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In four sessions over a two-week time period, 32 women and 32 men viewed 128 randomly selected prime-time and daytime television commercials from early 1980. In an adaptation of Schneider's person perception approach, the viewers rated the models on a set of 13 social psychological attributes which were subsequently factor analyzed into three factors: responsible-mature, social image-status, and independence. Perceptions of male and female models differed as a function of time of airing and product, but not as a function of the viewer's sex. Overall, women were not portrayed in a more negative way than men are portrayed in today's (1980) television commercials.

Perceived Attributes of Models in Prime-Time and Daytime Television Commercials: A Person Perception Approach

For some time, it has been vogue to cite research deploring the way in which women have been portrayed in advertisements. Indeed, the data have been both embarrassing and challenging to marketers and advertisers.

Content analyses of sex role portrayals in magazine advertisements have shown that women have often been portrayed in unflattering and nonrepresentative roles (Belkaoui and Belkaoui 1976; Courtney and Lockeretz 1971; Sexton and Haberman 1974; Venkatesan and Losco 1975; Wagner and Banos 1973; Weinberger, Petroshius, and Westin 1979). Sex role portrayals in television commercials have been equally unflattering and nonrepresentative both in the United States (Busby 1975; Courtney and Whipple 1974; Dominick and Rauch 1972; McArthur and Resko 1975) and in Great Britain (Manstead and McCulloch 1981).

The content analyses have shown that women have been underrepresented in working roles and overrepresented in decorative and sex-object roles. Moreover, attitude surveys have found that female respondents (especially those with "modern" attitudes toward sex roles) have been significantly more dissatisfied than male respondents with the way advertisements depict women (Lammers and Wilkinson 1980; Lundstrom and Sciglimpaglia 1977; Sciglimpaglia, Lundstrom and Vanier 1980).

The importance of the issue of sex role portrayals is underscored by recent empirical evidence which demonstrates that exposure to television commercials employing traditional and sexist role portrayals can lower women's self-confidence and independent judgment (Jennings {Walstedt}, Geis, and Brown 1980), and can ingrain both male and female children (grades three to eight) with more traditional attitudes toward women's roles in society (Pingree 1978). Thus, there is ample ammunition for accusing advertisers of having impeded women's attempts ". . . to reform the attitudes of society toward women, and of women toward themselves" (McNeil 1975, p. 259).

Perhaps, however, the situation is improving. Schneider and Schneider (1979), for example, examined 27 hours of prime-time commercials aired in 1976 and found a number of "tenable measures of improvement in role portrayals" (p. 82). They argued that female role portrayals were either closer to actual roles held by women in the United States, or were moving toward actual roles at a faster rate than male role portrayals.

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Their conclusion, literally stated, was ". . . it would appear that not only have the marketing and advertising professions begun to develop a sensitivity toward the large, influential market segment of female consumers, but the changing roles of women have become at least partially incorporated into the value system of American society" (p. 84).

Scheibe (1979) also reported that for some variables the image of women has broadened considerably. For example, in her examination of more than 6000 commercials aired in 1975 and 1976, she found that nearly as many women were portrayed working outside the home as were portrayed in homemaker roles. This pattern approximated the dynamic trend in the real-world ratio observed by McCall (1977).

The significance of the sex role portrayal issue to both marketers and consumers, combined with the intriguing reports of trends toward an improvement in role portrayals (Scheibe 1979; Schneider and Schneider 1979), prompted us to examine the perceptions of how women and men are portrayed in more recent (1980) television commercials. Though a large number of past content analyses of advertisements have focused on a demographic approach to the analysis of roles of male and female models, we followed Schneider's (1978) suggestion that a person perception approach rather than a demographic approach be used to evaluate the sex role portrayals.

In the person perception approach, subjects are exposed to an advertisement and are asked to indicate the various perceptions they have of the model in the advertisement by rating the model on a set of social psychological attributes (e.g., "mature," "wise," "sociable"). In the demographic approach, several independent raters typically categorize the model on such demographic characteristics as occupation, sex, and race. The former approach affords a richer understanding of consumers' reactions to the roles portrayed by models, whereas the latter approach tends to be merely descriptive (Schneider 1978).

A purpose of our study, then, was not only to examine current perceptions of how women and men are portrayed in television commercials, but also to demonstrate that the person perception method is an informative and useful approach to understanding sex role portrayals. Because the results of most of the earlier research on sex role portrayals do not conform to some of the more recent findings (e.g., Schneider and Schneider 1979), we began with a neutral stand on the issue and tested the null hypothesis that there are no significant differences in perceptions of how women and men are portrayed in television commercials.

Finally, we also included an examination of the extent to which the viewer's sex may affect perceptions of sex role portrayals, and of the extent to which perceptions of the models portrayed in prime time differ from those of models portrayed in daytime television. These two variables (viewer sex and time) were included primarily for exploratory purposes and no *a priori* directional hypotheses were generated.

METHOD

A total of 921 commercials were videotaped and edited from 43 hours of prime-time (7 PM to 11 PM) and 34 hours of daytime programming aired over the three major network affiliates in Minneapolis/St. Paul during February and March 1980. Of the total, 493 commercials contained at least one adult who had either an on-camera appearance of a least three seconds or at least one line of dialogue. (The mean exposure time of the main character was 14.58 seconds, $s = 7.30$.) From this pool of 493 commercials, 128 were randomly selected (via FORTRAN subroutine) for use in the study. The distribution of the commercials by sex of the model (the main character or actor in the commercial), time of airing (prime time vs. daytime), and product class is reported in Table 1.

Interestingly, chi square analyses of model's sex × product class within each time category produced no significant effects. (Within daytime category, $\chi^2_{(5)} = 8.16$, $p > .10$; within prime-time category, $\chi^2_{(8)} = 10.72$, $p > .10$). However, chi square analyses of time × product class within each model's sex category showed that the types of products modeled by males differed significantly from daytime to prime time ($\chi^2_{(8)} = 13.87$, $p < .054$). The most drastic difference was in the household cleaning products class, which accounted for 21% of the male-modeled ads on daytime, but only 3% of the male-modeled ads on prime time. For female models, however the products modeled did not differ significantly

Table 1
DISTRIBUTION OF COMMERCIALS BY MODEL'S SEX, TIME, AND PRODUCT

	Daytime		*Prime time*		
Product class	*Male models*	*Female models*	*Male models*	*Female models*	*Total*
Household cleaning products, laundry detergents, dish soaps	20.7	20.6	3.1	9.1	13.3
Pet foods	6.9	0.0	3.1	6.1	3.9
Household furniture, appliances	0.0	0.0	9.4	9.1	4.7
Food, nonalcoholic beverages	41.4	26.5	31.3	15.2	28.1
Drugs and medicine	10.3	8.8	18.8	15.2	13.3
Alcoholic beverages	0.0	0.0	3.1	0.0	0.8
Personal beauty and hygiene	17.2	44.1	9.4	36.4	27.4
Automobiles and accessories	0.0	0.0	9.4	6.1	3.9
Finance and real estate	3.4	0.0	12.5	3.0	4.7
Base *n*	29	34	32	33	128

All figures except base *n* are column percentages.

across prime-time and daytime airings ($\chi^2_{(8)} = 11.56$, $p > .10$).

Subjects

Thirty-two female and 32 male business school students from a large midwestern university volunteered to participate in a "Study on Evaluation of Advertising." They received partial course credit for their participation.

Procedure

A male graduate assistant served as the experimenter. After introducing himself, the experimenter explained to the subjects that they would be shown four separate sets of TV ads (32 ads per set) over four separate sessions. The sessions were each approximately one hour long and took place within a two-week period. The commercials shown in each set were randomly assigned to those sets. In addition, within each set, the order of presentation was randomly determined prior to the actual viewing of the commercials. All randomization was done by a FORTRAN subroutine.

The subjects were given a booklet containing a set of 13 semantic differential–type scales for each commercial. The subjects were told to rate the main character in each commercial on the 13 scales. (The main character was explicitly identified in print on the top of each page of the questionnaire.) The 13 scales were adapted from Schneider (1978) and hereafter are referred to as the RAM (Ratings of the Attributes of the Model). The scales in order of appearance on the questionnaire were (four of the anchors below appeared in reverse form on the questionnaire):

—Poor (1)—Rich (6)
—Bad spouse (1)—Good spouse (6)
—Foolish (1)—Wise (6)
—Unfriendly (1)—Friendly (6)
—Unattractive (1)—Good looking (6)
—Unconcerned with the appearance of the home (1)—Concerned with the appearance of the home (6)
—Impulsive (1)—Logical (6)
—Dependent upon the opposite sex (1)—Independent of the opposite sex (6)
—Modern (1)—Traditional (6)
—Failure (1)—Successful (6)
—Bad parent (1)—Good parent (6)
—Immature (1)—Mature (6)
—Boring (1)—Interesting (6)

After viewing all four sets of commercials, the subjects were debriefed and thanked for their participation in the experiment.

Factor Analysis of Perceptions

A principal components factor analysis with Kaiser normalization and VARIMAX rotation was performed on the responses to the 13-item RAM questionnaire. The resulting factor matrix is shown in Table 2. Three factors emerged. Factor 1 accounts for 34.9% of the total variance (68.8% of the common variance) and hereafter is referred to as the *responsible-mature factor*. The six items which loaded most heavily on this factor are, in descending order of factor loading: good parent, good spouse, mature, wise, logical, and concerned with the appearance of the home.

The second factor, hereafter referred to as the *social image-status factor*, accounts for 9.8% of the total variance (19.2% of the common variance) and includes the following five items in descending order of factor loading: good looking, sociable, interesting, rich, and successful.

The third factor, hereafter referred to as the *independence factor*, accounts for 6.1% of the total variance (11.9% of the common variance) and includes two items: independent of the opposite sex and traditional. The latter item was negatively loaded on the independence factor.

All three factors were retained and formed the base for subsequent analyses.[1] Factor scores were calculated

Table 2
PRINCIPAL COMPONENTS FACTOR ANALYSIS (VARIMAX ROTATION AFTER ROTATION WITH KAISER NORMALIZATION) OF RESPONSES TO THE RAM QUESTIONNAIRE

	Factor I	*Factor II*	*Factor III*	h^2
Responsible-mature				
Good parent	.726	.206	−.161	.595
Good spouse	.725	.353	−.140	.670
Mature	.723	.180	.315	.654
Wise	.720	.258	.344	.703
Logical	.675	−.049	.352	.581
Concerned with appearance of home	.514	.300	−.087	.361
Social image-status				
Good looking	.171	.719	.224	.598
Sociable	.210	.595	−.049	.401
Interesting	.300	.523	.194	.401
Rich	.110	.485	.337	.367
Successful	.401	.469	.405	.545
Independence				
Independent of opposite sex	.078	.054	.569	.332
Traditional	.096	−.349	−.518	.399
Eigenvalue (initial factoring)	4.54	1.27	0.79	6.603
Percentage of total variance	34.92	9.77	6.08	50.8
Percentage of common variance	68.76	19.23	11.96	100.0

[1]Although the independence factor accounts for a small percentage of the variance in relation to the first two factors, it was retained because of its appeal to sex-role research and because its eigenvalue is greater than 0.0, an acceptable criterion when, as in our study, squared multiple correlations are in the main diagonal of the correlation matrix being factored (Stewart 1981). Analyses and interpretations based on this factor, however, should be viewed with caution.

Table 3
ANOVA EFFECTS ON SCALE SCORES ACROSS ALL PRODUCT CATEGORIES

Source	*Responsible-mature scale*		*Social image-status scale*		*Independence scale*	
	MSE	*F*	*MSE*	*F*	*MSE*	*F*
Between subjects						
Viewer's sex (VS)	3.646	1.29	1.585	0.56	0.362	0.28
Error	2.817		2.814		1.286	
Within subjects						
Model's sex (MS)	0.001	0.00	0.016	0.06	2.590	7.28[a]
MS × VS	0.244	1.04	0.112	0.44	0.102	0.26
Error	0.235		0.252		0.386	
Time (T)	84.284	868.91[c]	9.286	71.98[b]	0.606	9.77[b]
T × VS	0.009	0.09	0.354	2.74	0.040	0.65
Error	0.097		0.129		0.062	
MS × T	1.429	20.13[c]	17.729	108.10[c]	0.616	8.93[a]
MS × T × VS	0.107	1.51	0.005	0.03	0.042	0.61
Error	0.071		0.164		0.069	

All degrees of freedom = 1/62.
[a] $p < .05$.
[b] $p < .01$.
[c] $p < .0001$.

for each subject by the complete estimation method:

$$f_i = \sum_{j=1}^{n} fsc_{ji} z_j \quad (1)$$

where:

f_i = factor score i,
fsc_{ji} = factor score coefficient for variable j and factor i,
z_j = standardized value on variable j, and
n = total number of j variables, here $n = 13$.

RESULTS

Separate 2 × 2 × 2 mixed model univariate analyses of variance (ANOVAs) were performed on each of the three factor scores.[2] The independent variables for the ANOVAS were the between-subjects variable viewer sex (male vs. female) and the within-subjects variables model's sex (male vs. female) and time (prime time vs. daytime). The results of these ANOVAs are reported in Table 3.

Responsible-Mature Scale

The ANOVA on the responsible-mature scale scores yielded a significant model's sex × time interaction, $F(1,62) = 20.13$, $p < .0001$, and a significant time main effect, $F(1,62) = 868.91$, $p < .0001$. The means for this interaction (Table 4) show that on daytime commercials, female models scored higher on the responsible-mature scale than did male models, but on prime-time commercials the pattern was significantly reversed with the male models scoring higher than the female models. Moreover, both female and male models had significant drops in their responsible-mature scale scores as a function of moving from daytime to prime-time commercials. This time effect is evident both in the internal analysis of the interaction means and in the significant time main effect (see Tables 3 and 4 for relevant F's and means). No other effects on this scale are significant.

Social Image-Status Scale

The ANOVA on social image-status scale scores also produced a significant model's sex × time interaction

Table 4
MEANS OF SCALE SCORES ACROSS ALL PRODUCT CATEGORIES AS A FUNCTION OF MODEL'S SEX AND TIME OF AIRING

Model's sex	*Daytime*	*Prime time*	*Total*
Responsible-mature scale			
Male	0.492_a	-0.507_c	−0.008
Female	0.645_b	-0.652_d	−0.004
Total	0.569	−0.580	−0.006
Social image-status scale			
Male	0.451_a	-0.456_c	−0.003
Female	-0.059_b	0.086_b	0.014
Total	0.196	−0.185	0.006
Independence scale			
Male	0.083_a	-0.112_b	0.041
Female	-0.216_b	-0.218_b	−0.217
Total	−0.067	−.109	−0.088

Cell n's = 64. Within each dependent variable, interaction means with no subscripts in common differ at $p < .05$, Duncan's multiple range tests.

[2]Analyses of factor scores calculated by including only variables with substantial loadings on a given factor yielded results virtually identical to the analyses reported here. The complete estimation method used in our study permits suppression variables to play a greater role than would be evidenced otherwise (Kim and Mueller 1978).

Table 5
ANOVA EFFECTS ON SCALE SCORES WITHIN HOUSEHOLD PRODUCT CATEGORIES

Source	*Responsible-mature scale*		*Social image-status scale*		*Independence scale*	
	MSE	*F*	*MSE*	*F*	*MSE*	*F*
Between subjects						
Viewer's sex (VS)	0.772	0.19	0.062	0.02	9.326	2.31
Error	3.983		2.642		4.039	
Within subjects						
Model's sex (MS)	0.526	0.62	21.301	22.60[b]	0.527	0.27
MS × VS	0.013	0.01	0.049	0.05	1.408	0.72
Error	0.846		0.943		1.952	
Time (T)	76.619	75.27[c]	29.669	19.98[b]	7.815	6.79[a]
T × VS	1.432	1.41	0.121	0.08	0.668	0.58
Error	1.018		1.485		1.151	
MS × T	1.186	1.67	53.225	55.52[c]	59.340	37.62[c]
MS × T × VS	0.026	0.04	0.315	0.33	0.031	0.02
Error	0.710		0.959		1.577	

All degrees of freedom = 1/62.
[a]$p < .05$.
[b]$p < .01$.
[c]$p < .001$.

effect, F (1,62) = 108.10, $p < .0001$, and a significant time main effect, F (1,62) = 71.98, $p < .0001$. On this scale, however, a slightly different pattern of means is observed (Table 4). On daytime commercials, male models were perceived to have significantly more of the social image-status traits than were female models. But with the move from daytime to prime-time commercials, male models' scores dropped sharply to the point where they were significantly lower than the female models' scores. Female models showed no significant change in social image-status scores as a function of the time of the commercial's airing. Thus, the time main effect is limited by the interaction just discussed. No other effects on this scale are significant.

Independence Scale

On the independence scale scores, three effects are significant: the model's sex × time interaction, F (1,62) = 8.93 $p < .01$; the main effect of time, F (1,62) = 9.77, $p < .01$; and the main effect of the model's sex, F (1,62) = 7.28, $p < .05$. The interaction means (Table 4) show that male models, in comparison with female models, scored higher on this scale only on daytime commmercials and that only the male models' scores dropped significantly as a function of the transition from daytime to prime-time commercials. The main effects means (Table 4) must be interpreted in terms of this significant interaction. No other effects on this scale are significant.

Internal Analyses within Product Categories

The analyses reported up to this point were performed across all the product categories identified in Table 1. Thus, a general, "omnibus-like" picture of perceived differences among commericals was explored. The omnibus analysis is valuable for gaining insight into the generalized expectancies and perceptions developed by television commerical audiences across all product categories. From the omnibus analysis, however, interpretations of the data are necessarily devoid of references to specific product categories, other than the simple description of the distribution of the product categories examined in the 2 × 2 × 2 analyses, as was done in the chi square analyses of Table 1. Although the differences due to specific product classes were not a major concern in our investigation (generalized perceptions were), we believed that a secondary, internal analysis of the data within product categories would help determine the extent to which the results were product-specific.

From the product classes listed in Table 1, four major categories were created for the internal analyses: *house-*

Table 6
MEANS OF SCALE SCORES WITHIN HOUSEHOLD PRODUCT CATEGORIES AS A FUNCTION OF MODEL'S SEX AND TIME OF AIRING

Model's sex	*Daytime*	*Prime time*	*Total*
Responsible-mature scale			
Male	0.685_a	-0.545_b	0.070
Female	0.640_a	-0.319_b	0.161
Total	0.663	−0.432	0.115
Social image-status scale			
Male	-0.373_a	-0.604_a	−0.489
Female	-0.708_a	0.885_b	0.089
Total	−0.541	0.141	−0.200
Independence scale			
Male	-0.226_a	-1.538_b	−0.882
Female	-1.279_c	-0.666_c	−0.973
Total	−0.753	−1.102	−0.927

Cell n's = 64. Within each dependent variable, interaction means with no subscripts in common differ at $p < .05$, Duncan's multiple range tests.

Table 7
ANOVA EFFECTS ON SCALE SCORES WITHIN FOOD AND NONALCOHOLIC BEVERAGES PRODUCT CATEGORIES

	Responsible-mature scale		*Social image-status scale*		*Independence scale*	
Source	*MSE*	*F*	*MSE*	*F*	*MSE*	*F*
Between subjects						
Viewer's sex (VS)	1.258	0.42	2.069	0.65	4.012	1.64
Error	3.003		3.185		2.448	
Within subjects						
Model's sex (MS)	72.679	204.32[c]	2.903	7.52[b]	59.37	94.36[c]
MS × VS	0.194	0.56	1.011	2.62	0.193	0.31
Error	0.347		0.386		0.629	
Time (T)	343.180	537.47[c]	10.612	28.71[c]	0.684	1.75
T × VS	0.112	0.17	0.044	0.12	0.253	0.65
Error	0.639		0.369		0.389	
MS × T	75.29	154.60[c]	21.547	65.59[c]	2.039	5.49[a]
MS × T × VS	0.771	1.58	0.022	0.07	0.326	0.88
Error	0.487		0.329		0.371	

All degrees of freedom = 1/62.
[a] $p < .05$.
[b] $p < .01$.
[c] $p < .0001$.

hold (household cleaning products, laundry detergents, and dish soaps), *food and nonalcoholic beverages, drugs and medicine,* and *personal beauty and hygiene*. The remaining product classes contained empty cells or too few observations for analysis.[3] Within each of these product classes, 2 × 2 × 2 univariate ANOVAs (viewer's sex × model's sex × time) were performed on each of the three factor scale scores. The results of the ANOVAs are reported in Tables 5, 7, 9, and 11. Tables 6, 8, 10, and 12 contain the respective means of the model's sex × time interactions, and Table 13 is an overall summary of the patterns of these interaction means.

Responsible-Mature Scale

On the responsible-mature scale scores, the model's sex × time interaction is significant for the personal beauty and hygiene category and for the food and nonalcoholic beverages category (Tables 5, 7, 9, 11). The pattern of the two significant interaction means (Table 13) shows that *on daytime commercials* male models scored lower on this scale than did female models within the personal beauty and hygiene category, but within the food and nonalcoholic beverages category the difference was nonsignificant. *On prime-time commercials,* male models were perceived to have more of the responsible-mature scale traits than were female models within the analyses of the food and nonalcoholic beverages category and the personal beauty and hygiene category.

Time main effects demonstrated that scores were generally lower in prime-time than in daytime commercials for all product classes.

Social Image-Status Scale

On the social image-status scale scores, the model's sex × time interaction is significant for each of the four product categories (Tables 5, 7, 9, 11). From Tables 6, 8, 10, 12, and 13 we see that, *on daytime commercials,* male models scored higher than female models in the three product categories (food and nonalcoholic beverages, personal beauty and hygiene, drugs and medicine) and they scored neither higher nor lower than female models in the household products commercials. *On prime-time commercials,* male models scored lower than

Table 8
MEANS OF SCALE SCORES WITHIN FOOD AND NONALCOHOLIC BEVERAGES PRODUCT CATEGORIES AS A FUNCTION OF MODEL'S SEX AND TIME OF AIRING

Model's sex	*Daytime*	*Prime time*	*Total*
Responsible-mature scale			
Male	0.943_a	-0.288_b	0.327
Female	0.962_a	-2.438_c	−0.738
Total	0.953	−1.363	−0.206
Social image-status scale			
Male	0.171_a	-0.816_c	−0.323
Female	-0.622_b	-0.449_b	−0.536
Total	−0.226	−0.633	−0.429
Independence scale			
Male	-0.289_a	-0.214_a	−0.252
Female	-1.074_b	-1.356_b	−1.215
Total	−0.682	−0.785	−0.734

Cell *n*'s = 64. Within each dependent variable, interaction means with no subscripts in common differ at $p < .05$, Duncan's multiple range tests.

[3]It should be recalled that the sample of 128 commercials was *randomly* drawn from a larger pool of 921 commercials. The distribution of the product categories in the sample was beyond the control of the researchers and, to the best of our knowledge, was representative. This procedure was consistent with the major focus of the investigation—generalized perceptions across all product categories.

Table 9
ANOVA EFFECTS OF SCALE SCORES WITHIN DRUG AND MEDICINE PRODUCT CATEGORIES

	Responsible-mature scale		*Social image-status scale*		*Independence scale*	
Source	*MSE*	*F*	*MSE*	*F*	*MSE*	*F*
Between subjects						
Viewer's sex (VS)	0.948	0.33	2.0712	0.62	0.163	0.07
Error	2.917		3.326		2.385	
Within subjects						
Model's sex (MS)	59.472	65.96[c]	16.567	19.27[c]	52.547	57.85[c]
MS × VS	3.029	3.36	1.749	2.03	2.908	2.82
Error	0.902		0.859		1.029	
Time (T)	11.746	24.18[c]	2.504	4.74[a]	0.535	0.93
T × VS	0.827	1.70	0.099	0.19	0.335	0.59
Error	0.486		0.529		0.573	
MS × T	0.009	0.02	59.469	139.47[c]	7.871	8.79[b]
MS × T × VS	0.632	1.36	1.359	3.19	1.296	1.45
Error	0.464		0.426		0.895	

All degrees of freedom = 1/62.
[a]$p < .05$.
[b]$p < .01$.
[c]$p < .0001$.

female models on social image-status regardless of the product.

As with the results on the responsible-mature scale, time main effects indicate a general drop in scores in the transition from daytime to prime-time commercials. An exception occurred for the household products category where social image-status scores improved in the move from daytime to prime-time airing, but for female models only.

Independence Scale

The model's sex × time interaction on independence scale scores is significant for all four product categories (Tables 5, 7, 9, 11). The pattern of these interaction means (Tables 6, 8, 10, 12, 13) shows that, *on daytime commercials,* male models scored higher on this scale than did female models for all product categories except drugs and medicine, where male models scored lower than females. *On prime-time commercials,* male models still scored higher than female models in the food and nonalcoholic beverages category, but within the household products category and the drugs and medicine category male models scored lower than the female models. Within the personal beauty and hygiene category, male and female model's scores on this scale were not significantly different. Time main effects again suggest a drop in scores in the move from daytime to prime-time airing.

Limitations of the Study

Several limitations of our study must be noted before a discussion of the results. First, our subjects rated the perceived attributes of the models in four separate laboratory sessions rather than viewing the commercials in their homes at their leisure. In each session, the subjects rated 32 commercials for an exposure rate of about 32 commercials per hour, somewhat more than might have occurred in a field study. However, the variety of the commercials and the uniqueness of the task seemed to prevent severe boredom. In fact, a common comment from the subjects was an expression of interest in the study and its results.

The subjects were business school undergraduates. Though the use of a relatively homogeneous sample may enhance the internal validity of the study, the generalizability of the findings is necessarily limited. Aside from their being more convenient and less expensive to obtain, undergraduate students are also within the target market of many firms and are usually considered to be significant in terms of population size and buying power potential. Given that undergraduates are hardly ignored by business firms which advertise on television, the use

Table 10
MEANS OF SCALE SCORES WITHIN DRUG AND MEDICINE PRODUCT CATEGORIES AS A FUNCTION OF MODEL'S SEX AND TIME OF AIRING

Model's sex	*Daytime*	*Prime time*	*Total*
Responsible-mature scale			
Male	-0.041_a	-0.458_c	−0.250
Female	0.935_b	0.494_d	0.715
Total	0.447	0.018	0.233
Social image-status scale			
Male	0.519_a	-0.643_c	−0.062
Female	-0.954_b	-0.188_d	−0.571
Total	−0.218	−0.416	−0.317
Independence scale			
Male	-0.307_a	-0.749_a	−0.528
Female	0.307_b	0.567_b	0.437
Total	0.000	−0.091	−0.046

Cell's *n*'s = 64. Within each dependent variable, interaction means with no subscripts in common differ at $p < .05$, Duncan's multiple range tests.

Table 11
ANOVA EFFECTS ON SCALE SCORES WITHIN PERSONAL BEAUTY AND HYGIENE PRODUCT CATEGORIES

Source	*Responsible-mature scale*		*Social image-status scale*		*Independence scale*	
	MSE	*F*	*MSE*	*F*	*MSE*	*F*
Between subjects						
Viewer's sex (VS)	6.637	1.77	0.017	0.00	0.000	0.00
Error	3.755		3.422		1.889	
Within subjects						
Model's sex (MS)	0.344	0.88	32.628	59.86[c]	5.268	8.08[a]
MS × VS	0.255	0.65	2.103	3.86	1.048	1.61
Error	0.393		0.545		0.652	
Time (T)	27.269	60.09[c]	195.763	341.51[c]	2.812	8.08[a]
T × VS	0.258	0.57	1.342	2.34	0.032	0.09
Error	0.454		0.573		0.348	
MS × T	12.039	22.75[c]	80.815	182.16[c]	10.463	15.74[b]
MS × T × VS	0.024	0.05	0.251	0.57	1.525	2.29
Error	0.529		0.444		0.665	

All degrees of freedom = 1/62.
[a]$p < .05$.
[b]$p < .01$.
[c]$p < .0001$.

of only undergraduates in our study is not a major weakness. Additional research is needed, however, to discover what significant differences exist among consumer segments.

Finally, by using *real* commercials randomly selected from a pool of 921 commercials edited from 77 hours of air time, we necessarily lost control over such variables as total exposure time of the main character (which averaged 14.58 seconds, $s = 7.30$), brand familiarity, product familiarity, and others. Though these variables are important, we believed that obtaining a representative sample of actual advertisements aired on television was more critical to the study's objectives. Consequently, control over these other variables was relegated to the probability sampling method.

Table 12
MEANS OF SCALE SCORES WITHIN PERSONAL BEAUTY AND HYGIENE PRODUCT CATEGORIES AS A FUNCTION OF MODEL'S SEX AND TIME OF AIRING

Model's sex	*Daytime*	*Prime time*	*Total*
Responsible-mature scale			
Male	-0.116_a	-0.335_{ac}	−0.226
Female	0.391_b	-0.695_d	−0.152
Total	0.138	−0.515	−0.189
Social image-status scale			
Male	2.621_a	-0.252_c	1.185
Female	0.783_b	0.158_d	0.471
Total	1.702	−0.047	0.828
Indpendence scale			
Male	1.373_a	1.179_a	1.276
Female	0.682_b	1.296_a	0.989
Total	1.028	1.238	1.133

Cell n's = 64. Within each dependent variable, interaction means with no subscripts in common differ at $p < .05$, Duncan's multiple range tests.

DISCUSSION

The study results clearly lead to a rejection of the null hypothesis of no differences in the perceived attributes of male and female models in television commercials. The differences depend on the time of commercial airing

Table 13
PATTERNS OF MODEL'S SEX × TIME INTERACTION MEANS

Product category	*Scale*	*Daytime*	*Prime time*
Across all products			
	I	M < F	M > F
	II	M > F	M < F
	III	M > F	M = F
Within household products			
	I[a]	M = F	M = F
	II	M = F	M < F
	III	M > F	M < F
Within food and nonalcoholic beverages			
	I	M = F	M > F
	II	M > F	M < F
	III	M > F	M > F
Within drugs and medicine			
	I[a]	M < F	M < F
	II	M > F	M < F
	III	M < F	M < F
Within personal beauty and hygiene			
	I	M < F	M > F
	II	M > F	M < F
	III	M > F	M = F

I = responsible-mature scale, II = social image-status scale, III = independence scale, M = male, F = female.
[a]Interaction was nonsignificant for this scale within this product category.

and on the product being advertised—but not on the observer's sex. Overall, the results can be constructively summarized as follows.

—On the responsible-mature scale attributes, male models on daytime commercials scored either lower than or equal to female models in daytime commercials; on prime-time commercials not involving the drugs and medicine category, male models scored either higher than or equal to female models.
—On the social image-status scale attributes, male models scored either higher than or equal to female models on daytime commercials; on prime-time commercials, male models scored lower than females in all product categories.
—On the independence scale, male models scored higher than or equal to female models on both daytime and prime-time commercials not involving the household products category and the drugs and medicine category.
—Models on prime-time commericals generally scored lower on the three factor scales than did models in daytime commercials.

For daytime commercials the audience consists largely of housewives. Advertisers may be appealing to this segment by portraying the female models stereotypically as having more of the responsible-mature attributes (good parent, good spouse, mature, wise, logical, and concerned with the appearance of the home), fewer of the social image-status attributes (good looking, sociable, interesting, and rich), and fewer of the independence attributes (independent of the opposite sex and modern) than their male model counterparts. For prime-time commercials, however, the audience is more heterogeneous because it includes men and women who work outside the home. To appeal to this broader class, advertisers appear to be utilizing current trends in today's culture—increased "domestication" of men and decreased domestication of women (cf. Sexton and Haberman 1974; Venkatesan and Losco 1975; Wolheter and Lammers 1980). Thus, in prime time men were generally perceived to have more of the responsible-mature attributes and fewer of the social image-status attributes than female models. Differences on the independence attribute are equivocal, a finding which may more or less reflect reality.

Overall, the results strongly suggest that women were not overwhelmingly portrayed in a less positive fashion than men, a finding which contradicts the conclusions of some earlier studies (e.g., Courtney and Lockeretz 1971). If anything, there appeared to be a trend for the opposite to occur. Female models are either equal to or higher than male models on 18 of the 30 male versus female model comparisons in Table 13. This finding is entirely in line with an extrapolation of the trend in sex role portrayals reported by Schneider and Schneider (1979) and, to a lesser degree, by Scheibe (1979).

Unlike some previous content analyses, our study went beyond a surface count of selected demographic characteristics. We focused on the social psychological attributes perceived to be held by the models. It is important to note that male and female viewers did not significantly differ from one another in their perceptions of the model's attributes. This finding underscores the convergent validity of the person perception instrument used in our study. Nevertheless, other researchers have pointed out that the simple demographic variable of sex may be less informative than attitude toward sex roles in determining reactions to sex role portrayals in advertisements (Lammers and Wilkinson 1980; Sciglimpaglia, Lundstrom, and Vanier 1980). Thus, the apparent convergent validity of the person perception instrument may be somewhere overrated. Unfortunately, we did not measure viewers' attitudes toward sex roles in society.

We find that perceptions of male and female models differ as a function of the time of airing and product class—but not as a function of the observer's sex. Some of these differences contradict previous research findings. It is not clear, however, whether the differences can be ascribed to an actual shift in advertising strategy (a shift which had been detected in 1976 commercials), or whether Schneider's (1978) person perception approach taken in our study is more sensitive than past demographic analysis approaches in the detection of such differences. Regardless, our study is unique not only in its findings, but in the approach.

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