television and Aggression

Many researchers have questioned the effects of violent television on aggressive behavior, including 40 research teams that participated in the Surgeon General's Report of 1972. The Surgeon General issued a call to researchers to specifically address the serious questions that had arisen concerning television and children's social behavior. With the call from the Surgeon General, the National Institute of Mental Health used \$1 million to fund the 40 projects that were focused on television and children's social behavior.

The research findings on television violence were consistent. Correlational, experimental, and field experiment studies all found a connection between watching violent television and aggressive behavior. In one study, children who watched one of several violent programs in the laboratory were more likely to choose physical aggression as a valid response to hypothetical conflict situations (Leifer & Roberts, 1972). In fact, the more violent the program they viewed, the more frequently they chose physical aggression was chosen as a response. A similar study examined the effects of type of program (violent or nonviolent) on a child's choice to help another child playing a game (by making a handle easier to turn) or to "hurt" the other child (by making the handle hot) (Leibert & Baron, 1972). The children (boys and girls) who watched the violent program were more likely to "hurt" the other child than those who watched the nonaggressive program. Essentially, children who watch more violent television

will be more likely to act aggressively. In response to the Surgeon General's report on television's effect on social behavior, researchers continued to examine aggressive behaviors after viewing different levels of violent television. For example, Atkin (1983) explored the difference in willingness to act aggressively after viewing real, fictional, or no violence. Atkin showed that 10-13 year old children were more likely to choose physical aggression after watching a 15 second fight during a 6 minute program. Additionally, those children who saw a fight labeled as "real" were more likely to choose physical aggression than those who saw a fight labeled as "fictional". Children in both of the fight conditions were more likely to choose physical aggression than those children who saw no fight at all.

In addition to controlled laboratory studies which demonstrated a causal relationship between television violence and aggressive behavior, many correlational studies revealed similar naturally-occurring relationships. McIntyre and Teevan (1972) measured self-reported television viewing habits and deviant behavior in adolescent boys and girls. Each participant completed a self-report measure of deviant behavior and listed his or her four favorite programs (one they never missed). A positive relationship was found between levels of violence in the four favorite programs and deviance scores. In a similar study, Robinson and Bachman (1972) asked each participant to report their four favorite television programs and to complete a self-report aggression checklist. They found that older adolescents who preferred at least some violent programming endorsed significantly more aggressive behaviors than those adolescents who did not

prefer violent programs. In a large-scale study funded by a major television network, Belson (1978) examined the relationship between television viewing, aggressive behavior, and other personal characteristics of more than 1,500 adolescent males. Belson found that high exposure to television violence was positively correlated with the amount that participants engaged in serious aggression, including inflicting bodily harm to others and property damage.

To date, several hundred studies of both experimental and correlational designs, similar to those described above, have found a consistent connection between watching violent television and subsequent aggressive behavior. Thus, it is easy to conclude scientifically that viewing violent programming has a causal role in producing short-term increases in children's aggression. A more difficult question to answer is whether television violence viewing produces long-term, durable or even permanent changes in viewers. In other words, can years of viewing television violence actually shape an individuals' personality?

Longitudinal studies have provided valuable information about the long term relationship between television violence and aggressive. Lefkowitz, Eron, Walder, and Huesmann (1972), have conducted the longest running study of television violence and aggressive behavior. They initially examined the relationship between the amount of violent television viewed by third graders and their aggressive behavior. Aggressive behavior was measured by peer nominations and the amount of television violence viewed was measured through interviews with parents. Ten years after the initial measurements, participants were contacted again and similar measurements were obtained. Lefkowitz et al.

found a statistically significant relationship between the amount of violence watched in the third grade and aggressive behaviors at age 19 (the age at the 10 year follow-up) for boys. Additionally, the researchers contacted the participants once again at age 30. Again, a significant relationship was observed between television violence viewing in the third grade and aggressive behavior at age 30, which at that age was operationally defined as number of criminal activities as well as the seriousness of the activities (Huesmann, 1986; Huesmann, Eron, Lefkowitz, & Walder, 1984). Furthermore, third grade television violence viewing was significantly correlated with aggressive behaviors exhibited by the participant's own children. These findings suggest that aggressive behaviors can be learned early in life from television and once established are resistant to change. Consequently, early television habits are linked, in some individuals, with adult criminal behavior (Huesmann, 1986; Huesmann, Eron, Lefkowitz, & Walder, 1984).

Based on the hundreds of experimental, correlational, and longitudinal studies conducted over the past four decades, meta-analysis have been performed to statistically summarize this body of research. Hearold (1986) and Paik and Comstock (1994) reported meta-analyses on the effects of violent television viewing and aggressive behavior. Both sets of researchers found that the effect size was small to moderate (.30 & .31; Hearold, 1986; Paik & Comstock, 1994, respectively). Each reviewer found a significant positive relationship across the studies they examined. Thus, while the average of

television violence on aggressive behavior is modest, its effects on a massive audience can easily result in numerous acts of aggression on a societal level.

In science, no individual study can fully define the nature of a phenomenon. Rather, it is important to evaluate the entire body of literature on television violence and aggressive behavior as a whole. Several professional organizations including the American Psychological Association, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the American Medical Association have concluded that there is a causal relationship between watching violent television and subsequent aggressive behavior in some children (Joint Statement, 2000). It is no longer acceptable to posit that researchers are not yet able to get a clear picture of how violent television affects aggressive behavior or to conclude that violent television has no effect on aggressive behavior (Harris, 1999).

Television and Prosocial Behavior

Increased aggressive behavior is only one way commercial television content can affect social behavior. Researchers have also shown that positive behavior on television can affect prosocial behavior of viewers as well. Broadly defined, prosocial behavior includes any behavior which is socially desirable and which, in some way, benefits another person or society at large. Prosocial behavior has often been grouped into three main categories: altruism is characterized by helping others, sharing with others, and cooperating with others. Self-control includes following rules and controlling hedonistic impulses. Finally, nurturing and sharing one's feelings with others characterizes the category of

empathy/sympathy. In addition to the afore mentioned groupings, other behaviors, such as racial tolerance and promoting diversity, are considered to important prosocial messages. Early content studies showed that in the 1970's altruism was the most frequent category of prosocial behavior in general audience programs (e.g. situation comedies, family drama, etc.)(Liebert & Poulos, 1975, Sprafkin, Rubinstein, & Stone, 1977). More recently, Lee (1988) found that 97% of all prime-time programs have at least one prosocial act per hour. Furthermore, 58% of prosocial actions were intended to solve a problem and 80% of those attempts were successful. Thus, while many television programs do contain violence and often undesirable behavior, many, if not most, programs contain prosocial, desirable behaviors as well. The same psychological processes which are considered to be operating to produce increased aggressive behavior often exposed to violent television content (e.g. social learning theory, scripts, etc.) are also implicated in medial effects on prosocial behavior.

Several experimental studies have found statistically significant effects of prosocial television messages on children's behavior. For example, Sprafkin, Liebert, and Poulos (1975) showed children a prosocial episode of "Lassie" in which Lassie helped puppies in trouble, a neutral episode of "Lassie", or the "Brady Bunch", which contained no prosocial behavior. After viewing the program, the participants were observed while performing a pleasant activity, but were also presented with a competing situation to respond to "puppies in need". The children who saw the prosocial episode of "Lassie" spent more time away from their pleasant activity in order to help the puppies than the other two groups

(Sprafkin, Liebert, & Poulos, 1975). These findings suggest that after viewing one episode of prosocial television children are willing to make sacrifices in order to behave in a prosocial manner.

Field studies employs research techniques of experimental manipulation studies but does so in a naturalistic setting. In their field study, Stein and Friedrich (1972) manipulated the type of television program (violent, prosocial, or neutral) children watched each day for several weeks during preschool. Observers recorded data from each child for 5 minutes a day during free play and during classroom time. Children in the prosocial condition exhibited an increase in self-control and altruistic behaviors while those in the violent television condition exhibited a decrease in self-control. Thus, changes in “real world” prosocial activity can be observed after exposure to social behavior in television programs.

In addition to experimental studies, correlational studies have also shown a relationship between prosocial messages on television and prosocial behavior. For example, Rosenkoetter (1999) examined children’s comprehension of the prosocial messages in situation comedies. He found a positive correlation between the amount of home viewing of prosocial situation comedies and teacher ratings of prosocial behavior in the classroom. This correlation was particularly strong for those children who had previously shown the most comprehension of the prosocial message. In another study, Caucasian children who watched Sesame Street for 2 years showed more positive attitudes toward children of other races (Bogatz & Ball, 1972, Christensen & Roberts, 1983).

Tolerance and acceptance of others can lead to prosocial behaviors by bridging the racial gaps that often exist between ethnicities.

Experimental studies, and correlational studies have all demonstrated the effects of prosocial behavior. As with the topic of television violence and aggressive behavior, a meta analysis was done to summarize the effects of prosocial television and various behaviors. Hearold (1996) included 190 studies that examined the effects of prosocial television on behavior. She found an effect size for prosocial television programs = 0.63. This effect size illustrates the substantial effect prosocial television messages can have on positive behavior, particularly when compared with the smaller effect size of violent television messages on aggressive behavior (.30). This study illustrates that it is easier to change behavior in a prosocial direction than an aggressive direction. One potential reason for this effect may be that positive reinforcements for prosocial behavior are already pervasive in social life.

Television and Risk Taking

Although most research on television's effects on social behavior has been conducted on aggressive behavior and prosocial behavior a few studies have examined television effects on, risk taking, a personal behavior that often takes place in social settings and carries potential significant consequences. Children are exposed to risky behavior in a variety of settings including television. A content study by Potts and Henderson (1991) of 57 children's programs or general audience programs exposed a rate of 15 injuries per hour. These rates of injury are particularly important when considering that the vast majority of the

injuries were presented without consequences. Thus, children may view frequent risk taking without viewing potential costs to the characters. Potts and Henderson's content analysis shows that television can be a significant source of exposure to risk taking.

Risky behavior or characters in television programs can both increase and decrease risk taking behavior in child viewers. Potts, Doppler and Hernandez (1994) studied 6-9 year old's self reported willingness to take physical risks in several common situations (e.g. crossing the street, climbing a tree) after viewing a television stimulus with a varying degree of risk-taking. The children who saw the program with the most frequent risk-taking showed a significant increase in their willingness to take risks compared to those who saw low risk television content. This study illustrates that risky television models may influence a child's own risk-taking behavior, which would possibly increase the chances of injury for that child. Potts and Swisher (1998) explored the relationship between risk taking behavior and television safety content. Their 60 participants were divided into three viewing conditions that contained several variations of safety content ranging from a primary safety content to no safety at all. Pre-post scores for the participants who saw at least some safety content showed a significant decrease in self-reported willingness to take risks. Additionally, participants who viewed at least some safety content exhibited an increase in their ability to identify hazards. The results of this study indicate that children do receive risk-taking messages from television, even if they are not the primary focus of the program.

Television can influence social behavior as illustrated in the preceding sections, specifically short-term changes. Viewing violent television influences aggressive behavior, viewing prosocial television messages can increase desirable prosocial behavior, and viewing risky behaviors can both increase and decrease risk taking behavior. Television's influence on social behavior has been demonstrated through a variety of research techniques including experimental laboratory studies, correlational studies, longitudinal studies, and meta-analysis.

Television and Social Behavior: Research Methods

A majority of the research on television and social behavior to date has focused on the short term and immediate effects of television. Collectively, that research has demonstrated conclusively that television can influence social behavior in both positive (i.e. lower risk taking behaviors, increase prosocial behaviors) and negative (i.e. increase aggressive behaviors, increase risk taking behaviors) ways. These investigations of short-term effects of television on social behavior have employed both experimental and correlational methodologies. In laboratory studies that explore the relationship between television viewing and current characteristics (e.g. psychological state), participants are typically presented one program or a series of programs which contain characters who express the behavior of interest (e.g. aggression). These types of studies yield results on immediate behaviors in artificial laboratory environments. Correlational studies avoid the artificial environment but do so at the expense of experimental control. Non-experimental correlational studies typically use television use surveys or viewing diaries or monitoring equipment in the home to identify current

viewing habits, which are then correlated with current psychological or behavior characteristics. Thus, most of these studies have assessed effects of “current” television viewing, whether as experimental stimuli or naturally-occurring viewing in the home.

Although these aforementioned studies allow strong conclusions about short-term effects of television, there is a need for more investigations on the long-term effects of television on behavior and personality. Most television effects theories and general socialization theories posit that television has cumulative long-term effects on viewers. Cultivation theory, for example, includes the process of mainstreaming, which over time yields similarities in beliefs among individuals who previously had divergent beliefs. Another example is in social learning theory. This theory postulates that repeated exposure to, learning of, and reinforcement for particular behaviors allows for assimilation of those particular behaviors into the individual’s typical behavioral response pattern, which, according to many theories is the individual’s personality. To date, researchers who have wished to explore the relationship between childhood television viewing and adult characteristics and personality have only been able to do so in a few longitudinal studies. Longitudinal studies, as previously stated, are very labor intensive and costly and the results may be unknown for years.

The current approach will be an attempt to gather longitudinal information in a retrospective manner. In other words, the investigation will include retrospective recall of childhood television viewing and its relationship to current psychological characteristics. Although this research is correlational in nature, it

will offer a different type of comparison than typical correlational studies in this area offer. In other words, this study will correlate early television viewing with current characteristics, which may offer new information about long-term processes by which childhood experiences with television may influence adult characteristics.

To date, researchers have not yet attempted to collect longitudinal television viewing data in a retrospective manner. Therefore it is essential to examine the potential problems that may occur with such method. The following section will address significant measurement issues in adult recall of childhood television viewing.

Memory for Television

The previous section introduced the proposal to develop a retrospective recall measure of television viewing. This section will explore potential methodological issues with measurement of recall of distant television viewing, and how we propose to deal with those issues. Additionally, there will be a brief review of the few studies that employed measures of recall for remote television viewing.

An individual's memory seems to be endless and nearly timeless. Most individuals can recall events from their lives as early as 3 years old. In fact, following a period of infantile amnesia (a phenomena that occurs before the age of 3 and indicates no autobiographical memory), human memory is very good. Many people can easily recall their 5th birthday party, the name of their 4th grade teacher, and even their favorite food as a child. Memory continues to expand as

individuals grow older and are engrossed in a continuous process of encoding, storage, and retrieval. Given the vastness of memory the task of measuring it could be daunting. Psychologists have traditionally used three task formats to measure memory. Free recall, the most cognitively difficult task, is the process of remembering without any aid. An example of free recall would be if Jane spontaneously remembered that she wished to view the PBS special on indigenous species of lizards that will be shown this evening. Cued recall, on the other hand, is a task that contains clues to elicit the desired information and is cognitively easier than free recall. An example of cued recall is if Jane's roommate said to her, "what did you want to watch on television this evening?" Recognition, the easiest of the three tasks, involves making judgments about whether or not a presented stimuli has been perceived or experienced before. An example of recognition is Jane's examination of the television guide, seeing the listing of the PBS program on lizards, and remembering that she wished to view that show this evening (Ashcraft, 2002). Because recognition is the least cognitively demanding memory task of the three presented above, it logically follows that recognition should be used for measuring information in long-term memory. To assess memory for television programs viewed years earlier participants in this study will be presented with a list of television program titles that were broadcast during a target time period and asked to recall their frequency of viewing the programs.

Although human memory seems to be endless, it is still fallible. Flash bulb memory, for example, is a memory for a significant historical event (e.g., a

presidential assassination). Research on flash bulb memories shows that individuals often do not accurately recall such events following a significant amount of time (Brown and Kulink, 1977). Researchers hypothesize that flash bulb memories are altered because the memories are recounted numerous times and may be influenced later by the assimilation of more information surrounding the event. Eyewitness memory is another example where research illustrates memory distortion. As with flashbulb memory, eyewitness memory is influenced by new information and recounting the story to police officers, attorneys, and others. Research in this area has also revealed that memory distortion can be introduced by leading questions, source misattribution, misinformation acceptance, and overconfidence in memory. Source misattribution is the inability to distinguish whether the original event or some later event was the true source of the information. Misinformation acceptance occurs when additional information is accepted as having been part of an earlier experience without actually remembering that information. Overconfidence in memory (e.g. "I saw it with my own two eyes!") also contributes to eyewitness memory distortion. A final example of memory distortion is false memory. False memory is simply a perceived memory for something that objectively did not occur. One type of false memory occurs with the "critical lure", i.e. when remembering a list of highly associated words (e.g. bed rest, awake, and pillow) it is common to falsely recall semantically-related words that never appeared on the list (e.g. sleep). The flash bulb phenomenon, eyewitness testimony research, and false memory research

highlight the constructive process of encoding, storing, and retrieval of memories, rather than veridical recording of information.

Each of the examples of memory distortion mentioned above is concerned with an individual's experience with a single event. However, much of life experience, and thus much content in memory, reflects repeated events (e.g. eating lunch, playing softball, or watching television). Repeated exposure to an event is one form of rehearsal or repetition of that event. Rehearsal is a basic method of improving memory. Research has shown that it is more difficult to recall a list of words after viewing it only once with no rehearsal than after viewing it once with rehearsal (Ashcraft, 2002). Repetition is the nature of most television program viewing. Most television programs are designed to be viewed once per week as a recurring series. Successful television programs may be seen each week for several years. Regular viewing of a program with the same recurring characters and situations in this repetitive manner is akin to rehearsal. Thus, despite the passage of many years since the initial viewing experience, adults' memory for television viewing should not be highly susceptible to distortion or forgetting; in other words, it should be fairly accurate.

Despite the potential accuracy for past viewing, most studies of the relationship between television viewing and behavioral or cognitive outcomes have only assessed current television viewing patterns. As stated in previous sections, numerous studies have demonstrated the immediate effects of television viewing on aggressive behavior, prosocial behavior, risky behavior, and so on. These studies clearly show that television can have both positive and

negative effects on behavior. Previous sections also point out some of the cumulative effects of television on behavior. Longitudinal studies, particularly the study by Huesmann et al. (1984), have demonstrated the life long effects of television on aggressive behavior. Although longitudinal studies can demonstrate the cumulative effects of television, there are several serious limitations to their use. As discussed in previous sections, longitudinal studies are costly, in terms of time, effort and monetary demands. If a researcher is interested in the cumulative effects of childhood television viewing on young adult behavior he or she may have to collect 15 to 20 years of worth of data before he or she is able to analyze it. In addition to the time constraints, longitudinal studies can also be restrictively expensive. Researchers employing longitudinal techniques must subsume the cost of tracking participants through moves, divorce, and other circumstances which disperse their participants. Given these difficulties of longitudinal studies, alternative methods of collecting cumulative data should be explored.

Retrospective recall measures could potentially provide an alternative to longitudinal studies. Longitudinal studies measure viewing patterns and behavior as they occur over time; in retrospective recall, participants could recall early television viewing patterns and those patterns could be correlated with current behaviors, i.e. all measurement would occur at one time. Thus far, retrospective recall methods have not been used for this purpose. One hesitation of researchers could be unknown elements of the accuracy for recalling television programs decades after originally viewing them. As previously stated in this section, certain types of memory are fallible. Memory is subject to forgetting and

distortion and is highly constructive. However, the research on the phenomena of forgetting and distortion is largely focused on memory for a single event (i.e. flashbulb memory and eyewitness testimony). Moreover, there is evidence that other memories persist for the entire life of an individual. It is possible that the recurring experiences of watching a particular television program is sufficient to create such durable and retrievable memories, especially with cues and other recall supports.

Although retrospective recall has potential utility to examine the long-term effects of television on behavior, very few studies have examined long-term memory for television viewing in any manner. Squire and his colleagues were interested in measuring long-term memory and chose past television programs as convenient stimuli to be recalled (Squire & Slater, 1975; Squire, Chance, & Slater, 1975). It is important to point out that Squire and his colleagues were not interested in the effects of television; rather, they simply used television programs as stimuli. Using a recognition format, they assessed memory for television program titles that were broadcast for a single season and had not aired for 2 to 15 years before the data collection began; this avoided the possibility of more recent exposure to those programs as reruns. Adult and child participants showed accurate recognition of television programs that were aired when they were as young as five years old, although their accuracy dropped to chance before that age. Additionally, adults who were living out of the country during the original broadcast dates had poor recall for those programs, which was expected due to the lack of viewing opportunity. Interestingly, children who

were not old enough to have viewed many of the programs during the testing period nevertheless showed accurate results down to the age of 5 years old, indicating that there was enough opportunity to learn about the programs existence even if they did not have the opportunity to watch them, presumably from network promotions, parental references and the like (Squire, Chance, & Slater, 1975). These results suggest that some information about television programs, mainly the names of the programs, may be resistant to forgetting across long periods of time, in some instances, even without actual viewing of the program.

The two studies discussed above were primarily concerned with the accuracy of long-term memory. Two other studies were primarily concerned with adults' memory for a single childhood television experience, specifically one that created an intense emotional reaction (Hoekstra, Harris, & Helmick, 1999; Harrison & Cantor, 1999). In both studies, participants were able to recall their first experience of viewing a frightening movie in childhood. Hoekstra et al. reported that participants were able to report vivid memories of viewing scary movies in childhood as young as five years old, including the process of choosing the movie and the social situation surrounding the viewing. Very similar results were reported by Harrison and Cantor. Many of their participants had enduring fright effects from their viewing experiences, and were able to recall the strategies used to cope with those effects. The similar findings of the two studies indicate quite good recall for even specific "one-time" media experiences. The results from these 4 studies indicate memory for television programs may be

resistant to forgetting; that is, memory for a single viewing experience may be stable for as long as 20 years.

CHAPTER III

STATEMENT OF PURPOSE

Given the limitations of methodologies for studying the long term effects of television, apart from longitudinal studies and their drawbacks, a new method is warranted. A retrospective recall measure of television viewing may be a viable option for examination of long-term effects without the difficulties presented by longitudinal studies. This study proposes to explore the validity of a retrospective long-term measure of television exposure.

Evidence from research that used television programs as stimuli for measuring long-term memory yielded results consistent with the notion that people can recall television programs they have previously viewed as long as 20 years prior to that recall (Squire & Slater, 1975; Squire, Chance, & Slater, 1975; Harrison & Cantor, 1999; Hoekstra, Harris, & Helmick, 1999). This research provides reasonable evidence that a retrospective method of television recall may be sufficiently accurate for use in studies that link early television viewing with later psychological characteristics.

Hypotheses

The overall/general hypotheses of this study are that the results of this type of retrospective recall measure will provide evidence of its validity. One way to assess remote viewing is to simply ask participants what they viewed during

the target year(s). Participants in this study will be given a list of prime time network television program titles for a given season and asked to rate their frequency of viewing (1= “rarely/never watched to 5=“never missed it”) for each program during the original broadcast season. They will also be asked to provide details of the content of some of these programs. If their indicated frequency of viewing is accurate, then individuals should recall more program content (e.g. character names, plot elements, and common situations) from a program they watched frequently, compared to a program they watched less frequently or not at all. Additionally, a few false program titles will be inserted into the television title list. Again, if recall for remote television exposure is accurate then participants should not endorse the false program titles, i.e., the false program titles will be rated as “rarely/never watched” on the frequency of viewing scale.

Another method chosen here to explore validity is to attempt to replicate previous findings regarding cultivation effects. Cultivation is a construct that is demonstrated by correlations between individual’s reports of hours spent watching television (currently) and their beliefs about society (e.g., individuals who currently watch a lot of television typically believe that there is a high crime rate in society). To date, all cultivation research has only assessed the relationship between current viewing patterns and current beliefs. However, many theories of television effects hypothesize that the various influences of television are not simply immediate and transient, but, rather, the effects are cumulative and long term. Given the frequent replication of the cultivation effect together with the hypotheses that television effects are cumulative, it logically

follows that the past amount of television viewed should have an impact on current cultivation-like beliefs. In this study, the researchers will assess the number of hours spent watching television for the target years. If this retrospective method of measuring television exposure is accurate, then a correlation will be observed between the past amount of television viewing and current beliefs about society. If such a result is obtained, it will not only extend knowledge of a cumulative cultivation process, but also give evidence of construct validity of the retrospective television recall measure.

CHAPTER IV

METHOD

Participants

The participants were 146 college students from a large mid-south university. The mean age of the participants was 21.22 years ($SD = 2.78$). Due to experimenter error, no further demographic information was obtained from the participants. Students were recruited from classes offering credit (sometimes extra credit) through the Psychology Department's research participation pool. Students received one unit of credit for participating in this study. Students who do not wish to participate in research were offered alternative activities with an equal amount of credit.

Materials

Surveys were include in a packet of information designed to explore the television programs a participant was watching during a target year, how well the participant can recall the details from a few programs, the number of hours they currently watch per week, and a measure of cultivation.

Retrospective Television Recall Measure. The recall questionnaire began with five questions designed to cue the participant's memory of a target year. One example of this type of question is, "What grade were you in during the 1990-1991 school year?". The same questions proceeded recall for each target year.

Second, participants were given a prime-time network television schedule from the target year. These schedules included television programs that appeared in 1990, 1994, 1998 and 2002 and had approximately 100 program titles per year. Participants were asked to rate the frequency of viewing each program either 1 (“never/rarely” watched it), 2 (watched it “a few times “), 3 (“occasionally” watched it), 4 (watched it “fairly often“), or 5 (“never missed it”).

Third, participants were asked to choose one program they “never missed” (rated a “5”), one program they “occasionally” watched (rated a “3”), and one program they “never/rarely” watched (rated a “1”). For each, they recalled as many actor/character names and common plot themes as they could. Pilot testing indicated that the number of errors that occurred in participant’s recall of actor/character names and plot elements were negligible. The accuracy of recall in the current study was not tested. Also, they were asked to indicate how often, if at all, they watched that program in rerun. They were asked to do this for each of the four target years (see Appendix B).

Current Television Viewing Hours. For comparability with previous cultivation study methodologies, participants estimated their current weekly television viewing hours. This simple 4 step calculation asked participants to estimate the number of hours of television they watch on a typical weekday and multiply the number by 5. Second, it asked participants to estimate the number of hours they spend watching TV on a typical weekend day and multiply the number by 2. Third, participants were asked to estimate the number of hours they spend

watching movies (at home or in the theatre). Fourth, participants were asked to add the three numbers together (see Appendix C for exact instructions).

Cultivation. A measure of cultivation was included in each packet. It consisted of 20 items designed to measure various beliefs about the world, usually pertaining to crime frequency and law enforcement. Similar measures have been used by many researchers in the past to study cultivation (see Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979; Signorielli & Morgan, 1990). One example of a cultivation question is, “On average, how many times does a police officer fire his gun in the line of duty during his career?”. To minimize demand characteristics, and to prevent participants from guessing the hypothesis, the cultivation questions were interspersed with filler questions structurally written as directly parallel with the cultivation questions, but the content did not ask about violence, safety, or the police profession (questions ask about recycling, motorcycle safety, pregnancy and abortion, and the medical profession) (see Appendix C).

Procedure

Participants were recruited from classes participating in the research participation pool (described above) with a sign-up sheet distributed during class by their instructor. Participants attended a designated data collection session the same week they were recruited. During the data collection sessions, participants were first asked to give informed consent. Next, participants were asked to complete a packet of questionnaires. Written instructions were provided for each

questionnaire and the researcher was available to answer any questions the participants may have had.

CHAPTER V

RESULTS

Analyses of Television Schedule Ratings

The overall/general hypothesis of this study was that participants would be able to accurately use an adult retrospective recall measure of childhood television viewing. As the primary measure of childhood television viewing, participants were asked to rate their frequency of viewing every program in a prime-time network television schedule for four different years (1990, 1994, 1998, and 2002). Evidence that participants used the retrospective recall measure as intended was obtained in several different ways. Logically, participants cannot watch all programs simultaneously. Moreover, it would be unlikely for a person to “never miss” (rated a “5”) a large number of programs, or even to watch a large number of programs “fairly often” (rated a “4”) due to the sheer volume of programs shown nightly. In the schedules provided, there were 5 television networks, each showing 3 to 6 programs an evening for a total of 15 to 30 programs per night. Most adults typically watch between 2 and 4 hours of television per day (Harris, 1999). Thus, if a person watches 3 or 4 programs during prime time at least “fairly often”, that leaves 12 to 27 programs which can only be viewed “a few times” or “rarely/never.” Therefore, the majority of the programs in any given year (1990, 1994, 1998, or 2002) should be rated as

viewed either “a few times” (rated a “2”) or “rarely/never” (rated a “1”) with a smaller number rated as viewed “fairly often” (rated a “4”) or “never miss” (rated a “5”). Inspection of frequency ratings showed this to be the case. A majority of the programs (73% - 82%) in each year’s schedule were rated as “rarely/never” watched (a “1”) while very few (2%-3%) were rated as “never missed it” (a “5”) (see Table 1).

Another indication that participants used the retrospective recall measure as intended was in the analysis of the false program titles. As these programs were not real, participants should have rated them as “rarely/never” (rated a “1”) watched. Ten false program titles were inserted randomly into the 4 schedules. Of all of the times the false program titles were rated by any participant (n = 1307), 99.31% (n = 1298) of the occurrences were “rarely/never” watched (rated a “1”). In other words, only 9 participants gave ratings other than “rarely/never” watched (rated a “1”). Furthermore, of those 9 false program ratings, 6 of them were reportedly watched “a few times” (rated a “2”), 2 were “occasionally” watched (rated a “3”), and only 1 of the 9 was watched “fairly often” (rated a “4”). Thus, very rarely did any participants falsely remember watching these plausible but fictitious program titles.

Finally, the data were examined for the total amount of viewing across each target year. If there was stability in the measure then there should have been a positive relationship between viewing frequency in each of the target years (1990, 1994, 1998, and 2002). To determine viewing level for each of the target years, a sum of each of the television program ratings within a target year

was created and then divided by the total number of programs in that year (98 programs in 1990, 95 in 1994, 132 in 1998, and 104 in 2002). When calculating the average rating scores, a problem arose in that the number of participants who completed a viewing frequency rating for each of the titles within a target year was surprisingly low (n = 69, 59, 23, & 38 for 1990, 1994, 1998, & 2002 respectively). The missing data could be due to the sheer number of viewing ratings a participant was asked to make (over 400 across all years). Most of the participants omitted only a few title ratings. To increase the number of participants without missing data, so that correlations could be computed across the four years, missing data points were replaced with the most conservative viewing frequency score (a "1": "rarely or never" watched) for participants who had up to 5 missing frequencies per year. Five missing frequencies was selected as the cutoff, because, this meant that no more than 5% of the missing values for any given year were replaced. Replacing these missing data points increased the number of participants with complete data dramatically (n = 130, 124, 106, & 108 for 1990, 1994, 1998, & 2002, respectively) which facilitated an appropriate test of stability.

Examination of the viewing frequency relationships across years showed stability to be the case. Statistically significant positive correlations were found among viewing frequency means between all target years (see Table 2). Also, current weekly viewing, measured as hours per week viewed in 2003-2004, was used to examine consistency in viewing across the target years. Results indicated consistency between current weekly viewing and each of the target

years. Significant positive correlations were found between current viewing hours and average frequency ratings in all but one year (see Table 2). This evidence of stability and consistency in viewing patterns across 14 years (earliest target year to current weekly viewing) indicates the retrospective recall measure appears to be evaluating the intended constructs (frequency of viewing patterns) with a technique that is producing relatively uniform results.

Taken together, the above results (small proportion of programs watched frequently, very few false program title endorsements, and significant positive correlations among viewing levels across years) suggest that the measure was used by the participants as the researchers intended.

Analyses of Characters Recalled

The previous section gave evidence that the participants appear to be using the retrospective recall measure as intended, but the relationship between the reported frequency of viewing and the amount of details recalled must be further explored. This section investigates the validity of the retrospective recall measure by assessing memory for details of programs. It was hypothesized that participants would recall more characters/actors names from programs they “never missed” (rated a “5”) than from programs they watched “occasionally” (rated a “3”) and from programs they “rarely/never” (rated a “1”) watched. This is based on fundamental properties of memory, namely, that persons should recall more information from a stimulus with which they have had greater experience, compared to a less-experienced stimulus (Ashcroft, 2002). Furthermore, based on past research showing good memory for remote past television viewing

(Squire & Slater, 1975), it was also hypothesized that there would be little or no effect of year (1990, 1994, 1998, and 2002) on the number of characters/actors participants would recall.

To determine the impact of viewing frequency (“rarely/never” watched rated a “1”, “occasionally” watched rated a “3”, and “never missed it” rated a “5”) and year (1990, 1994, 1998, and 2002) on the number of characters remembered, a 3 x 4 (viewing frequency by year) repeated measure ANCOVA was performed, with frequency of rerun viewing (never, a few times, or frequently) used as a covariate. Rerun viewing was taken into account as it could potentially influence memory recall apart from viewing during the intended target year. Because many popular programs from past years are now shown in reruns, it is difficult to know if participants genuinely recalled details from their original exposure to an program, as opposed to more recent exposure to the program in reruns. ANCOVA allows removal (partialing out) of variance that can be attributed to a variable that may not be of particular interest to the researcher, or which may artificially inflate the effect of the intended variable (Howell, 1997). Using ANCOVA in the current situation allows for statistical control of variables related (i.e., rerun) to the dependent variable (i.e. the number of character/actor names recalled) while giving a clearer picture of the original hypothesis. Zero-order correlations between the number of characters remembered from all 12 selected programs and the frequency of viewing those programs in reruns were all statistically significant, indicating that the effects of rerun viewing on recall should indeed be partialled out.

The means and standard deviations of the number of characters remembered can be seen in Table 3. Those means were analyzed using an ANCOVA. The number of participants who had complete data for all levels of both viewing frequency and year was 80. In the ANCOVA for the number of characters remembered, the main effect of year was not statistically significant, ($F(3,239) = 2.24, p = .09$). The main effect of viewing frequency and the year by viewing frequency interaction effect were both statistically significant ($F(2,159) = 23.39, p < .001$; $F(6,479) = 4.01, p = .001$, respectively). The main effect of viewing frequency accounted for 22.70% of the variance in the number of character/actors remembered while the year by viewing frequency interaction effect accounted for 4.80% of the variance.

The significant interaction effect (viewing frequency by year) of the number of character/actor names remembered was explored further. Orthogonal contrasts were conducted comparing the “rarely/never” watched program to the “never missed it” program within each year (1990, 1994, 1998, and 2002). In each year, more details were recalled for the “never missed” program than the “rarely/never” watched program (see Table 4). Additionally, orthogonal contrasts were conducted comparing the “rarely/never” watched program to the “occasionally” watched (rated a “3”) program within each year (1990, 1994, 1998, and 2002). Each of these contrasts was also statistically significant (see Table 4).

Analyses of Plot Elements Recalled

Memory for details from selected programs was further explored with recalling plot elements. Specifically, it was expected that participants would recall

more plot elements from programs they “never missed” than from programs they watched “occasionally” (rated a “3”) and programs they “rarely/never” watched. Based on past research showing good memory for remote television viewing (see Squire & Slater, 1975), it was hypothesized that there would be no year (1990, 1994, 1998, and 2002) main effect on number of plot elements participants would recall. To determine the impact of viewing frequency and year and on the number of plot elements remembered, a 3 x 4 (viewing frequency by year) repeated measure ANCOVA was performed, with frequency of viewing reruns (never, a few times, or frequently) as the covariate. Zero-order correlations between the number of plot elements remembered in the 12 selected programs and the frequency of viewing in reruns were mostly statistically significant (9 out of the 12 correlations), indicating that rerun variance in recall due to rerun viewing should indeed be partialled out .

The ANCOVA method applied in the above analysis of characters remembered was also applied to the number of plot elements remembered with the same 80 participants. Again, the main effect of viewing frequency was statistically significant ($F(2,157) = 21.34, p < .001$). Specifically, the main effect of viewing frequency accounted for 21.40% of the variance in the number of plot elements remembered. The main effect of year was not statistically significant ($F(3,236) = .89, p = .45$). Similarly, the year by viewing frequency interaction effect was not statistically significant ($F(6,473) = 1.81, p = .10$).

The significant main effect of viewing frequency for the number of plot elements recalled was explored further. Post hoc orthogonal contrast analysis

revealed that participants recalled more details from programs they “never missed” than the programs they “rarely/never” watched ($F(1,79) = 8.09, p = .006$). Similarly, participants recalled more details from the programs they “occasionally” watched than the programs they “rarely/never” watched ($F(1,79) = 28.99, p = .001$). These results indicated that there was, in fact, a relationship between the reported viewing frequency and the amount of details recalled (see Table 5 for cell means and cell standard deviations).

Analyses of Cultivation Measure

Cultivation is a construct that describes the process in which repeated exposure to television over time gradually shapes our view of the world and our perception of social reality. The cultivation effect occurs when frequent television viewers believe that social reality (amount of crime, victimization, etc.) is similar to that seen on television compared to infrequent television viewers who do not believe that social reality is similar to that seen on television. In this study, it was used as a way to assess construct validity of participants’ reports of television viewing level. Specifically, it was hypothesized that there would be a relationship observed between the amount of television viewed and current beliefs about society. If a cultivation pattern is observed between current viewing and societal beliefs, then the relationship between societal beliefs and past viewing could also be explored.

In past cultivation research, participants are divided into two groups (light viewers and heavy viewers) using a median split of the number of hours they spend watching television (Signorielli & Morgan, 1990) and comparing these

groups' total cultivation belief scores, cultivation sub-scale scores, and individual items on the cultivation measure. Participants in the current study were divided into two groups (light viewers and heavy viewers) through a median split on the number of current weekly television viewing hours. T-tests were then conducted to determine differences between light and heavy television viewers on their total cultivation scores. Results showed there was not a statistically significant difference between current light and heavy viewers on the total cultivation scores ($t(127) = 1.22, p = .22$). Similarly, there was no difference between light and heavy viewers on any of the cultivation sub-scale scores (trust, violence, and safety) ($t(129) = -0.51, p = .61$; $t(129) = 1.67, p = .10$; $t(131) = 1.018, p = .31$; respectively). Finally, there was a difference between light and heavy viewers on only one individual cultivation item (the percent of people who commit serious crimes) ($t(131) = 2.84, p = .005$). Thus, evidence of a cultivation effect was not visible using the traditional ways of examining cultivation.

An alternative method of examining cultivation effects was performed in which current viewing hours was kept as a continuous variable as opposed to dichotomizing it to identify heavy and light viewers. In this analysis, none of the correlations between current television viewing and cultivation were statistically significant. For the individual cultivation items 2 of the 11 correlations between item score and current television viewing hours were statistically significant (fear of walking alone in your own neighborhood at night, $r(133) = .18, p = .04$; and the percentage of all people who commit serious crimes, $r(133) = .20, p = .02$)

Past research on cultivation effects has only been conducted using measures of current television viewing. If there had been a relationship between current television viewing hours and cultivation scores (total, sub-scale, and/or individual items) then the analysis could have been extended to past years. However, no further analysis was conducted because cultivation effects were not found. Potential reasons for the failure to find cultivation effects with current television viewing scores are discussed in the following section.

CHAPTER VI

DISCUSSION

The purpose of this study was to assess the accuracy of adults' retrospective recall of childhood television viewing. The main hypothesis, that adults can accurately recall the frequency of viewing television programs they watched as children, was supported. Support for that hypothesis came from two types of data. The first represented whether or not participants could recall the programs they watched in four target years. The second represented participants' ability to recall some content details (character/actor names and plot elements) from three selected programs from each target year. The second set of data was used as a form of validation for the first component. Specifically, it was hypothesized that if a participant endorsed frequently viewing of a program, they should also recall a high number of content details; whereas compared to an endorsement of low frequency viewing should produce a low number of content details recalled. If the viewing frequency reports were accurate, the pattern of recollection should correspond to how often the program was viewed. This main hypothesis was supported suggesting that participants used the instrument as intended and their recall of program content corroborated that accuracy.

Participants appeared to use the retrospective recall measure, specifically the frequency of viewing, as the researchers intended. Evidence of the intended

use can be seen in several ways. First, participants responded to each individual program title in each target year. Second, participants showed logical patterns of viewing. For example, it is physically impossible for a participant to “never miss” several programs during the same time slot (e.g. 7:00 p.m. on Thursday).

Another example of a logical pattern of viewing was found in the number of favored or “never missed” programs. Again, although it would not be impossible, it is unlikely that a participant would have a very high number favored programs in any given year. The results did not reveal any such illogical patterns of program viewing. Third, there was extremely low endorsement of the false program titles. In fact, there were only 9 endorsements of the false program titles as anything other than “never or rarely” watched (out of a total of 1307 endorsements). Given the face validity, logical patterns of viewing, and low number of false program title endorsements, researchers have tentatively concluded that the retrospective recall measure was used as they had intended.

Content recall, the second type of data used to support the main hypothesis and to validate the first type of data, showed clear predicted patterns. There was a pattern of increasing content recall from the target program viewed least to the target program viewed most. That is, participants were able to recall most content details from the programs they endorsed as having watched the most compared to the programs they did not watch frequently. The pattern of recall for character/actor names was parallel to the pattern of recall for plot elements. The similarities in the results of the number of characters remembered and plot elements recalled may be interpreted as a form of internal replication.

Each dependent variable involved specific details from the 12 target programs. Identical patterns of recall were found for the two dependent variables. Thus, the argument for accuracy of memory may be strengthened because the robust pattern of recall found for the number of characters remembered was parallel to the number of plot elements recalled.

Memory for ones' television viewing habits and the content of these programs may be durable for several reasons. There are several principles from the memory research literature that indicate that intrinsic aspects of television programs may facilitate remembering. One fundamental principle of memory involves repeated exposure to stimuli. In the majority of television programs intended for entertainment, there are recurring characters and plot elements. Viewers typically experience favored programs once each week and this level of exposure may continue for many years. This repetition and rehearsal of television programs helps to create durable memories for program content as well as the recurring choices of programs for viewing. Another characteristic of television viewing that may facilitate remembering is that most programs contain emotional content. It could be argued that the goal of most entertainment-oriented television programs is to evoke emotion in viewers. That is, as a form of entertainment, programs induce mainly positive, or and sometimes negative, emotions in the viewer. Memory researchers have demonstrated a positive correlation between the amount of recall of an event and the amount of emotionality the event produced (Thompson, Skowronski, Larsen & Betz, 1996). Thus, the emotion generated by television programs also facilitates durable

memory for program content. Television program content repetition and vicarious emotional experiences are two intrinsic characteristics that help facilitate accurate retention of television program content.

Previous empirical research on memory for television programs is sparse. However, these results add to the small body of research by Squire and his colleagues that showed that individuals retain information in memory for television program exposure many years after the original viewing experience (Squire, Chance, & Slater, 1975; Squire & Slater, 1975). Those researchers showed that adult participants had reliable recognition memory for general information about television programs they had viewed 15 years prior to testing. Additionally, participants had reliable memory for titles of programs which aired when they were as young as 5 years of age. The current study adds to the previous findings with results that indicating that participants using cued recall measures remembered several content details from programs they watched as long ago as 12 years before the measurement session. Moreover, participants were able to remember as many details, specifically character or actor names and plot elements, from programs watched when they were as young as 7 years old just as well as they could recall such details in programs watched when they were 18 years old. The patterns of content recall observed supported the accuracy of recall of their overall viewing patterns. Participants recalled far more detail from programs they frequently watched compared to programs they watched infrequently.

Squire and his colleagues limited their studies of television program recall for programs that had aired for one season only and had not been seen in re-runs since that time (Squire, Chance, & Slater, 1975; Squire & Slater, 1975). When Squire and his colleagues investigated memory for television details, cable television was not available and the amount of on-air time to show re-runs was limited (Squire, Chance, & Slater, 1975; Squire & Slater, 1975). Today, with most homes having access to over 100 channels, viewers have many opportunities for repeated viewing of favored programs long after the initial airing of television series. Re-runs, either end-of-season or in syndication, however, are another aspect of the intrinsic repetition of television programs. One important variable considered in the current study was the potential effect viewing programs in re-runs may have had on the recall measures. A moderate positive correlation between participants' reports of re-run viewing and the amount of details recalled was observed. However, controlling for re-run viewing did not change the results for characters/actors and plot elements remembered, it simply attenuated the effect sizes. The main effect of viewing frequency explained about 5 times more variance than any other effect (e.g. the year effect or the interaction effect). These results support the contention that this retrospective recall of television viewing is valid and accurate even when re-runs influence memory and recall.

Cultivation

Hypotheses were initially proposed concerning cultivation, a process in which an increase in television viewing is related to an increase in beliefs that the real world is, a dangerous, crime-ridden place, much like the world presented by

television. If our retrospective recall measure was valid it may have also been related to current societal beliefs, albeit, a lagged relationship. An observed cultivation effect would have given evidence of construct validity of the viewing recall measure because according to cultivation theory, a persons societal beliefs are shaped by the number of hours spent watching television. Application of the cultivation hypothesis to the past viewing measure in this study was dependent on first observing a cultivation effect using the current television viewing level, measured here as the typical number of hours viewed per week. However, current viewing amount was not related to beliefs about societal crime and victimization. Given these non-significant results, further cultivation analysis were not undertaken. It was not considered appropriate to investigate the relationship between cultivation beliefs and past television viewing when there was a failure to show any cultivation effect for current viewing. There are several potential explanations why a cultivation effect was not found in this study. First, the sample population was a group of college students, who may have relatively accurate knowledge about crime rates, learned, for example, in a sociology or criminal justice class, or from other reliable information sources. Therefore, their knowledge of real world crime may be less susceptible to distortion caused by watching television crime programs, compared to individuals who do not have the same information. Second, Gerbner and Gross (1976) originally outlined cultivation theory in the 1970s when the choices for television viewing were mainly limited to broadcast network television which offered limited viewing choices, often with a strong focus on crime drama within those choices. Today,

television program choices are nearly unlimited such that, one could view an abundance of television programs, but never see a crime show, which would reduce or eliminate any general cultivation effect as was seen in past cultivation research (Gerbner & Gross, 1976).

Limitations and Conclusions

Although the current study found clear results that supported the main hypothesis, it is not without limitations. For example, college students participated in this study for course credit, which could cause difficulties in generalizing this study to the general population. However, there is little evidence that college students as a group watch television in a substantially different way than the general population. Additionally, because no demographic information about the participants was obtained, it is impossible to speculate about the role of gender, ethnicity, college major, etc on recall of television viewing. It is not expected that those demographics would change the results, but without that data it cannot be confirmed. Other limitations are concerned with methodology. For example, the current study asked participants to rate the frequency of prime-time network television programs only. Today, with the pervasiveness of cable, a majority of homes receive 100 or more channels. Undoubtedly, this study would have provided more comprehensive results if all television channels were included. However, including cable in our measure would have added more than 4,000 television program titles creating a data set beyond the scope of this initial exploratory research. Another methodological limitation may have been participant bias in the choices for the 12 programs selected for recall of content.

That is, participants may have chosen programs for which they knew they could recall details, whereas they may not have recalled other frequently-viewed programs as well. One way to correct this potential bias in future studies would be for the researcher, rather than the participant, to choose the 12 selected programs for detailed recall.

The findings in the current study supported the main hypothesis, but several issues remain unresolved. For example, how far back can individuals reliably recall television viewing and program content (i.e. how early in ones' life can television be recalled)? Squires and his colleagues found that participant could recall details at a level greater than chance from when they were as young as 5 years old (Squire, Chance, & Slater, 1975; Squire & Slater, 1975). Future research could further explore that potential age-limit of television viewing recollection. A variation of this study, that could provide additional validation for the retrospective recall measure, would include an informant (e.g. a parent or sibling), who has firsthand knowledge of the participant's television viewing, to complete the measure on the participant's behalf. A comparison of the participant's and informant's results may yield more evidence to support a retrospective method of television viewing. These are just a few examples of questions about remote television recall that researchers could pursue in the future.

With additional research to replicate these results and to offer further validation of the accuracy of early viewing recall, a retrospective recall measure of television viewing could be utilized in several ways. For example, it could be

employed to collect longitudinal-type information without the costs (i.e. time and money) of conducting longitudinal studies. Longitudinal relationships are important in television effects research because of the probable cumulative influence television viewing may have on personality and behavioral development. The retrospective recall measure could also be used to construct individual television viewing profiles. Profiles could be used to study the relationship between any number of personality characteristics and life-long preference for program type. One application of such profile use may focus on ones' current body image and the program choices throughout the formative years (i.e. adolescents and early adulthood). The present results were seen as a foundation for such future studies by demonstrating retention and accuracy of early television viewing patterns.

In summary, by focusing on whether or not participants could recall viewing experiences and their ability to recall some details from selected programs, the current study has generated support for an adult retrospective recall method of childhood television viewing. These findings suggest that participants can recall, with reasonable accuracy, their viewing frequency of prime-time network television programs at least 12 years prior to investigation. Furthermore, details such as character/actor names and plot elements can be freely recalled across the same time period. This study contributes to continued development of research methods that are innovative and cost effective in the scientific study of the psychological role of mass media in human behavior.

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APPENDICES

APPENDIX A

TABLES

Table 1
 Mean Percentages and Standard Deviations of Frequency Rating by Year

Year	Frequency ratings				
	“rarely/never” (rated a “1”)	“a few times” (rated a “2”)	“occasionally” (rated a “3”)	“fairly often” (rated a “4”)	“never missed it” (rated a “5”)
1990 ^a	78.51% (11.21)	8.13% (5.16)	6.19% (4.02)	4.46% (4.03)	2.41% (3.22)
1994 ^b	77.25% (10.77)	8.56% (5.81)	6.83% (3.99)	4.63% (4.02)	3.25% (3.17)
1998 ^c	73.09% (10.51)	7.63% (5.51)	5.64% (4.14)	2.83% (2.71)	2.16% (2.54)
2002 ^c	81.53% (10.42)	7.52% (5.67)	5.16% (3.83)	2.80% (3.04)	2.25% (2.63)

note numbers may not add to 100% due to rounding and missing data.

^a the number of participants included in this analysis was 134.

^b the number of participants included in this analysis was 133.

^c the number of participants included in this analysis was 129.

Table 2
Correlations Between Mean Frequency Ratings by Year

Year	Year				Weekly Viewing
	1990	1994	1998	2002	
1990	-	.64** (n=123)	.56** (n=103)	.49** (n=105)	.19 (n=91)
1994		-	.89** (n=100)	.77** (n=102)	.31** (n=87)
1998			-	.77** (n=106)	.29* (n=75)
2002				-	.32** (n=76)
Weekly Viewing					-

Note. ** $p < .01$ * $p < .05$

Table 3
 Cell Means and Standard Deviations for Character/Actor Names Recalled

Viewing Frequency	Year			
	1990	1994	1998	2002
“never missed”	5.33 (3.13)	5.00 (2.67)	5.41 (3.41)	5.06 (2.68)
“occasionally”	2.42 (2.00)	3.25 (2.74)	3.00 (2.13)	2.22 (1.67)
“rarely/never”	0.90 (1.31)	1.01 (1.55)	1.06 (1.31)	1.14 (1.25)

Table 4
 Orthogonal Contrasts of Viewing Frequency by Year in the Number of Characters Remembered

Contrast	Year	F	Significance
	1990	15.03	>.001
“never missed it” (rated a “5”) vs. “rarely/never” (rated a “1”)	1994	20.81	>.001
	1998	12.88	.001
	2002	7.93	.006
“occasionally” (rated a “3”) vs. “rarely/never” (rated a “1”)	1990	6.55	.012
	1994	8.66	.004
	1998	5.52	.021
	2002	11.40	.001

Note degrees of freedom are 1, 79

Table 5
 Cell Means and Standard Deviations for Plot Elements Recalled

Viewing Frequency	Year			
	1990	1994	1998	2002
“never missed”	2.73 (1.61)	2.65 (1.45)	2.60 (1.38)	2.54 (1.68)
“occasionally”	1.96 (1.35)	2.15 (1.39)	2.34 (1.48)	1.99 (1.37)
“rarely/never”	0.85 (0.96)	0.79 (0.98)	0.88 (0.86)	0.91 (0.94)

APPENDIX B
RETROSPECTIVE RECALL MEASURE

2002

	7:00 PM	7:30 PM	8:00 PM	8:30 PM	9:00 PM	9:30 PM	10:00 PM	10:30 PM
Sunday	A	Wonderful World of Disney			Alias		The Practice	
	C	60 Minutes	Becker	Bram and Alice	CBS Sunday Movie			
	F	Futurama	The Simpsons	The Simpsons	King of the Hill	Maroon in the Middle	Men, Women & Dogs	
	N	Dateline NBC		American Dreams		NBC Sunday Movie		
	W	Gilmore Girls Beginnings		Charmed		Angel		
Monday	A		Drew Carey Show	Whose Line is it Anyway?	NFL Football			
	C		King of Queens	Yes, Dear	Everybody loves Raymond	Still Standing	C.S.I.: Miami	
	F		Boston Public		Girls Club			
	N		Fear Factor		Thrid Watch		Crossing Jordan	
	W		The Parkers	Tooth Decay	Girlfriends	Half & Half		
Tuesday	A		8 Simple Rules	According to Jim	Life with Bonnie	Less than Perfect	N.Y.P.D. Bule	
	C		JAG		The Guardian		Judging Amy	
	F		That '70's Show	Grounded for Life	24			
	N		In-Laws	Just Shoot Me	Fraiser	Hidden Hills	Dateline NBC	
	W		Buffy the Vampire Slayer			Haunted		
Wednesday	A		My Wife and Kids	George Lopez	The Bachelor		MDs	
	C		60 Minutes II		Amazing Race 3		Presidio Med	
	F		Bernie Mac	Cedrick the Entertainer Presents	Fastline			
	N		Ed		West Wing		Law & Order	
	W		Dawson's Creek		Birds of Prey			
Thursday	A		Monk		Push, Nevada		Primetime, Thursday	
	C		Survivor: Thailand		CSI: Crime Scene Investigation		Without a Trace	
	F		Fox Thursday Movie					
	N		Friends	Scrubs	Will & Grace	Good Morning, Miami	ER	
	W		Family Affair	Do Over	Jamie Kennedy Experiment	Off Centre		
Friday	A		America's Funniest Home Video		That was Then		20/20	
	C		48 Hours Investigates		Hack		Robbery Homicide Division	
	F		Boogy City		John Doe			
	N		Providence		Dateline NBC		Law & Order: Special Victims Unit	
	W		UPN Friday Movie					
Saturday	A		ABC Saturday Movie					
	C		Touched by an Angel		The District		The Agency	
	F		Cops		America's Most Wanted: America Fights Back			
	N		NBC Saturday Movie					

Please return to Question 7 on the previous page.

Next to each television program title in the schedule indicate how much you watched it in that year using the scale below

1 2 a 3 4 5
rarely/never few times occasionally fairly often never missed it

Fall 1990

	6:00 PM	6:30 PM	7:00 PM	7:30 PM	8:00 PM	8:30 PM	9:00 PM	9:30 PM
Sunday	A	Life Goes On		America's Funniest Home Videos	America's Funniest People	ABC Sunday Movie		
	C	60 Minutes		Murder, She Wrote		CBS Sunday Movie		
	F	True Colors	Parker Lewis Can't Lose	In Living Color	Get A Life	Married With Children	Surface Security	Against the Law
	N	Hull High		Lifestories		NBC Sunday Movie		
Monday	A		MacGyver		Monday Night Football			
	C		Uncle Buck	Major Dad	Murphy Brown	Designing Women	Trials of Rosie O'Neill	
	F		Fox Night at the Movies					
	N		Fresh Prince of Bel Air	Ferris Bueller	NBC Monday Movie			
Tuesday	A		Who's the Boss?	Head of the Class	Roseanne	Coach	Thirtysomething	
	C		Rescue 911		CBS Tuesday Movie			
	N		Matlock		In the Heat of the Night		Law & Order	
	Wednesday	A		Wonder Years	Growing Pains	Doogie Howser, M.D.	Married People	Cop Rock
C			Lenny	Doctor, Doctor	Jake and the Fatman		WIOU	
N			Unsolved Mysteries		Fanelli Boys	Dear John	Hunter	
A			Father Dowling Mysteries		Gabriel's Fire		Primetime Live	
Thursday	C		Top Cops	The Flash		Doctor, Doctor	Knots Landing	
	F		The Simpsons	Babes	Beverly Hills 90210			
	N		Cosby Show	A Different World	Cheers	Grand	L.A. Law	
	A		Full House	Family Matters	Perfect Strangers	Going Places	20/20	
Friday	C		Evening Shade	Bagdad Café	Over My Dead Body		Dallas	
	F		America's Most Wanted		D.E.A.			
	N		Quantum Leap		Night Court	Wings	Bill on the Hill	
	A		Young Riders		China Beach		Twin Peaks	
Saturday	C		Family Man	Hogan Family	E.A.R.T.H.Force		48 Hours	
	F		Totally Hidden Video	Enemies	Cops	American Chronicles		
	N		Parenthood	Working It Out	Golden Girls	Empty Nest	Carol & Company	American Dreamer

Please return to Question 7 on the previous page.

1994-1995 TV Season

1. In what city did you live during 1994-1995? _____
2. What school grade (level, etc.) were you in during 1994-1995? _____
3. List up to 3 teachers (or supervisors) you had in 1994-1995? _____
4. How old were you in the 1994-1995 school year? _____
5. What extracurricular activities (e.g. scouts, music lessons, sports practice) did you have if any during 1994-1995?

6. Use the television schedule on the following page for the 1994 season. Next to each television program title in the schedule indicate how much you watched it in that year using the scale below:

1 (rarely/never) 2 (a few times) 3 (occasionally) 4 (fairly often) 5 (never missed it)

7. From the programs that you just rated on the television schedule, pick one program you "never missed" (5), one program you watched "occasionally" (3) and one program you "rarely or never" (1) watched. For each program write down the names of as many characters or actors you can remember and the general themes or plot lines of the show.

A. PROGRAM TITLE (5 = "never missed" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1994-1995? 1 2 3
no occasionally frequently

B. PROGRAM TITLE (3 = "occasionally" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1994-1995? 1 2 3
no occasionally frequently

C. PROGRAM TITLE (1 = "rarely or never" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1994-1995? 1 2 3
no occasionally frequently

Next to each television program title in the schedule indicate how much you watched it in that year using the scale below

1 2 a 3 4 5
rarely/never few times occasionally fairly often never missed it

Fall 1994

	6:00 PM	6:30 PM	7:00 PM	7:30 PM	8:00 PM	8:30 PM	9:00 PM	9:30 PM
Sunday	A	America's Funniest Home Videos	On Our Own	Lois & Clark	ABC Sunday Movie			
	C	60 Minutes		Murder, She Wrote	CBS Sunday Movie			
	F	Fortune Hunter	The Simpsons	Hardball	Married with Children	Wild Oats		
	N	Earth 2		seaQuest DSV	NBC Sunday Movie			
Monday	A			Coach	Face the Day	Monday Night Football		
	C			The Nanny	Dave's World	Murphy Brown	Love & War	Northern Exposure
	F			Melrose Place		Party of Five		
	N			Fresh Prince of Bel Air	Blossom	NBC Monday Movie		
Tuesday	A			Full House	Me and the Boys	Home Improvement	Grace Under Fire	N.Y.P.D. Blue
	C			Rescue 911		CBS Tuesday Movie		
	F			Fox Night at the Movies				
	N			Wings	Martin Short Show	Frasier	John Larroquette	Dateline NBC
Wednesday	A			Thunder Alley	All-American Girl	Rosanne	Ellen	Turning Point
	C			Boys are Back	Daddy's Girls	Touched by an Angel		48 Hours
	F			Beverly Hills 90210		Models Inc.		
	N			The Cosby Mysteries		The Verdict		Law & Order
Thursday	A			My So-Called Life		McKenna		Prime Time
	C			Due South		Eye to Eye with Connie Chung		Chicago Hope
	F			Martin	Living Single	New York Undercover		
	N			Mad About You	Friends	Seinfeld	Madman of the People	ER
Friday	A			Family Matters	Boy Meets World	Step by Step	Hangin' with Mr. Cooper	20/20
	C			Diagnosis Murder		Under Suspicion		Picket Fences
	F			M.A.N.T.I.S.		The X-Files		
	N			Unsolved Mysteries		Dateline NBC		Homicide: Life on the Streets
	A			ABC Family Movie				The Commish
	C			Dr. Quinn, Medicine Woman		Five Mrs. Buchanans	Hearts Afire	Walker, Texas Ranger
Saturday	F			Cops		America's Most Wanted		Time Master
	N			Something Wilder	Empty Nest	Sweet Justice		Sisters

Please return to Question 7 on the previous page

1998-1999 TV Season

- 1. In what city did you live during 1998-1999? _____
- 2. What school grade (level, etc.) were you in during 1998-1999? _____
- 3. List up to 3 teachers (or supervisors) you had in 1998-1999? _____
- 4. How old were you in the 1998-1999 school year? _____
- 5. What extracurricular activities (e.g. scouts, music lessons, sports practice) did you have if any during 1998-1999?

6. Use the television schedule on the following page for the 1998 season. Next to each television program title in the schedule indicate how much you watched it in that year using the scale below:
1 (rarely/never) **2** (a few times) **3** (occasionally) **4** (fairly often) **5** (never missed it)

7. From the programs that you just rated on the television schedule, pick one program you "never missed" (5), one program you watched "occasionally" (3) and one program you "rarely or never" (1) watched. For each program write down the names of as many characters or actors you can remember and the general themes or plot lines of the show.

A. PROGRAM TITLE (5 = "never missed" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1998-1999? 1 2 3
no occasionally frequently

B. PROGRAM TITLE (3 = "occasionally" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1998-1999? 1 2 3
no occasionally frequently

C. PROGRAM TITLE (1 = "rarely or never" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 1998-1999? 1 2 3
no occasionally frequently

Fall 1998

	6:00 PM	6:30 PM	7:00 PM	7:30 PM	8:00 PM	8:30 PM	9:00 PM	9:30 PM
Sunday	A	Wonderful World of Disney			20/20		The Practice	
	C	60 Minutes		Touched by an Angel		CBS Sunday Movie		
	F	World's Funniest	Holding the Baby	The Simpsons	That '70's Show	The X-Files		
	N	Dateline NBC		Dateline NBC		NBC Sunday Movie		
Monday	W	7th Heaven		Sister, Sister	Smart Guy	Unhappily Ever After	The Army Show	
	A	NFL Football						
	C		Cosby	King of Queens	Everybody Loves Raymond	Brian Benben Show	L.A. Doctors	
	F	Melrose Place			Ally McBeal			
	N		Suddenly Susan	Clips	Caroline in the City	Will & Grace	Dateline NBC	
	U		Guys Like Us	DiResta	Secret Diary of Desmond Pfeifer	Malcom & Eddie		
Tuesday	W	7th Heaven			Angel			
	A		Home Improvement	The Hughleys	Spin City	Sports Night	N.Y.P.D. Blue	
	C	JAG			CBS Tuesday Movie			
	F		King of the Hill	Costello	Guinness World Records: Primetime			
	N		Mad About You	Encore! Encore!	Just Shoot Me	Working	Dateline NBC	
	U		Moesha	Clueless	Mercury Point			
Wednesday	W	Buffy, the Vampire Slayer			Felicity			
	A		Dharma & Greg	Two Guys, A Girl & a Pizza Place	Drew Carey Show	Secret Lives of Men	20/20	
	C		The Nanny	Maggie Winters	To Have & to Hold		Chicago Hope	
	F	Beverly Hills 90210			Party of Five			
	U	Seven Days			Star Trek: Voyager			
	N		Dateline NBC		3rd Rock from the Sun	Newsradio	Law & Order	
Thursday	W	Dawson's Creek			Charmed			
	A	Vengeance Unlimited			ABC Thursday Movie			
	C	Promised Land			Diagnosis Murder		48 Hours	
	F	World's Wildest Police Videos			S.T.A.T.			
	N		Friends	Jesse	Frasier	Veronica's Closet	ER	
	U	UPN Thursday Movie						
Friday	W		Wayns Bros.	Jamie Foxx Show	Steve Harvey Show	For Your Love		
	A		Two of a Kind	Boy Meets World	Sabrina, the Teenaged Witch	Brother's Keeper	20/20	
	C		Kids say the Darndest Things	Candid Camera	Buddy Faro		Nash Bridges	
	F		Living in Captivity	Getting Personal	Mellennium			
	N		Dateline NBC		Trinity		Homicide: Life on the Streets	
	U	Legacy			Love Boat: The Next Wave			
Saturday	A	America's Funniest Home Videos			Fantasy Island		Cupid	
	C	Early Edition			Martial Law		Walker, Texas Ranger	
	F	Cops			America's Most Wanted: America Fights Back			
	N	Pen Pals			The Pretender		Profiler	

2002-2003 TV Season

1. In what city did you live during 2002-2003? _____
2. What school grade (level, etc.) were you in during 2002-2003? _____
3. List up to 3 teachers (or supervisors) you had in 2002-2003? _____
4. How old were you in the 2002-2003 school year? _____
5. What extracurricular activities (e.g. scouts, music lessons, sports practice) did you have if any during 2002-2003?

6. Use the television schedule on the following page for the 2002 season. Next to each television program title in the schedule indicate how much you watched it in that year using the scale below:

1 (rarely/never) 2 (a few times) 3 (occasionally) 4 (fairly often) 5 (never missed it)

7. From the programs that you just rated on the television schedule, pick one program you "never missed" (5), one program you watched "occasionally" (3) and one program you "rarely or never" (1) watched. For each program write down the names of as many characters or actors you can remember and the general themes or plot lines of the show.

A. PROGRAM TITLE (5 = "never missed" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 2002-2003? 1 2 3
no occasionally frequently

B. PROGRAM TITLE (3 = "occasionally" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 2002-2003? 1 2 3
no occasionally frequently

C. PROGRAM TITLE (1 = "rarely or never" program) _____
Characters/Actors you remembered

Plot elements you remembered (i.e. common locations, recurring activities, & general relationships)

Is this a program you have watched in re-runs since 2002-2003? 1 2 3
no occasionally frequently

APPENDIX C
CULTIVATION AND CURRENT VIEWING HOURS MEASURE

Societal Issues Questionnaire

Reach each question carefully and circle either answer a or b

1. **What percentage of all people in the United States recycle (cans, plastic, glass, newspaper, etc.)**
a. is it closer to 3% b. or is it closer to 12%
2. **Think about the number of people in the U.S. who are involved in some kind of violence each year.**
a. Do you think that 3% of all people are involved in some kind of violence in any given year,
b. or is it closer to 10%?
3. **Is it dangerous to ride a motorcycle on city streets?**
a. Yes b. No
4. **Are you afraid to walk alone in your own neighborhood at night?**
a. Yes b. No
5. **Think about the number of aluminum cans that are recycled each year.**
a. Do you think that 7% are recycled each year, b. or is it closer to 20%
6. **About what percentage of all people commit serious crimes-is it closer to**
a. 3% b. or 12%?
7. **How many people in the United States are medical doctors?**
a. 1% b. or is it closer to 8%
8. **Do more people die yearly in Oklahoma**
a. due to tornadoes b. or drowning?
9. **Would you be afraid to walk alone in a city at night?**
a. Yes b. No
10. **Think about the number of pregnancies and abortions in the United States each year.**
a. Do you think 3% of all pregnancies end in abortions b. or is it closer to 10%.
11. **Is it dangerous to walk alone in a city at night?**
a. Yes b. No
12. **Consider the number of people who are involved in violence each week.**
a. Do you think 1 person out of every 100 is involved in some kind of violence in any given week,
b. or is it closer to 10 people out of every 100?
13. **In an average year, how many times does a police officer fire his or her gun in the line of duty-**
a. less than once a year b. or more than five times a year?
14. **Think about the number of women who have abortions each week.**
a. Do you think 1 pregnant woman out of 10,000 has an abortion each week
b. or is it closer to 10 out of 10,000?
15. **Do most people make smart decisions?**
a. Yes b. No
16. **When police arrive at a crime scene, how much of the time do they have to use force and violence-**
a. most of the time b. or some of the time?
17. **Which is true in your opinion,**
a. most people can be trusted b. you can't be too careful in dealing with people
18. **Think about the number of lawyers. What percentage of the U.S. population are lawyers?**
a. Is it 1% b. or is it closer to 7%?
19. **Would you say that most of the time**
a. people try to be helpful b. or, they mostly just look out for themselves?
20. **Think about the number of people who recycle aluminum, paper, plastic, etc. cans each week.**
a. Do you think 1 person out of every 100 recycles each week,
b. or is it closer to 10 people out of every 100?

Here you are asked to estimate patterns of TV and movie consumption in a typical week.

1. Think of a "typical" weekday (Mon-Fri); about how many hours per day do you watch TV? Multiply that daily amount by 5 for a weekday total:
2. Now, estimate your typical weekend viewing hours (Sat-Sun):
3. Estimate the hours you spend watching rented videotapes and going to movies in theaters in a typical week:
4. Add the hours you listed in 1, 2, and 3 for your typical weekly viewing total:

Total weekly hours of media use (TV+movies): _____

APPENDIX D
HUMAN SUBJECTS APPROVAL

**Oklahoma State University
Institutional Review Board**

Protocol Expires: 1/19/2005

Date: Tuesday, January 20, 2004

IRB Application No AS0455

Proposal Title: Development of an Adult Retrospective Recall Measure of Childhood Television Viewing

Principal Investigator(s):

Angela Belden
215 N. Murray
Stillwater, OK 74078

Richard Potts
215 N. Murray
Stillwater, OK 74078

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact me in 415 Whitehurst (phone: 405-744-5700, colson@okstate.edu).

Sincerely,



Carol Olson, Chair
Institutional Review Board

VITA

Angela Kay Belden

Candidate for the Degree of

Master of Science

Thesis: DEVELOPMENT OF AN ADULT RETROSPECTIVE RECALL
MEASURE OF CHILDHOOD TELEVISION VIEWING

Major Field: Psychology

Biographical:

Education: Graduated from Santa Fe Catholic High School, Lakeland, Florida in May 1993; received a Bachelor of Arts Degree in Psychology from the University of Arkansas at Little Rock, Little Rock, Arkansas in May 1997; received a Masters of Applied Psychology from the University of Arkansas at Little Rock, Little Rock, Arkansas, in July 2000. Completed the requirements for the Master of Science Degree with a major in Life Span Developmental Psychology at Oklahoma State University in July, 2004.

Experience: Employed as a graduate instructor at the University of Arkansas at Little rock 1998-2000 and as a post-master's fellow / adjunct instructor from 2000-2001; employed by Oklahoma State University, Psychology Department, as a graduate research assistant, graduate teaching assistant, and as a graduate instructor 2001 to present.

Name: Angela K. Belden

Date of Degree: July, 2004

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: DEVELOPMENT OF AN ADULT RETROSPECTIVE RECALL
MEASURE OF CHILDHOOD TELEVISION VIEWING

Pages in Study: 81

Candidate for the Degree of Master of Science

Major Field: Psychology

Scope and Method of Study: The purpose of this study was to explore the validity of an adult retrospective measure of childhood television exposure. A sample of 146 college students completed the retrospective measure in which they rated their viewing frequency for network television programs from four previous years spanning a decade. Participants were also asked to recall character or actor names and plot elements from several selected programs from each of the target years. In addition, participants completed a measure of media cultivation of social reality beliefs.

Findings and Conclusions: Participants appeared to use the retrospective viewing measure as the researchers intended, as evidenced by a small proportion of programs watched frequently and very few endorsements of inserted false program titles. Analysis of character and actor names and plot elements indicated that program viewing frequency predicted the amount of material recalled from the program indicating validity of the viewing recall reports. Similar amounts of program content was recalled from each target year indicating little forgetting of past television viewing experiences. There was no cultivation effect demonstrated with amount of viewing. Findings suggest valid reporting of past television viewing patterns. This measure could be used to explore relationships between past television viewing and current psychological characteristics.

ADVISER'S APPROVAL: _____ C. Richard Potts, Ph.D