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ABSTRACT

A study investigated the relationship between television program type preference and program choice in a multichannel situation. Program type categories were constructed which tapped in the program type distinction mentally represented in viewers' minds and a more elaborate measure of program choice options was developed. A total of 442 undergraduate students in telecommunication and journalism at a large midwestern university completed a questionnaire. Programming awareness, group viewing compromise, and strength of preference were included as three major moderating variables. A multiple regression test result supported the major prediction: that viewers tend to achieve more preference gratification in multichannel situations, even though the effects of three moderating variables turned out to be insignificant. Further research should replicate the study with a more generalized population (university students are not representative of the population at large). (Thirteen tables of data are included. Contains 32 references.) (Author/RS)

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Program Type Preference and Program Choice in Multi-Channel Situation

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Running Head: Program Preference

Abstract:

Program Type Preference and Program Choice in Multi-Channel Situation

By constructing the program type categories which tapped in the program type distinction mentally represented in viewers minds, and by developing a more elaborate measure of program choice options, this study investigated the relationship between program type preference and program choice in multichannel situation. Programming awareness, group viewing compromise, and the strength of preference were included as three major moderating variables. The multiple regression test result supported the major prediction of this paper that viewers tend to achieve more preference gratification in multichannel situation, even though the effects of three moderating variables turned out to be insignificant.

Program Type Preference and Program Choice in Multi-Channel Situation

Multi-Channel TV and Program Type Choice

Past studies which attempted to predict TV viewership patterns in broadcast TV from program type preferences have met with little success. Scheduling factors and viewer availability appear to confound any observed relationships between program type preferences and actual viewership (Bowman & Farley, 1972; Bruno, 1973; Frank, Becknell, & Cloaskey, 1971; Gensch & Shaman, 1980).

With the development of multi-channel TV, one of the most common expectations has been that program choice should better reflect viewers' program type preferences, since cable can minimize the constraints from scheduling factors and viewer availability by providing (a) more various options[1] and (b) far more flexible programming[2] (Heeter & Greenberg, 1988).

So far, probably due to its seemingly too evident nature, however, we have only one empirical test (Jeffres, 1978) of this idea. Jeffres proposed that, as the number of channels increases

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[1]. Channels available over cable can be aligned on a continuum of program predictability by content specificity. The networks, independent stations and superstations, and other general appeal channels would be the least predictable, offering different types of content. Then there are generic content-typed channels, like ESPN or the movie channels, where a broadly defined program type is always available. MTV, offering short clips of rock music with accompanying video, and CNN, with a repeating newscast cycle, are more specialized. Finally, there are channels so predictable with repetitive, continuous content such as the Weather Channel.

[2]. The networks traditionally offer hour and half-hour programs. On cable, some of the channels run at very different lengths. MTV provides short clips of 5-7 minutes. CNN cycles through a 45-minute news cycle. Sports events and movies have variable end times. Viewers may join and leave programs at different points, on the basis of their own availability. Also, there is program content available during commercial breaks. (Heeter, and Greenberg, chapter 4 for more detail)

due to cable introduction, 'a viewer would increase his/her viewing of programs in preferred categories and to decrease his/her viewing of programs in non-preferred categories.' The outcome, however, did not support this expectation. Despite channel increase, people did not show any significant differences in pursuing their program type preferences.[3] Therefore, as far as formal empirical tests are concerned, we are left with the conclusion that the development of multichannel TV does not facilitate 'program choice based on program type preferences' or 'preference gratification.'[4]

However, Jeffres' study is not without questions. The most serious flaw in Jeffres' study is that seasonal variation of TV viewing was confounded with channel increase. Besides this, three additional aspects of this study can be questioned; (a) measurement of program type preferences, (b) measurement of program choice options, and finally (c) control of other moderating variables.

First, it is questionable whether the nine program categories, he adopted, measure people's program type preference adequately.[5] These categories are not comprehensive enough to include the whole range of various TV programs. A more serious problem is that this kind of traditional program type distinction can be much different from the program type distinction in a

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[3]. The mean percentage of programs viewed in the preferred categories increased by only 2.1 percent from almost 60 percent before cable to 62.1 percent after its arrival. The differences was not statistically significant.

[4]. Jeffres's original term for this idea was "interest maximization." In this paper, however, the same idea will be referred to as "preference gratification" in order to avoid somewhat ambiguous and misleading connotations of the terms, "interest" and "maximization."

[5]. The categories include "police-detective programs," "local news programs," "musical-variety programs," "national news programs," "comedies," "sports programs," "game shows," "day-time xamas (soap operas)," and "movies."

viewer's mind based on which he/she makes actual program choice. Therefore, before we measure the program type preference of a viewer, program type distinction mentally represented in a viewer's mind needs to be examined.

Secondly, the measurement of program choice options raises another question. Jeffres assumed that the increase of channels would increase viewer's choice options, which would allow viewers to choose what they prefer. However, it is quite uncertain whether the small-scale channel increase due to cable introduction in the late 70s (from three channels to eight channels including fairly overlapping distant channels) could practically bring significant changes in program choice options.

Furthermore, program choice options are preference-bound and time-bound. For some viewers, channel increase can mean little changes in program choice options if their preferred program types do not increase a lot from this, while, for others who have different preferences, the same changes can mean far enlarged options. Besides, even among those who have the same program type preference, program choice options can vary if TV viewing time is different. Therefore, it is highly unlikely that, from the channel increase, program choice options increase the same degree for all viewers who differ in preferences and viewing time. In general, program choice options cannot simply be measured from the number of channels. A more valid measure of program choice options which reflects both the program type preference and the viewing time of each viewer needs to be developed.

Finally, in Jeffres' study, other moderating variables which could affect viewers' program choice were not included in the analysis and, therefore, could not be controlled. The true relationship between program choice options and preference gratification can be significantly blurred without adequate inclusion and control of these moderating variables.

Program Type Preference

Program type preference can be defined as a viewer's predisposed liking of one (or more than one) specific program type among a set of program types (Bowman & Farley, 1972; Lehmann, 1971; Owen et al., 1974; Rosengren & Windahl, 1972; Webster & Wakshlag, 1972). The practical problem in measuring program type preference lies in determining which of many possible schemes for categorizing TV programs is systematically related to this viewer preference (Webster & Wakshlag, 1972).

One approach is to depend on the conventional, "common sense" program types (such as drama, situation comedies, and so on). This approach, which has been the most common practice in mass media content analysis studies, results in a bunch of hardly generalizable, case-specific program categories.

Another popular approach has involved the use of factor analytic techniques (Ehrenberg, 1968; Frank et al., 1971; Gensch & Ranganathan, 1974; Gensch & Schman, 1980; Kirsch & Banks, 1962; Rao, 1975; Swanson, 1967; Wells, 1969). They commonly developed program categories based on viewers' responses to the actual TV programs. The problem is that viewers would give high preference scores on those programs which they actually watch. Therefore, the resulting program type preference factors would reflect actual program viewing (more specifically, all the variables affecting on program viewing) rather than purely reflecting program type preference.

The problems in these past studies can be expressed in terms of external and internal validity. One line of studies failed in developing externally valid measures of program type preference from the failure in utilizing a standardized category development routine. The other line of studies failed in developing internally valid measures of program type preferences by being unable to distinguish actual program viewing and program type preference.

In this study, in order to develop an externally and internally valid measure of program type preference, the following routine was utilized.

(a) construction of primary program types
(b) survey of program type preferences
(c) factor analysis of primary program types
(d) construction of program type categories based on program type preferences

The major difference between this new routine and past factor analyses is that primary program types (see Table 3) replace actual TV programs. Since viewers respond to these conceptually constructed program types instead of actual programs, the influence of actual TV viewing on the responses can be reduced, if not completely removed.

Program Choice Options

The number of channels is so poor an indicator of program choice options that it should be replaced by a more elaborated and valid measure. Especially, it is very important that this measure be sensitive to both (a) TV viewing time and (b) the program type preference of each viewer.

First, program choice options for various program types will be different from one time slot to another time slot. For an illustration, let's assume that during 6-6:30 PM, two news programs, one situation comedies, and two sports programs are available in a TV market. In the next time slot, this can change to three news programs, two situation comedies.

Secondly, program choice options will be different from viewers to viewers who have different program type preferences. We can assume two viewers, viewer *A* who likes news and viewer *B* who likes sports. Then, in the above example, if both of them watch TV from 6:30-7:00 PM, viewer *A* has three programs of preferred program type, while viewer *B* has no program of preferred program type.

Program choice options of all viewers who differ in program type preferences and viewing time can be easily computed if a program choice option table which comprises various program choice options over time and program types is constructed.

Table 1. Program Choice Option Table

	Time Slot(T)	Slot *i*	Slot *j*	Slot *k*	....
Program Type(P)	PT	....	....	....	....
Type *l*	....	P_lT_i	P_lT_j	P_lT_k	....
Type *m*	....	P_mT_i	P_mT_j	P_mT_k	....
Type *n*	....	P_nT_i	P_nT_j	P_nT_k	....
....	....	....	....	....	....

For example, if a viewer's preference is program type *l* and he/she is going to watch TV during time slot *i*, then his/her preferred program type choice option is P_lT_i. If he/she has preferences for both program type *l* and *m*, then he/she has P_lT_i + P_mT_i choice options. If he/she spent the next time slot *j* for TV viewing also, then the average program choice option for these two preferred program categories will be { $(P_lT_i + P_mT_i) + (P_lT_j + P_mT_j)$ } / 2 programs.

Therefore, once the program choice option table is constructed, a TV viewer's program choice option can be computed by the following equation:

$$\left(\left\| P_l \;\; P_m \;\; P_n \right\| \times \left\| \begin{matrix} T_i \\ T_j \\ T_k \end{matrix} \right\| \right) / N_c,$$

P_l, P_m, P_n = preferred program types
T_i, T_j, T_k = TV viewing time slots.
N_l = number of time slots a viewer spent in TV viewing

Moderating Variables

Past program choice studies (Webster & Wakshlag, 1983; Heeter, 1988; Heeter & Greenberg, 1988) suggest the following two variables as important moderators: programming awareness and group viewing compromise. Besides these two variables, this study will include another moderating variable, the strength of preference.

It is a common expectation that programming awareness will become a more and more important moderating variable between program choice options and preference gratification as the number of channels increases. As Heeter and Greenberg (1988) mention;

> The most pervasive assumption of research on program choice has been that, when viewers select a program to watch, they evaluate all program options available at the time, and select the one which best fits some criterion. In a television environment where only three networks are available, this assumption rarely has been questioned. However, in cable television environments, as the number of program options increases vastly, that assumption becomes less plausible (Heeter & Greenberg, 1988, p.34).

Studies (Arbitron, 1983; Heeter, 1988) reveal that many cable subscribers are not aware of all the services available to them, or even of what service they are viewing at any given time. As channel increase goes on and on, difficulties in matching program type preference to program choice is likely to increase also. Therefore, it is expected that good awareness of channels and programs will facilitate preference gratification while little awareness will impede it.

Group viewing compromise would also affect preference gratification (Heeter & Greenberg, 1988; Webster & Wakshlag, 1983). If a viewer watches TV alone, then he/she can watch what

he/she wants without any influence from others. However, if he/she watches TV with other people, then a certain degree of influence from, or compromise with, other people is inevitable. It is likely that the degree of group viewing compromise should have a negative effect on preference gratification.

This study includes "the strength of preference" as the third moderating variable. The degree of preference gratification can be different even among those who have the same program type preference if the strength of preference is different. For example, we can assume two TV viewers, who prefer sports programs the most. If the first viewer's preference to sports programs is far much stronger than that to the other program types, then he/she will pursue stronger preference gratification for the former. On the contrary, if the second viewer's preference to sports programs is not much stronger than that to the other program types, then this viewer will not seek sports programs so eagerly as the first viewer does. Therefore, it is expected that the strength of preference should have a positive effect on preference gratification.

Hypotheses

Based on the discussion, the following hypotheses are proposed for empirical test.

H_1. Program choice options will have a positive effect on preference gratification.

H_2. Programming awareness will have a positive effect on preference gratification.

H_3. Viewing group compromise will have a negative effect on preference gratification.

H_4. Strength of preference will have a positive effect on preference gratification.

Method

Overview

This study was conducted on Tuesdays of the third week and Wednesday of the fourth week of November, 1992. Students taking classes in telecommunication and Journalism at a large midwestern university participated in the study. The total number of 442 students completed a questionnaire which contained program type preference measurement items, awareness and group viewing compromise measurement scales, the prime time TV program lists of previous day for every 30 minutes, and other demographic items.

Among the total respondents, for the purpose of this study, (a) those who were U.S. citizens for whom English is the native language (i.e., those who were not restricted in program choice by language problem) and (b) those who watched TV at least for a time slot (30 minutes) the previous day, were included in the actual analysis. 257 respondents satisfied these two criteria (see table 2 for sample demographics). For statistical analysis of the data, Statistical Package for Social Sciences (SPSS) program was utilized.

Table 2 about here.

Construction of Program Type Categories

In order to construct program categories which can tap in the program type preference mentally represented in viewers' mind, factor analytic routine was adopted. First, 45 primary program types were constructed (see Table 3).[6] Then the

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[6]. In constructing the primary program types, TV program categories developed by NHK Program Quality Project team (unpublished manuscript, Michigan State University), Straubhaar, J. et. al.'s international TV program content categories ("Regional TV markets and TV program flows:Latin America, Asia and the

preference responses for these primary program types were measured by seven-point Likert-type scales as follows.

Situation Comedy
dislike strongly |----|----|----|----|----|----| like Strongly

Game Shows
dislike strongly |----|----|----|----|----|----| like Strongly

The varimax rotated factor analysis produced 11 factors (the eigen value of which are bigger than or equal to 1), which altogether explain 63.0 percent of the total variance (see table 4). In the interpretation of each factor, items, the factor loadings of which are bigger than or equal to .5 were included based on a conventional factor analytic strategy.

Table 3 and 4 about here.

Overall, all 11 factors were meaningfully interpretable.[7] The first factor, which explains about 17 percent of total preference variance, included various sports program items such as 'Basketball,' 'Sports News/Commentary,' 'Football,' 'Track and Field Sports,' and 'Baseball,' etc.. Therefore, this factor was interpreted as sports factor.

Caribbean," presented in ICA, Cross-Cultural and Development Division, May 1992), and Baldwin, T.'s multi-channel program categories (unpublished manuscript) were referred to.

[7]. As is usual in most factor analyses, some factors are hard to interpret at first glance. One example is that action/adventure movie program was included in the comedy factor. One possible explanation for this is that this type of movies usually contain comical elements. The other four program types in this factor (comedy movies, situation comedy, adult targeted cartoons, and comedy-skit variety shows) clearly denote comedy as the common factor. The other example is that talk show and soap opera compose one factor. The major audience for these two programs are women and these two programs usually focus on love affairs, family problems, and other human conflicts in everyday life. However, the interpretation of this factor was still unclear, this factor was named as soap/talk instead of more interpretative factor name.

The second factor was composed of news program items such as 'National News,' 'International News,' 'Special News Report,' 'Political Discussion,' and 'Business News,' etc.. Therefore, this factor could be interpreted as news factor. The third factor comprised such items as 'Cooking,' 'Travel,' 'Hobby/Personal Interest,' 'Academic Education,' and 'Art,' etc.. These are the major program types provided by Public Broadcasting Service (PBS). Therefore, this third factor was interpreted as representing educational/informational programs.

Through similar interpretation process, the following 11 program type categories which reflect the program type categories mentally represented in viewer's mind, were constructed.

1. Sports
2. News
3. Educational/Informational Program
4. Lowbrow amusement
5. Dramatic Story
6. Comedy
7. Talk/Soap
8. Popular Music
9. Classics
10. Contest
11. War/Crime

Measurement of Program Type Preference

In order to identify a viewer's program type preference, mean preference scores for these 11 categories were computed. It was the original idea of this study that a viewer's program type preference would match to a program type. However, it turned out that among quite a number of respondents, more than one program type had equally highest scores. More in general, the highest and the second highest preference scores were very close while the 3rd highest preference score was quite apart (the mean scores were 6.45, 6.22, and 5.68, respectively). This indicates that a TV viewer's program type preference can be better measured by two program types instead of one. Therefore, the following rules were adopted in deciding the program type preference of a viewer.

(a) When the highest, the 2nd highest, and the 3rd highest preference scores were different, the first two program types which marked the highest scores were selected as the program type preference of a viewer.

(b) When more than one program types had equally highest preference scores, those two program types which showed the smallest standard deviations (SDs) were considered as the program type preference of a viewer. It is based on the heuristic decision that the smaller the SD for a program type is, the more stable a viewer's preference for it would be.

Program Choice Options

The channel availabilities among respondents vary in terms of residential areas, cable and pay cable subscribership, and cable systems.[8] Also TV offerings are different day to day. Therefore, in order to measure the program choice option for each respondent precisely, a multiple number of program choice option tables are required.

However, in this study, (a) almost all respondents were residents of Lansing, E. Lansing and adjacent townships,[9] and (b) usually cable channel viewership is concentrated on some widely viewed cable networks.[10] Therefore, four standard

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[8]. In this study, most cable subscribers were subscribed to three different cable systems: campus cable system for university dormitory residents), East Lansing TCI system, and Lansing Continental cable system. A few subscribers were subscribed to other area cable systems or apartment unit MMDS systems. The channel offerings among different cable systems were examined based on Television and Cable Factbook (1992) and the cable guide for each system.

[9]. Therefore, the program choice option table for cable non-subscribers was constructed based on the 5 broadcast channels (WLNS (CBS), WILX(NBC)), WKAR(PBS), WSYM(Fox), and WLAJ(ABC)), available in Lansing/Jackson market area.

[10]. Therefore, the program choice option table for cable subscribers considered (a) 17 cable TV networks (A&E, BET, CNN, C-SPAN, Discovery, ESPN, FAM, Life, MTV, Nickelodeon, TBS, TNN, TNT, USA, WGN, CNBC and the Weather), 6 widely viewed distant signal

program choice option tables (program choice option tables of cable subscribers and cable non-subscribers[11] for Monday, and Tuesday, respectively) were constructed.[12] There were a few pay channel subscribers (twelve respondents). For them, the program choice option tables for cable subscribers were slightly modified considering the pay channels.

Table 5, 6, 7, 8 about here.

After program choice option tables were constructed, the program choice options of respondents who differ in program type preferences and TV viewing time were computed based on the program choice option formula. For example, for a respondent who was subscribed to cable, had preferences to sports and news programs, and watched TV from 6:00 to 7:30 PM, Monday, the program choice option was computed as follows, based on Table 6.

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channels from other TV market areas (WTVS(Detroit, PBS), CBET(Windsor, CBC), WOOD(Grand Rapids, NBC), WEYI(Flint/saginaw/Bay City, CBS), WKBD(Detroit, Fox), WXYZ(Detroit, ABC)) and the 5 broadcast channels in Lansing/Jackson market area.

[11]. Among 257 respondents, 208 respondents (about 81 percent) were cable subscribers and 49 respondents were cable non-subscribers (19 percent). The major reason why the cable subscription rate is so high is that, for all university dormitory residents (137 respondents), basic cable was provided free of charge. All the cable non-subscribers were found among off-campus residents (120). Among off-campus residents, cable subscription rate was 59 percent, which was much similar to the national cable subscription rate (60 percent).

[12]. For the cable non-subscribers, the program choice option table was produced based on the 5 TV channels (ABC, CBS, NBC affiliates, a Fox affiliate, and a local PBS channel) available in the Lansing/Jackson market area. For the cable subscribers, the program choice option table was produced based on (a) the 5 TV channels above, (b) 17 Distant signal channels, and (c) 17 cable network channels (A&E, BET, CNN, C-SPAN, Disney, Discovery, ESPN, Family Channel, Lifetime, MTV, Nickelodeon, PAS, TBS, TNN, TNT, USA, and WGN).

Program Choice Option

$$= \{ \| P_{sports}, P_{news} \| \times \left\| \begin{matrix} T_1 \\ T_2 \\ T_3 \end{matrix} \right\| \} / 3$$

$$= \{ (P_{sports}T_1 + P_{sports}T_2 + P_{sports}T_3) + (P_{news}T_1 + P_{news}T_2 + P_{news}T_3) \} /3$$

$$= \{ (1 + 1 + 1) + (6 + 5 + 5) \} /3$$

$$= 19 / 3 = 6.3$$

P_{sports} = sports preference
P_{news} = news preference
T_1 = time slot 1 (6:00-6:30)
T_2 = time slot 2 (6:30-7:00)
T_3 = time slot 3 (7:00-7:30)

Programming Awareness Scale

The more a viewer seeks programming information, the more he/she will be informed of TV programming. There are three major ways that a viewer can get informed of TV programming; (a) TV Guide, newspaper TV programming table, or cable TV channel guide, (b) channel searching, and (c) interpersonal communication. From this, the following three items were constructed.

(a) I use TV Guide, newspaper programming, or cable TV channel Guide frequently.
strongly disagree 1 2 3 4 5 6 7 strongly agree

(b) I check all the TV channels on the regular basis.

(c) I talk with other people about TV programming frequently.

Besides, the following items which tap into self evaluation of TV programming awareness were included in the programming awareness scale.

(d) I usually know what is special on Today's TV.

(e) I can provide TV programming information to other people.

(f) When I watch a program, I know what's on on the other channels.

Programming awareness was measured by computing the mean score of these six items. The reliability (standardized item alpha) of this six item scale was .8282.

Group Viewing Compromise Scale

To measure group viewing compromise, first those who watch TV all alone need to be screened out. Then, for those who watch TV with other people, group viewing compromise can be tapped at by a multi-item scale. In this study, group viewing compromise were measured by following items.

(a) I watched TV all by myself. Yes:_____ No:_____

If your answer for the statement above is "No," answer the following items.

(b) I couldn't watch what I wanted because of the other person (people).
Strongly Disagree 1 2 3 4 5 6 7 Strongly agree

(c) We had conflicts with the program choices.

(d) Instead of my preference, I considered the preference of other person (people) when I chose what to watch.

When a respondent watched TV alone, group viewing compromise score was coded as 0. When a respondent watched TV with other people, group viewing compromise score was computed by computing the mean score of the last three items. The reliability (standardized item alpha) of the last three item scale was .8513.

Measurement of the Strength of Preference

Each viewer's strength of preference was measured by computing the standard deviation (SD) of the mean program type preference scores of 11 program categories. If the SD score of a viewer is larger than average, that means his/her preference scores for the program categories vary a lot more to both extremes (from a very strong preference to a very weak preference). In this case, it is more likely that the viewer will seek his/her preferred-type programs more strongly. If a

viewer's SD scores is smaller than average, that means he/she does not have strong program type preference or abhorrence, which in turn should result in less degree of preference gratification for the preferred-type programs.

Measurement of Preference gratification

The degree of preference gratification (the dependent variable of this study), which is the degree to which a viewer chooses a program from his/her preferred program type were measured as follows:

(a) If a program actually watched during a time slot coincided with the program type preference, then 1 point was given for this choice.

(b) If a program actually watched during a time slot did not coincides with program type preference, then 0 point was be give for this choice.

(c) The total points was divided by the number of time slots spent in TV viewing.

The resulting score indicates the proportion of program choices based on program type preference. In summary, the degree of preference gratification score was computed by the following formula.

$$\text{Preference gratification} = N_p / N_t$$

N_p = number of time slots a viewer made program choice based on program type preference
N_t = total number of time slots a viewer spent in TV viewing.

For example, if a respondent, who has preference to news and sports, watches sports and news programs for two time slot and watched situation comedy for one time slot (total three time slots), his/her preference gratification score is 2 / 3 or .67. The preference gratification score spans from 0 (no preference gratification) to 1 (perfect preference gratification).

Results

Hypothesis Test

Multiple linear regression analysis was carried out to test research hypotheses. Multiple linear regression analysis assumes that (a) a criterion, or dependent variable has linear association with predictors, or independent variables, and (b) predictors are independent of one another. Actually, the inspection of scatterplots showed no evidence of nonlinearity and no sign of extreme outliers. Also, none of the predictors were correlated significant one another (see Table 9). Therefore, there was no indication that the assumptions of multiple linear regression were violated.

Table 9 about here.

The result of regression result is presented in table 10. As was predicted by hypothesis 1, it was found that program choice options have significant effect on the degree of preference gratification. This result supports the major argument of this study that the more program choice options are given, the more TV viewers can satisfy their program type preference. The primary implication of this finding is that subscription to cable would lead to much more preference gratification since cable would increase program choice options dramatically.[13] T-test result of preference gratification between cable subscribers and non-subscribers clearly showed that cable subscribers satisfied their program type preferences much better than non-subscribers (see Table 11).

Table 10, 11 about here.

[13]. The average program choice option of cable subscribers was about six times as high as that of non-subscribers (6.02 v .98).

Other three predictors which were expected to moderate the relationship between program choice options and preference gratification did not show significant effects on preference gratification. However, the fact that all three moderating variables' directions of effects coincide with the original hypotheses (programming awareness and the strength of preference, positive effects; group viewing compromise, negative effects), suggests the possibility that these small size effects are true values, even though they are not significant with the sample size of 257.

Other Findings

This study found that cable subscribers are aware of TV programming significantly more than non subscribers. Also it was found that cable subscribers watch TV significantly more (about one time slot (thirty minutes)) than non-subscribers during prime time.[14]

Table 12 about here.

With regard to program type preferences, gender groups revealed differences. Significant differences were found in such categories as sports (male > female), lowbrow (male > female), story (male < female), comedy (male > female), soap/talk (male < female), and war/crime (male > female). Comedy and pop music turned out to be the most preferred program types in both gender groups.

Table 13 about here.

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[14]. This result is consistent with the findings of past cable TV viewership studies (Baldwin, et. al, 1988; Grotta & Newsom, 1983; Henke, et. al., 1984; Reagan, 1984).

Discussion

This study hypothesized that when program choice options increase, TV viewers would satisfy their program type preferences better. To test this idea empirically, this study proposed more elaborate ways of measuring program type preferences and program choice options than those used by former researchers. This study also included programming awareness, group viewing compromise, and the strength of preference as three major moderating variables.

The multiple regression test result supported the major prediction of this paper even though the moderating variables' effects turned out to be insignificant. A big gap was found in the degree of preference gratification between cable subscribers and cable non-subscribers. Cable subscribers satisfied their interests much better than non-subscribers. It is obvious that different program choice options available through both cable TV and over-the-air broadcast are the main cause of this gap, since cable subscribers and non-subscribers do not differ significantly in the other aspects.[15]

Therefore we can argue against what Jeffres found in his 1978 study. Actually, the late 70s was somewhat too early to test the idea of preference gratification (or in Jeffres' term, 'interest maximization'). Cable development at that time was in its infant stage both in terms of number of channels and available programs. Also, his research method was flawed in many respects. In this vein, this study provides the more valid test of Jeffres' original idea since it was carried out (a) in the

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[15]. Amount of TV viewing is different between these two groups. However, since amount of TV viewing shows negative correlation (r=-.1363, insignificant in .05 level), it is unlikely that the somewhat higher amount of TV viewing by cable subscribers would have a positive effect on preference gratification.

developed multi-channel situation, and (b) with improved research methods.

Two other aspects of this study requires special attention. First, this study constructed 11 program categories which tap in the program type distinction in viewers' minds. This is based on the assumption that the program type categories mentally represented in viewers minds could be different from traditional program category schemes. In this case, since viewers' program type preference would be configured within this mental structure, any attempts to fit program type preference with conventional program type categories would result in a serious mis-representation of preference. Actually, this study found that viewers did not have distinctive program type perception or preferences for some conventional program types. For example, movies or dramas did not stand alone as independent categories but were scattered over several other categories. On the contrary, several new program types, such as lowbrow amusement, contest, classics, were identified. This result raises a critical validity issue for the practice of applying the traditional program type categories to audience studies.

Secondly, this study found that cable subscribers are significantly better aware of TV programming than non-subscribers.[16] The common expectation so far has been that the multiple offering of cable TV would make it more and more difficult for a viewer to be aware of all the programming. However, the finding of this study suggests that the other way might be true: as more and more programs are available from the development of cable, TV viewers tend to become active informed viewers rather than passive uninformed viewers of what are given, presumably to cope with the increasing complexity. This result

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[16]. Here, it is important to note the differences in the size of cable subscribers (208) and non-subscribers (49). The small size of non-subscriber group leaves room for further investigation of this finding.

requires us to examine the aspects of audience as an active, adaptive being to the rapidly changing television environment, more closely.

This study is not without limits. One limitation concerns the use of university students as respondents. A university population is not representative of the population at large in terms of age, socio-economic status (SES), and program type preferences. Another limit lies in the measurement reliability of key variables. The measurement of program choice option, programming awareness, group viewing compromise, the strength of preference, and the preference gratification require quite complicated data gatherings and transformation processes, and therefore, are prone to errors.[17]

To elaborate the basic work initiated in this study will be the tasks for future studies. First of all, it is necessary to replicate this study with more generalizable samples and improved measurements, in order to confirm the findings of this study. Secondly, it is important to explicate new theoretical predictors which can better explain the preference gratification, considering the fact that the variance of preference gratification explained by the four predictors in this study was only 13.5 percent (R square = .13509). Program popularity can be one example, since highly popular programs (such as big sports events) tend to attract viewers regardless of program type preferences. Thirdly, the program type categories mentally represented in viewers' minds requires further elaboration. Especially, it would be productive to relate the differences in

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[17]. The measurement of program choice option is a good example. Before we were able to compute the program choice option scores, we had to go through the following steps, each of which is prone to error; (a) the construction of program type categories, (b) the measurement of program type preferences based on these categories, (c) the construction of program choice option tables based on the content analyses of actual program offerings by the program type categories, (d) the computation of program choice option score based on program type preferences and viewing time.

program category representation among different age, gender, and education groups with the viewership differences among them. Finally, to investigate the active, adaptive aspects of TV audience in rapidly changing media environment will be one of the most crucial tasks for future studies.

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Table 2. Sample Demographics

(a) age

value	frequency	percent
17	2	.8
18	81	31.5
19	62	24.1
20	53	20.6
21	28	10.9
22	17	6.6
23	8	3.1
25	2	.8
28	1	.4
31	1	.4
33	1	.4
missing	1	.4

(b) sex

value	frequency	percent
male	142	55.3
female	115	44.7

(c) race

value	frequency	percent
black	25	9.7
Asian	5	1.9
White	215	83.7
Other	8	3.1
missing	4	1.6

(d) academic year

value	frequency	percent
first	95	37.0
second	70	27.2
third	51	19.8
fourth	38	14.8
grad.	3	1.2

(e) cable subscription

value	frequency	percent
subs.	208	80.9
non-subs.	49	19.1

Table 3. Primary Program Types

Item Number	program type	Item Number	Program type
item 1	situation comedy	item24	soap opera
item 2	classical music	item25	track & field sports
item 3	crime/law drama	item26	home video comedy
item 4	boxing	item27	tennis match
item 5	war/military drama	item28	special news report
item 6	game shows	item29	business news
item 7	international news	item30	rock music program
item 8	talk show	item31	pro-wrestling
item 9	sports news	item32	horror movie
item10	wildlife/nature	item33	old/classical movie
item11	baseball	item34	comedy-skit variety
item12	old comedy reruns	item35	music video
item13	science fiction movie	item36	basketball
item14	travel	item37	drama movie
item15	newsmagazine	item38	mini-series
item16	movie/program review	item39	national news
item17	football	item40	historical documentary
item18	adult targeted cartoon	item41	sexually arousing program
item19	academic education		
item20	political discussion	item42	social issues
item21	action/adventure movie	item43	arts
item22	hobby/leisure activity	item44	comedy movie
item23	cooking	item45	quiz contest

Table 4. Factor Analysis of Primary Program Types

Initial Statistics:

Factor	Eigenvalue	Pct of Var	Cum Pct
1	7.48617	16.6	16.6
2	4.52654	10.1	26.7
3	3.36238	7.5	34.2
4	3.03924	6.8	40.9
5	2.02026	4.5	45.4
6	1.58476	3.5	48.9
7	1.52919	3.4	52.3
8	1.41811	3.2	55.5
9	1.20580	2.7	58.2
10	1.13083	2.5	60.7
11	1.03454	2.3	63.0

Varimax Rotated Factor Matrix:

Item	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
P36	.82127				
P9	.81361				
P17	.78658				
P25	.67990				
P11	.67141				
P27	.57707				
P4	.57633				
P39		.79943			
P7		.74963			
P28		.72807			
P20		.67612			
P29		.66488			
P15		.61970			
P40*		.43107*			
P23			.72360		
P14			.67986		
P22			.66269		
P19			.64535		
P43			.60241		
P10*			.46458*		
P32				.65662	
P41				.62264	
P13				.59988	
P31				.59154	
P37					.74749
P38					.69826
P42*					.46400*

* Items which show factor loading less than .5

	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
P44	.68117				
P1	.59525				
P18	.58539				
P21	.52354				
P34*	.49635*				
P8		.72122			
P24		.63436			
P30			.77181		
P35			.66032		
P16*			.45476*		
P33				.77657	
P12				.57240	
P2				.55722	
P45					.78665
P26					.56828
P6					.51482

	FACTOR 11
P5	.59552
P3	.54411

* Items which show factor loading less than .5

Table 5. Program Choice Option Table 1 (Cable Non-Subscribers, Monday)

Time Slot / program type	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	10:00 10:30	10:30 11:00	Mean
Sports	.	.	.	.	.	.	1	1	1	1	.4
News	3	4	1	3	.	.	.	.	.	.	1.1
Educational/Informational	.	.	.	.	1	1	1	1	1	1	.6
Lowbrow Amusement	.	.	.	.	.	.	.	.	.	.	.0
Dramatic Story	.	.	.	.	.	.	1	1	1	1	.4
Comedy	1	1	1	.	2	2	1	1	1	1	1.1
Talk/Soap	.	.	.	.	.	.	.	.	.	.	.
Popular Music	.	.	.	.	.	.	.	.	.	.	.
Classics	.	.	.	.	.	.	.	.	.	.	.
Contest	.	.	2	1	.	.	.	.	.	.	.3
War/Crime	.	.	.	1	2	2	1	1	1	1	.9
Other	1	.	1	.	.	.	.	.	.	.	.2

Table 6. Program Choice Option Table 2 (Cable Subscribers, Monday)

Time Slot / program type	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	10:00 10:30	10:30 11:00	Mean
Sports	1	1	1	1	1	1	2	2	2	2	1.4
News	6	5	5	4	1	1	2	2	2	3	3.1
Educational/Informational	3	1	2	1	2	2	2	2	2	3	2.0
Lowbrow Amusement	1	.	1	2	.	1	1	1	1	2	1.0
Dramatic Story	1	1	.	.	5	5	7	6	4	4	3.3
Comedy	7	5	8	8	2	3	1	1	1	3	3.9
Talk/Soap	.	.	.	.	.	.	.	.	1	1	.2
Popular Music	3	2	1	2	2	2	3	3	2	2	2.2
Classics	.	1	1	.	.	.	.	.	.	1	.3
Contest	2	1	4	3	.	.	.	.	.	.	1.0
War/Crime	1	1	1	1	3	4	2	2	4	2	2.2
Other	2	4	3	5	3	2	1	1	4	3	2.8

Table 7. Program Choice Option Table 3 (Cable Non-Subscribers, Tuesday)

Time Slot / program type	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	10:00 10:30	10:30 11:00	Mean
Sports	.	.	.	.	.	.	1	1	1	1	.4
News	3	3	1	2	.	.	.	.	.	.	.9
Educational/Informational	.	1	.	1	2	1	1	1	1	1	.9
Lowbrow Amusement	.	.	.	.	.	.	.	.	.	.	.0
Dramatic Story	.	.	.	.	.	.	1	1	1	1	.4
Comedy	1	1	1	1	2	2	1	1	1	1	1.2
Talk/Soap	.	.	.	.	.	.	.	.	.	.	.
Popular Music	.	.	.	.	.	.	.	.	.	.	.
Classics	.	.	.	.	.	.	.	.	.	.	.
Contest	.	.	2	1	.	.	.	.	.	.	.3
War/Crime	.	.	.	.	1	1	1	1	1	1	.6
Other	1	.	1	.	.	1	.	.	.	.	.3

Table 8. Program Choice Option Table 4 (Cable Subscribers, Tuesday)

Time Slot / program type	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	10:00 10:30	10:30 11:00	Mean
Sports	2	2	2	1	1	1	2	2	2	2	1.7
News	6	5	5	4	1	1	2	2	2	3	3.1
Educational/Informational	2	1	2	2	2	2	2	2	2	3	2.0
Lowbrow Amusement	1	1	1	2	2	1	1	1	1	2	1.3
Dramatic Story	1	1	1	1	4	4	6	6	4	4	3.2
Comedy	6	6	8	8	2	3	2	2	2	2	4.1
Talk/Soap	.	.	.	.	.	.	.	.	1	1	.2
Popular Music	3	2	2	2	2	2	3	3	2	2	2.3
Classics	.	1	1	.	.	.	.	.	.	1	.3
Contest	2	2	4	3	.	.	.	.	.	.	1.1
War/Crime	1	1	1	1	3	3	3	2	2	2	1.9
Other	3	3	2	4	4	3	2	2	4	3	3.0

Table 9. Correlation Matrix of Predictors

	OPTIONS	AWARENESS	COMPROMISE	STRENGTH	PREFERENCE
OPTIONS	1.0000	.0599	.0051	-.0846	.3457**
AWARENESS	.0599	1.0000	.0930	-.0112	.0746
COMPROMISE	.0051	.0930	1.0000	-.1454	-.0914
STRENGTH	-.0846	-.0112	-.1454	1.0000	.0381
PREFERENCE	.3457**	.0746	-.0914	.0381	1.0000

N of cases: 255 1-tailed Signif: * - .01 ** - .001

OPTIONS: program choice options
AWARENESS: programming awareness
COMPROMISE: group viewing compromise
STRENGTH: the strength of preference
PREFERENCE: preference gratification

Table 10. Regression Parameters

Variable	B	Beta	T	Sig T
OPTIONS	.052089	.347060	5.869	.0000
AWARENESS	.021967	.062895	1.063	.2889
COMPROMISE	-.020123	-.091042	-1.525	.1286
STRENGTH	.078201	.054935	.921	.3581
(Constant)	.035581		.243	.8078
Multiple R	.36755			
R Square	.13509			

Table 11. The differences in Program Choice Options and Preference Gratification between Cable Subscribers and Non-subscribers

(A) Program Choice Options

	Number of Cases	Mean	Standard Deviation	Standard Error
Subscribers	208	6.0231	2.117	.147
Nonsubscribers	49	.9755	.624	.089

t Value	Degrees of Freedom	2-Tail Prob.
16.50	255	.000

(B) Preference gratification

	Number of Cases	Mean	Standard Deviation	Standard Error
Subscribers	208	.4944	.405	.028
Nonsubscribers	49	.2797	.419	.060

t Value	Degrees of Freedom	2-Tail Prob.
3.32	255	.001

Table 12. The differences in the Amount of TV Viewing and Programming Awareness between Cable Subscribers and Non-subscribers

(a) Amount of TV Viewing

	Number of Cases	Mean	Standard Deviation	Standard Error
Subscribers	208	4.2067	2.612	.181
Nonsubscribers	49	3.3878	2.405	.344

t Value	Degrees of Freedom	2-Tail Prob.
2.00	255	.046

(b) Awareness

	Number of Cases	Mean	Standard Deviation	Standard Error
Subscribers	206	4.3985	1.159	.081
Non-subscribers	49	3.9388	1.267	.181

t Value	Degrees of Freedom	2-Tail Prob.
2.45	253	.015

Table 13. The Differences in Program Type Preference between Males and Females

Program Type	Sports**	News	Ed/ Infor	Lowbrow**	Drama**	Comedy*	Soap/ Talk**	Pop-Music	Classic	Contest	War/ Crime**
male	4.34	3.75	3.22	4.20	3.99	5.33	3.37	5.00	3.76	3.87	4.05
female	3.07	3.62	3.25	2.86	4.79	4.96	4.75	5.00	3.77	3.64	3.53

* difference significant in .05 level.
** difference significant in .01 level.