

Marshall University

Marshall Digital Scholar

Theses, Dissertations and Capstones

1996

Sex differences in television viewing and attention: do males really channel surf more than females?

Melissa Morrison

Follow this and additional works at: <https://mds.marshall.edu/etd>




Part of the [Comparative Psychology Commons](#), [Human Factors Psychology Commons](#), [Personality and Social Contexts Commons](#), and the [Television Commons](#)

Recommended Citation

Morrison, Melissa, "Sex differences in television viewing and attention: do males really channel surf more than females?" (1996). *Theses, Dissertations and Capstones*. 1741.
<https://mds.marshall.edu/etd/1741>

This Thesis is brought to you for free and open access by Marshall Digital Scholar. It has been accepted for inclusion in Theses, Dissertations and Capstones by an authorized administrator of Marshall Digital Scholar. For more information, please contact zhangj@marshall.edu, beachgr@marshall.edu.



**Sex Differences in Television Viewing and Attention;
Do Males Really Channel Surf More Than Females?**

by

**Melissa Morrison
Marshall University**

August 1996

A Masters thesis submitted to the graduate faculty of
Marshall University in partial fulfillment of the requirements
for the Degree Master of Arts in Psychology.

Marshall University

August 1996

Approved by:

Steve P. Mowbrat Thesis Advisor

Helen E. Linker Committee Member

[Signature] Committee Member

Ronald J. Dentch Graduate Dean

on this the 5th day of August, 1996.

Table of Contents

I.	Introduction	5
II.	Methods	12
	Subjects	12
	Equipment and setting	12
	Procedure	13
III.	Results	14
	Objective Data	14
	Survey Data	17
IV.	Discussion	19
V.	References	21
VI.	Appendix A	25

Abstract

Channel surfing is often thought of as a male-dominated pastime; however, previously there was no objective data supporting this conclusion. In the present study television viewing and channel surfing were monitored in 44 college students who simultaneously performed an auditory vigilance task. In addition, a survey was administered to determine self-reported individual television viewing habits. Results showed that males channel surfed at almost twice the rate of females. In addition, after the first test tone they generally detected more tones in the vigilance task than females. It was concluded the high channel surfing rate of males reflected lower levels of program involvement and attention.

Sex Differences in Television Viewing and Attention; Do Males Really Channel Surf More Than Females?

Few people in our society would dispute the notion that men and women vary in many ways beyond the obvious physical differences. These differences are so pervasive that they are often topics of popular books, such as "Men are from Mars, Women are from Venus." (Grey, 1991). Our culture is permeated with stereotypic attitudes about sex differences. Often the differences are a source of controversy, leading to one more skirmish in the 'battle of the sexes.' Recently, a new opportunity for battle has presented itself -- who gets to hold the television remote control. Most people would agree that watching television with someone who is in possession of the remote control and who changes channels frequently ("channel-surfs") is a frustrating and annoying experience. The common stereotype is that this channel surfing behavior is more characteristic of males than females. This notion was confirmed in a recent survey of 80 introductory psychology students at Marshall University. Eighty-eight percent of the students surveyed felt that males had a tendency to channel surf more than females.

Despite this common belief, there is no objective data which confirms that males and females differ in their channel surfing behavior. As a starting hypothesis, one would think that channel surfing behavior would be related to the level of attention one pays to a program, as well as to level of boredom, i.e., the greater the levels of program involvement, or attention to the program, the less boredom and the less channel-surfing. Consequently, one would expect if males truly channel surf more than females, they should show levels of attention to television programs which may be related to lower levels of attention to the environment in general.

However, while a number of other cognitive differences among the sexes have been documented, e.g., differences in learning, perception, memory, and

quantitative abilities, among others (Maccoby, 1974), there is little direct evidence on gender differences in attention.

Males were previously thought to have a greater capacity for spatial attention tasks than females (Meehan, 1984). This result was thought to be related to claimed gender differences in mathematics and science achievement. However, recent research suggests that the disparity is not as great as previously believed (Linn & Petersen, 1986). In fact, some researchers have recently concluded there is no gender difference at all in cognitive attentional abilities. (Meehan, 1984).

One relevant piece of evidence is Kagan's (1964) work on impulsiveness. Kagan studied two dimensions of personality, impulsiveness and reflectiveness. He found that people who were high on impulsiveness had quicker reaction times on tests, but were more often incorrect. Conversely, reflective individuals took longer on the task, but made fewer errors. These differences are related to observed differences in reaction time, where it has been found that males generally seem to have a faster reaction time, but make more mistakes than females.

Gender differences in attention have been more directly addressed in children. Attention-deficit-hyperactivity-disorder (ADHD) is heralded as the most common behavior problem children experience. Some estimate that as high as 10% of the school age population experience this disorder (Ross & Ross, 1982). Most research agrees that distractibility is a major symptom of ADHD children. Landau, Lorch & Milich (1991) tried to determine if the difference in visual attention between ADHD children and normal children is related to the availability of alternative activities. The subjects were 19 ADHD boys and 20 control boys with no diagnosed attentional problems. The subjects viewed two different 7-minute segments of "3-2-1 Contact" on two different occasions. On one occasion distracter toys were made available to the child. The subjects were told they would be asked some questions about the shows after they were over. The results

showed that in the presence of distracter toys, boys in the ADHD and control groups differed significantly in their attention to the television. Without the distracter toys, however, the two groups had indistinguishably high attention to the shows. These results are important to the study of attention, and ADHD, in that previously ADHD children were thought to have difficulty with attention even without the presence of distracter stimuli. Although this study dealt with children, it must be considered that adults too often have their own "distracter toys" while watching television.

Mantzicopoulos and Morrison (1994) also studied attention problems in children, but focused more on gender. Evidence suggests ADHD is more common in boys than in girls (Holborow, Berry, & Elkins 1984). Mantzicopoulos and Morrison looked at boys and girls in kindergarten who were "at risk" for developing ADHD. Two hundred and thirty-two children were longitudinally studied from kindergarten through second grade using a procedure called SEARCH to identify children who were "at risk". This procedure assessed perceptual processes thought to be related to reading acquisition. Subject's scores on ten subtests measuring, among other things, auditory and visual discrimination and visual recall were obtained. The researchers found that both at risk boys and girls differed significantly from their not-at-risk peers; and, consistent with previous research, males were rated higher than females on attention problems, hyperactivity, and immaturity.

Studies which have examined gender differences in television viewing remain somewhat limited to fields in which advertisers explore possible ways to increase interest in their product. Because of this practical orientation to the research, more empirical findings on gender-based attentional viewing habits are rare. Specific questions such as "Do males more easily lose interest in a program than females?" have yet to be addressed. It is the purpose of this study to address

this question, as well as to try to relate television viewing behavior to attention differences as measured with a vigilance task.

Myers-Levy and Sternthal (1991) contributed to the body of research which focuses on advertising. Their study looked at gender differences in the use of message cues. Past research has shown that males and females differ in the characteristics they consider important in evaluating products (Holbrook 1986; Painter & Granzin, 1976). Some researchers have even argued that males and females differ in their information processing strategies (McGuinness & Pribram, 1979). These studies concluded that "females are more sensitive to all modalities at threshold with the possible exception of smell." And that these basic differences "may contribute to other more complex differences" (McGuinness & Pribram, 1979). As a result of this research, elaborative processing is argued to have different thresholds according to gender. This would imply that if women are processing messages more deeply than men, they are paying greater attention to the messages. Also, females seem to be more likely to elaborate on message cues that command a somewhat limited amount of attention.

Building on this prior research, Meyers-Levy and Sternthal (1991) tested subjects consisting of 61 men and 60 women who watched 15 or more hours of television per week. The participants were told they were to evaluate a proposed half-hour in depth news program, similar to Nightline, to be aired after the evening news. Included in the program description were eight topics that were said to be scheduled for discussion on the show. Six of these eight were similar to issues found in pretests to be congruent with current shows of this format (such as Nightline). The other two were found to be either low, medium or highly incongruent with these shows. After reading the program description, the subjects were asked a series of questions regarding their television viewing habits, VCR ownership, and cable television subscription. These questions were included to

delay recall. Afterwards, the respondents were asked to recall all statements presented in the message. They were then asked to make a similarity judgment comparing the pilot show with either Nightline, Chicago Tonight, or Good Morning America (a more entertainment oriented show). When cue incongruity was high, women were found to pay more attention to the dissimilarity. Women also elaborated on these incongruities more than their male counterparts did, and used these elaborations to base their decision on which show was more similar to existing shows.

Attention and how it affects television viewing is often studied by those in marketing. Studies have looked at program involvement and how it relates to attention to commercials, i.e., if program involvement is high, will commercial involvement be higher or lower? (Lord & Burnkrant, 1993). Studies have also examined attention to audio versus visual programming (Grimes, 1991), and how cuts in programming affect our attention (Geiger & Reeves, 1993). One group of studies has examined the effect of program involvement on subjects' comprehension of commercials (Lord & Burnkrant, 1993; Kennedy, 1971; Bryant & Comisky, 1978; Soldow & Proncipe, 1981; Thomson et al., 1985). In Lord and Burnkrant's study, advertisement and program involvement were measured. They found that for viewer attention to be directed toward an ad, it was not sufficient to have attention involvement in the program. There also had to be interest in the commercial. However, attention to the commercial was highest when program involvement was also high. This could have an effect on channel-surfing behavior. If program involvement is high, and attention to the commercial is therefore increased, then channel-surfing during commercials should decrease.

Geiger and Reeves, (1993) studied attention with respect to interruptions in programs. Interruptions can occur either within a program or between a program and a commercial break or in a more extended fashion, such as when episodes are

"continued" over a period of days or weeks. The two research questions they addressed were (1) Is attention to new interrupt information independent of the previously presented information? and (2) What makes referring back to a previously presented portion of a television program easy or difficult? In order to test these questions, the researchers had subjects watch an initial segment, an interrupt segment and a reorientation segment of a program. A sample of 28 subjects (10 men and 18 women), all of whom were upper-class communication students at a university, were shown 24 different sequences of program excerpts, either 10 or 30 sec. in length. Each participant was told to pay close attention to the sequences, as they would be questioned about them later. To measure attention they were also told to press a button whenever they heard an audio signal. Tones were emitted 1 sec. after the interrupt segment in some instances, and 6 sec. after in others. Tones were also placed in the reorientation segments. Results indicated that more attention was allotted to the interrupt segment when the initial segment was 30 sec. long than when it was 10 sec. long. These results are consistent with the idea of *attentional inertia* - longer segments produce more attention across program boundaries. (i.e. the longer you look, the longer you look.) Also, Geiger and Reeves found that less attention was required to reorient to the program when the interrupt segment length was short (10 sec. instead of 30). Viewers thus required more attention to respond to a new message when the previously presented message was relatively long. Overall, the researchers found attention increases as viewers become more cognitively engaged.

Grimes (1991) studied auditory and visual dissonance in television programming. Although the Roper organization claims that most Americans get their news from television (Lichty, 1982), many TV news viewers remember little of what they see and hear. Grimes hypothesized that this is due, in part, to lack of redundancy between audio and visual stimuli during broadcast. Thus, if more

audio and visual stimuli were congruent, it would be easier to pay attention to newscasts. Grimes used a secondary task to test his hypothesis. Three assumptions were made when using this methodology. The first was attention is limited. Second, competing messages demand more attentional capacity than is available. Third, this unevenness in our attention can be measured. Grimes then assumed that if the audio and visual messages are dissimilar, then we will have difficulty attending to the stimuli because of message dissonance; therefore we will have enough residual attention to respond to an attention probe more quickly than if the message dissonance did not occur. Similarly, if the audio/visual redundancy is high, then attention to the message is increased and thus the probes for attention will be responded to more slowly. Subjects watched four fictitious (but realistic) television news stories, each 1.5 min. in length. The stories were categorized as having high-redundancy, medium redundancy, or no redundancy. Respondents were given either visual or auditory probes embedded within each story in order to measure their attention to either the auditory or visual channels. Grimes found that, as expected, the greater the consistency between the audio and the visual messages, the greater was the subject's attention to the program. He also found that attention was higher to visual stimuli. In addition, in this experiment attention and memory seem to be correlated.

While the data is not abundant, the foregoing discussion implies that men and women exhibit different behavior with respect to attention. From an early age boys seem to be diagnosed more frequently with ADHD than girls and tend to respond more impulsively. Also, the discussion implies that attention to television is dependent on many factors. Program involvement is perhaps the most important. The present study attempted to determine objectively whether the reported gender differences in channel-surfing really exist. In addition, individual differences in attention were measured using the Gordon Diagnostic System

(vigilance and distractibility tasks), and program involvement was measured with a vigilance task while watching television. Program involvement was measured by an auditory tone distracter detection task. These measures of attention were used to attempt to determine the relationship between channel-surfing and attention. Finally, a brief descriptive survey on television viewing habits was completed to examine the relationship between objective measures of channel-surfing and self report and self-awareness of the behavior.

Method

Subjects

Subjects were 21 male and 23 female college students who volunteered to participate for extra credit in an introductory psychology class at Marshall University. Two of the females were students at Marshall University who volunteered, but who were not enrolled in introductory psychology.

Equipment and Setting

A small quiet room located on an upper floor of Marshall University's student center was used for the study. The Gordon Diagnostic System was employed. It consisted of a small "box" and response key placed in one corner of the room. Subjects were seated in front of the device during the test. For the television portion of the study, subjects were provided with comfortable seating (couch and ottoman) approximately 10 ft. away from the television. They were given a remote control which accessed a 19" Zenith color television receiving 35 cable channels. During the 20 min. viewing period, a JVC brand tape recorder played a tape with pre-recorded random tones. An RCA brand video recorder taped the subject and television during the TV viewing segment.

Procedure

Subjects were first given a vigilance task to establish a baseline attention score. The test, a computerized version of the Gordon Diagnostic System, was given to each participant and took approximately 9 min. The test consisted of a series of flashing "random" numbers on a screen. Subjects were told to watch for a key pattern of a 1 followed by a 9. Each time they saw the pattern, they were instructed to press the response button as quickly as possible. By the end of the test, 45 key patterns had flashed on the screen. Seven female subjects completed this task. Afterwards, their scores were analyzed and a ceiling effect was noticed. Because this test did not appear sensitive enough, a more difficult test was substituted. The test, another part of the Gordon Diagnostic System, was a distractibility task. While similar to the vigilance task, the test employs three flashing random numbers on a screen. Subjects were asked to watch only the middle flashing numbers and press the large button anytime they saw the key pattern of a 1 followed by a 9. Again, a total of 45 key patterns flashed on the screen during the approximate 9 min. of testing.

After completion of this task, subjects were asked to view cable television for 20 min. They were instructed to watch television as they normally would if at home. The subjects were told not to change the volume of the television during the viewing period. A video recorder documented each time the television changed channels. During the television viewing, a series of beeps were administered in order to determine program involvement. The beeps were recorded on a tape and played at 60 decibels. If the subjects detected a beep, they were instructed to raise their hand. The beeps were presented five times during the 20 min. viewing period at randomly determined intervals with the following restrictions: No tone was allowed in the first 2 min. 30 sec. or the last 30 sec. The remaining 17 minutes was divided into equal periods of 3 min. 40 sec. each.

Placement of the tone occurred at a randomly selected 10 sec. unit within 1 min. before or after the 3 min. 40 sec. divider, i.e. between 2 min. 40 sec. and 4 min. 40 sec. Following the television viewing period, subjects completed a brief survey measuring their subjective evaluation of their television viewing habits. The survey is presented in Appendix A.

Results

Objective Data

The 36 subjects who completed the Gorden distractibility task were analyzed first. For each subject, the total number of channel flips during the 20 min. viewing period was calculated. A "channel-flip" was defined as changing a channel after pausing on it for at least 3 sec. (More rapid channel changes were not scored as "flips" so that passing over a channel would not be counted. For example, a subject's switching rapidly from channel 3 to 5 would count as one channel flip, not two, because channel 4 appeared for less than 3 sec.) In addition, the total number of correct responses to the Gorden distractibility test, and the total average reaction time to the Gorden distractibility test, were calculated.

Males were found to channel surf with almost twice the frequency of females. For females the mean number of total channel flips was 13.81 ($s = 9.29$), for males the mean was 24.14 ($s = 15.86$). A t-test indicated that these means differed significantly, $t(35) = 2.32$, $p < .05$.

To analyze the relationship between individual attentional abilities and channel surfing behavior Pearson Product Correlations were calculated comparing the Gorden scores with channel flipping frequency. Results indicate that neither Gorden score (total correct or reaction time) was significantly related to channel flipping frequency ($r = -.30$, $p > .08$, $r = -.11$, $p > .5$). This information was further verified when the subjects were separated into groups according to channel

flipping frequency. The total number of flips ranged from 0 to 60 within the 20 minute period, with subjects in the upper 33% making 23 flips or more in 20 minutes and subjects in the lower 33% making 10 or fewer flips in 20 minutes. Subjects in the bottom third of channel flipping frequency were then classified in the Low Frequency Flipping Group and subjects in the upper third were classified in the High Frequency Flipping Group.

The mean Gorden score for subjects in the High Frequency Flipping Group was 37.07 ($s = 8.82$), and 41.16 ($s = 5.27$) for subjects in the Low Frequency Flipping Group. These means did not differ significantly, $t(23) = 1.39$, $p > .1$. The mean reaction time for subjects in the High Frequency Flipping Group was .41 seconds ($s = .04$), and .42 seconds ($s = .06$) for subjects in the Low Frequency Flipping Group. These means also did not differ significantly, $t(23) = .51$, $p > .6$.

Because results of the Gorden test appeared to be unrelated to channel surfing behavior, the test was dropped from further analyses. In addition, the data from the 8 subjects who were excluded from the analyses reported above because they did not take the Gorden distractibility test were added back into the data pool for subsequent analysis. All analyses described below were based on this pool of 44 subjects.

The mean total number of channel flips for females in the new data pool was 11.21 ($s = 9.07$), and 23.9 for males ($s = 3.47$). These means differed significantly, $t(42) = 3.28$, $p < .01$. The difference between male and female channel flipping frequency can also be seen by the distribution of total flipping scores for each group. Female scores ranged from 0 to 36 and male scores ranged from 0 - 60. When subjects were separated into the categories of low frequency flipping (the lowest 33%) and high frequency flipping (the highest 33%), only 4 males were found in the Low Frequency Flipping Group, compared to 11 females;

and only 4 females were found in the High Frequency Flipping Group, compared to 11 males. (There were 8 females and 6 males in the middle 33%).

The results reported above confirm that males do indeed channel surf more than females. These channel flipping scores were then compared with other dependent variables to examine the relationship between channel surfing and the present measures of attention. In an attempt to measure program involvement, i.e. attention, the number of times subjects heard irrelevant tones played during the viewing period were measured. A correlation analysis showed that the total channel surfing scores did not correlate significantly with the number of tones detected, ($r = .02$, $p > .8$). The mean number of tones detected, out of a possible score of five, for subjects in the High Frequency Flipping Group was 1.8 ($s = 1.78$), and 2.0 for subjects in the Low Frequency Flipping Group ($s = 1.51$). The means did not differ significantly, $t(28) = .33$, $p > .7$. However, the mean number of tones detected for females was 1.56 ($s = 1.59$), and the mean number detected for males was 2.52 ($s = 1.6$). A difference which while not significant approached significance, $t(42) = 1.99$, $p = .053$. Table 1 displays the mean number of subjects who detected each tone. As can be seen in the table, males and females showed similar rates of detection for the first tone. However, males appeared to detect later tones much more often than females. To test whether this effect was significant the first tone was dropped from the analysis and detection scores for the remaining tones were analyzed. The results were significant, $t(42) = 2.56$, $p < .02$.

[Insert Table 1 here]

A point biserial correlation was performed comparing how often each tone was heard with the corresponding number of channel flips that occurred before the

tone. The first, second, third and fourth tones did not correlate significantly with channel flips during their corresponding time periods ($p > .1$). However, the detection of the fifth tone did correlate significantly with the number of flips during the final time period, $r = .31$, $p < .05$.

The time of day the subjects watched television was analyzed to determine whether different times of day resulted in different patterns of channel surfing. It was suspected that females might flip less during times when soap operas were common. Thus, scores were separated between morning hours when there were no soap operas (before 12:30 p.m.), and afternoons when soap operas are more common (after 12:30 p.m.).

The results were analyzed in an analysis of variance with sex and time of day (morning or afternoon) as between-subject factors. The results indicated a significant main effect for sex $F(1, 40) = 11.53$, $MSe = 153.29$, $p < .01$. This reflects the channel surfing difference reported earlier. However, there was no effect for time of day, nor was there a significant interaction between sex and time of day, $p > .06$ in each case.

Survey Data

The results of the survey completed after television viewing were also analyzed and related to channel flipping behavior. Subjects rated their level of interest in the programs they viewed during the study on a 5 point Likert type scale. A score of 5 signified high interest and a 1 low interest in the program or programs the subjects watched. The mean rating for females was 4.0 and the mean rating for males was also 4.0. When the scores for subjects classified in the High Frequency Flipping Group were compared to those for the Low Frequency Flipping Group, there also was no significant difference, $t(28) = .37$, $p > .7$. Level of program interest for the High Frequency Flipping Group was 3.86 versus 4.0 for the Low Frequency Flipping Group.

Another survey item measured self-reported channel surfing. A correlation was calculated between the subjects' self reported channel surfing habits and their actual channel surfing score in order to determine if the subjects who actually surfed more (or less) were the same ones who reported surfing more (or less). The correlation was significant, $r = .51$, $p < .001$.

Subjects who reported themselves as channel surfers, were asked under what circumstances they usually surfed. They were given choices of being bored with the current program, because there is a commercial on the current channel, to discover if there is something more interesting on, to watch two or more programs at once, and other. Fifty-six percent of subjects reported channel surfing because of commercials; however, the most consistently reported reason for channel surfing was lack of interest in the program they were watching. In addition, responses to this item were related to channel surfing behavior. The mean number of channel surfers in the High Frequency Flipping Group who answered "because I am disinterested in the current program" was .93 ($s = .26$). The mean number of channel surfers in the Low Frequency Flipping Group who answered "because I am disinterested in the current program" was .53 ($s = .52$). A T-test showed the means were significantly different, $t(28) = 2.68$, $p < .02$. No other differences were observed.

Subjects were asked in the survey who they thought did more channel surfing, males or females. The subjects' answers showed that opinions were similar to objective results in the study - males channel surf more. Forty-one out of the 44 subjects (93 %) thought males channel surf more than females; of the 3 subjects who thought females channel surfed more - 2 were females and 1 was male.

Discussion

As hypothesized, males and females had different channel surfing behavior. Specifically, males tended to channel-surf at approximately twice the rate of females. It was hoped that channel surfing differences could be related to differences in attention. However, neither measure of attention in the present study was found to be related to channel surfing frequency. The Gordon Diagnostic Test did not prove to be a beneficial tool for predicting which subjects would channel-surf, nor did it differentiate males from females in scoring. As this instrument is usually used with children and for ADHD testing, perhaps a more difficult attention test, appropriate for college students, would have worked better.

Reported level of interest in the programming overall did not relate to channel surfing frequency. Males and females in both the high and low frequency flipping groups reported high levels of interest. The tone detection vigilance task was employed as a possibly more sensitive measure of program involvement and attention. Males and females did not differ in this detection rate for the first tone. However they did differ significantly in detection of the later tones. It was expected that higher program involvement would lead to less channel surfing and to fewer tones being detected. However while males detected more of the later tones than females and channel surfed more, overall tone detection was not significantly correlated with amount of channel surfing. However, detection of the 5th tone did correlate with the channel flipping frequency during the 5th time period. Subjects who displayed more channel flipping also detected this tone more often (i.e. lower program involvement led to better tone detection); therefore, perhaps subjects took several minutes to settle into a program and a longer viewing time period might have produced better results.

The time of day subjects watched television had no effect on their channel surfing habits. However, certainly one would want to test evening and late night

television viewing behavior before reaching stronger conclusions about time of day and type of program effects.

At a subjective level, subjects tended to accurately report themselves as channel surfers. They also correctly identified males as being the more frequent channel surfers. In addition, while 50% of subjects reported channel surfing during commercials, the most frequently given reason for channel surfing was disinterest in the current program.

This study provides the first empirical evidence that men do indeed channel surf more than females. In addition, some support was found for the notion that this channel surfing was related to lower levels of attention to television programming. The experience of holding the remote control is one coveted by family members all over the country. And while it seems the annoying problem of watching television with a "channel-surfer" is no closer to being resolved, it is now somewhat more understood. As the twentieth century rolls to a close, men and women find that technology either brings their differences closer together, or makes the differences more apparent. With the invention of the remote control, technology seems to have lent a hand in widening the trench from which the battle of the sexes is fought.

References

- Bravo, M. & Nakayama, K. (1992). The role of attention in different visual-search tasks. Perception and Psychophysics, 51, 465-472.
- Chattopadhyay, A. & Prakash, N. (1992). Does attitude toward the ad endure? The moderating effects of attention and delay. Journal of Consumer Research, 19, 26-33.
- Darley, W. & Smith, R. (1995). Gender differences in information processing strategies: an empirical test of the selectivity model in advertising response. Journal of Advertising, 24, 41-56.
- Holborow, P., Berry, P., & Elkins, J. (1984). Prevalence of hyperactivity: A comparison of three rating scales. Journal of Learning Disabilities, 17, 411-417.
- Hyde, J. & Linn, M. (1986). The Psychology of Gender: Advances through Meta-Analysis. Baltimore: The John Hopkins University Press.
- Geiger, S. & Reeves, B. (1993a). We interrupt this program...attention for television sequences. Human Communication Research, 19, 368-387.
- Geiger, S. & Reeves, B. (1993b). The effects of scene changes and semantic relatedness on attention to television. Communication Research, 20, 155-175.
- Grey, J. (1991). Men are From Mars, Women are from Venus. New York: Bantam Books.
- Grimes, Tom. (1991). Mild auditory-visual dissonance in television news may exceed viewer attentional capacity. Human Communication Research, 18, 268-298.
- Kagan, J. (1964). Information processing in the child: Significance of analytic and reflective attitudes. Psychological Monographs, 78, 248-253.

Krugman, D. & Johnson, K. (1991). Differences in the consumption of traditional broadcast and VCR movie rentals. Journal of Broadcasting and Electronic Media, 35, 213-232.

Landau, S., Lorch, E., & Milich, R. (1992). Visual attention to and comprehension of television in attention-deficit-hyperactivity disordered and normal boys. Child Development, 10, 928-937.

Lang, A., Geiger, S., Strickwerda, M., & Sumner, J. (1993). The effects of related and unrelated cuts on television viewers' attention, processing capacity, and memory. Communication Research, 20, 4-29.

Linn, M. & Petersen, A. (1986). A Meta-analysis of Gender Differences in Spatial Ability: Implications for Mathematics and Science Achievement. The Psychology of Gender. Baltimore: John Hopkins University Press.

Lloyd, B. & Archer, J. (1976). Exploring Sex Differences. London: Academic Press.

Lord, K. & Burnkrant, R. (1993). Attention versus distraction: the interactive effect of program involvement and attentional devices on commercial processing. Journal of Advertising, 22, 47-60.

Maccoby, E., & Jacklin, C. (1974). The Psychology of Sex Differences. Stanford: Stanford University Press.

Mantzicopoulos, P. & Morrison, D. (1994). A comparison of boys and girls with attention problems: kindergarten through second grade. American Journal of Orthopsychiatry, 64, 522-533.

Meehan, A. (1984). A meta-analysis of sex differences in formal operational thought. Child Development, 55, 1110-1124.

Myers, M., Levy, J. & Sternthal, B. (1991). Gender differences in the use of message cues and judgments. Journal of Marketing Research, 28, 84-96.

Palmer, J., Ames, C. & Lindsay, D. (1993). Measuring the effect of attention on simple visual search. Journal of Experimental Psychology: Human Perception and Performance, 19, 108-130.

Pratto, F. & Bargh, J. (1991). Stereotyping based on apparently individuating information: trait and global components of sex stereotypes under attention overload. Journal of Experimental Social Psychology, 27, 26-47.

Rolandelli, D., Wright, J., Huston, A. & Eakins, D. (1991). Children's auditory and visual processing of narrated and Nonnarrated television programming. Journal of Experimental Child Psychology, 51, 90-122.

Ross, D., & Ross, S. (1982). Hyperactivity: Current issues, research, and theory (2d ed.). New York: Wiley.

Sonderegger, T. (1984). Psychology and Gender. Lincoln: University of Nebraska Press.

Wilson, J. (1995). Attention and concentration. Educational Research, 37, 33-38.

Table 1
Percentage of subjects who detected each tone

	Females	Males
Tone 1	.391	.333
Tone 2	.348	.524
Tone 3	.217	.619
Tone 4	.261	.524
Tone 5	.348	.524

Appendix A
Survey

Television Survey

Please answer the following questions as accurately as possible. You do not need to put your name on this form. Thank you for your participation!

1. Are you:
Male
Female
2. Age: _____
3. How many hours a week do you spend watching television? _____
4. Would you consider yourself to be a "channel-surfer"?
Yes
Sometimes
No (skip to #6)
5. Why would you say you "channel surf"? (You may choose more than one)
____ Because I am bored with the current program
____ Because there is a commercial on the current channel
____ Because I want to discover if there's something more interesting on.
____ Because I want to watch two or more programs at once.
____ Other (Please explain) _____
6. How many hours a week do you spend playing video games? _____
7. How many televisions are in your home? (Your *permanent* home) _____
8. Do you have a remote control with your television set at home?
Yes
No
9. Overall who do you feel does more channel surfing?
Males
Females
10. Overall, how interested were you in the program(s) you watched today on television?
Very interested
Somewhat interested
Indifferent
Not very interested
Very bored