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Metric Multidimensional Scaling of Viewers' Perceptions of TV in Five Countries

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Over the years a considerable amount of research has been carried out on the effects of television viewing and content on attitudes and behavior. In the majority of these studies viewers' perceptions of television have been treated as an intervening variable between exposure to a particular type of content and resulting attitudes and behaviors. The assumptions have been that television's effects are enhanced or mitigated by such factors as the viewers' perceptions of reality, the viewers' perceptions of the characters' similarity to themselves, the viewers' familiarity with the situations portrayed, their stage of cognitive development, and their pre-existing beliefs and attitudes. Relatively little research, however, has focused on viewers' perceptions of television as a dependent variable.

Reeves and Greenberg (1977), Reeves and Miller (1978), and Reeves and Lometti (1978) carried out a series of studies at Michigan State University which were designed to determine which attributes children use to differentiate among TV characters, and which attributes seem to be important to boys and girls in terms of characters they like and would like to be like—identification. These studies were able to identify several dimensions important to character perception and identification:

> "attributes of humor, sex, attractiveness, and activity can now be more legitimately assumed to be important in childrens' perceptions of television characters . . . ." (Reeves and Lometti 1978:15).

Lull (1980), in a study of high school girls, found attractiveness, sociability and independence important traits in the admiration of female characters, and sociability, empathy and sense of humor important in the liking of characters.

Cognitive developmentalists have looked at how children of different ages perceive and describe TV characters and situations (Blatt et al. 1972; Wartella and Alexander 1977; Winick and Winick 1979). They found significant age-related differences in attributing internally-based attributes to characters. Hong (1978) also found increased use of personal trait assessments with age. The shift was most apparent between the fifth and the eighth grades. Reeves (1979) speculates, based on his and others' research, that children use a simplified set of criteria with which to judge TV characters and a more complex, internally-based set of attributes to judge real people.

Recently researchers have looked at how viewers perceive the sex roles of TV characters using the Bem Sex-Role Inventory or similar scales to categorize characters as masculine, feminine, androgynous and undifferentiated (Marting 1973; Mayes and Valentine 1979). Their conclusions were that TV characters are generally perceived as stereotypically masculine or feminine as opposed to androgynous or undifferentiated. Appel et al. (1980), however, found that television mothers and fathers were not rigidly stereotyped and that they were primarily perceived as androgynous or highly feminine when compared to respondents' ratings of their own parents. Their study was based on popular family shows (i.e., *Little House on the Prairie*) and, as the authors point out, highly feminine ratings of the fathers in these shows may be explained by the fact that they were featured in home situations and in expressive rather than instrumental interactions.

In the past, research relating television and cultural beliefs has been handicapped by the absence of a general theoretical framework. In the present study, we adopt the perspective elaborated in Woelfel and Fink (1980). Culture is described

as the set of interrelationships among the "objects" which members distinguish. In the present case "object" means "anything that can be designated or referred to."

Within this view, objects are defined by their similarity-dissimilarity relationships with other objects. The meaning of any term, then, is given by its pattern of differences or "distances" from other objects. Not all objects are of equal importance in defining the meaning of any given object, but rather objects are principally defined by those other objects which are "close" to them, i.e., which lie in their "neighborhood."

Each culture or subculture, therefore, may be described by a mathematical "space" in which the objects distinguished by the culture are arrayed as points. Objects which are similar in meaning are close to each other, while objects which differ greatly are far apart.

Within this model, differences in cultural beliefs which may arise from television viewing would be evident as differences in the structures of the spaces of the heavy viewers and the light viewers. Similarly, changes in cultural beliefs brought about by television viewing would be visible as movements of those objects whose meaning has changed.

This theory has several advantages for a study like the present one. First, it provides a convenient way to limit the scope of measurements which must be made, since it allows a concept to be defined by its nearest neighbors. These may be discovered (and have been in the present study) by a priori in-depth interviews, where respondents are asked to define concepts in depth, and the most frequently mentioned words are taken as the nearest neighbors of the concepts to be defined. Secondly, the theory suggests a useful and graphic methodology—multidimensional scaling—which provides a holistic and easily understood picture of the interrelationships among the concepts defined.

The studies cited earlier have provided some information about viewers' perceptions of television, but none of these studies was very comprehensive in scope or considered viewers from very different contexts. The unique design of our study permitted us to address several different aspects of other studies at the same time, as well as provide new information in areas previously untested. These aspects may be summed as follows: (1) differences in the ways that parents and children perceive TV characters—no study has looked at both simultaneously; (2) to determine if a "reality-fantasy" dimension can be observed in cross-cultural data; (3) the extent to which viewers perceive TV characters as sex-typed; (4) to see if viewers put themselves closer to characters perceived as similar to themselves.

Method

CONTEXT. Our findings on viewers' perceptions of television are from a large-scale five-country study of television and sex roles carried out in Tokyo, Japan; Park Forest, Illinois in the United States; Seoul, Korea; Manila, the Philippines; and Northampton, Britain, during the Fall of 1979. The study, which was collaboratively designed, administered and funded, involved a one-time survey of parents and their children, as well as detailed analyses of four of the most popular television shows in each of the four cities. This report focuses on the results of only one of the sections of the questionnaire included in that large study (two large volumes detailing the results of other sections of the questionnaire as well as of the television content analyses are currently in preparation).

SUBJECTS. Fifth and sixth grade children in predominantly middle-class schools completed the questionnaire during class time. From lists of children completing the questionnaire, male or female parents were randomly selected for personal interviews, either by telephone or through home visits. In each city the sample size was approximately 100 boys, 100 girls, 50 of their mothers, and 50 of their fathers. The average age for mothers was 40.2 and the largest occupational category was housewife. The percentage varied considerably, ranging from 82% housewives in Seoul to 11% in Northampton. In all cities, of those mothers employed, most were in traditionally female occupations, with the exception of the mothers in Manila who were often employed in managerial positions.

The fathers' average age was 41.6 and their occupations ranged widely. The occupations of Manila fathers, like those of Manila mothers, tended to be more prestigious. The mothers and fathers in Manila showed the highest educational levels; 29% of mothers and 54% of fathers were college graduates.

THE TV PERCEPTION SCALE. This instrument consisted of eight concepts in all possible pairs, yielding 28 paired comparisons. Two of the concepts (*showing emotion* and *being obedient*) were derived through open-ended interviews about sex roles among informants in all five countries. These concepts were translated and back-translated for the Korean and Japanese language versions to insure that the original meanings conveyed by the informants were preserved.

Two concepts were included as referents: *television* and *me*. Each of the four remaining concepts represented a major character in that city's four most popular television shows. To balance out male and female portrayals, two male characters and two female characters were selected. For example, in the Park Forest questionnaire, the eight concepts were:

Showing emotion	Mork
Being obedient	Fonzie
Television	Charlie's Angels
Me	Laverne

The particular characters in each country were selected because they appeared in nearly every screening of the series and were well-known. TV characters were used as "concepts" in the TV perceptions scale because their very popularity suggested that they represented important aspects of the viewing cultures. The TV characters were also excellent reference points for respondents to use in determining the relative closeness of sex-role characteristics, themselves, and television as a whole.

The four popular shows in each city from which the four characters were drawn were selected according to the following criteria:

(1) that they be prime-time dramatic programs (i.e., situation comedies, soap operas, detective shows, etc.);

TABLE 1. MEAN DISTANCE SCORES OF CONCEPTS/CHARACTERS CLOSEST TO AND FARTHEST FROM TELEVISION FOR EACH RESPONDENT GROUP

	Concept closest to TV	Mean distance score	Concept farthest from TV	Mean distance score
Seoul mothers	Park (M)	22	Me	60
Seoul fathers	Park	21	Me	55
Seoul daughters	Ma Young (F)	15	Me	72
Seoul sons	Ma Young	18	Me	84
Northampton mothers	Elsie Tanner (F)	30	Being obedient	90
Northampton fathers	Elsie Tanner	31	Being obedient	87
Northampton daughters	Wolfie Smith (M)	20	Showing emotion	73
Northampton sons	Wolfie Smith	14	Being obedient	57
Tokyo mothers	Sasae-san (F)	27	Being obedient	68
Tokyo fathers	Sasae-san	27	Being obedient	64
Tokyo daughters	Mito Komon (M)	22	Being obedient	104
Tokyo sons	Mito Komon	18	Being obedient	91
Manila mothers	Charlie's Angels (F)	27	Me	64
Manila fathers	Jack (M)	55	Me	50
Manila daughters	Charlie's Angels	30	Being obedient	60
Manila sons	Jack	31	Being obedient	78
Park Forest mothers	Mork (M)	26	Me	71
Park Forest fathers	Laverne (F)	25	Me	61
Park Forest daughters	Charlie's Angels	29	Being obedient	53
Park Forest sons	Mork	26	Me	59

(2) that they be shown at least weekly; and

(3) that they be popular with both adults and children in the cities where the surveys were being conducted.

Popularity surveys conducted by our collaborators in each city prior to show selection were in agreement with available nationwide studies (e.g., Nielson ratings). For example, the U.S. series were Charlie's Angels, Laverne and Shirley, Mork and Mindy, and Happy Days. Questions on exposure to the selected shows, as well as to television in general, were included as part of the demographic information collected.

METHOD OF ANALYSIS. The TV perceptions scale was constructed and analyzed according to the Galileo[1] metric multidimensional scaling system which consists of standard sets of procedures for determining concepts relevant to the group (or groups) for the domain under study, for designing questionnaires, and for analyzing data (see Woelfel and Danes 1980 for a detailed description of Galileo procedures, and Woelfel and Fink 1980 for a theoretical explication of the method). In a Galileo questionnaire, respondents are asked to make direct magnitude estimations of the differences between all concept pairs. For example, "television and me are ____ units apart." Concepts that respondents perceive as being similar or closely related are fewer units apart than concepts that respondents perceive as being dissimilar or unrelated. In brief, the program produces a N × N symmetrical dissimilarity matrix which represents the cognitive configuration of the group. Any entry in the average matrix, S, is the arithmetic mean conception of the distance between concepts i and j as perceived by all members of the group (Woelfel and Barnett 1974; Kincaid 1980). The precision of measure that results from these procedures allows the use of a fully metric multidimensional scaling algorithm to generate the geometric map (Torgerson 1958). The maps of the conceptual configurations which the Galileo program produces correspond exactly to the actual measurements made by the respondents, since no information is distorted or lost in the analysis. Through the Galileo program the orthogonal dimensions of one group's conceptual space can be rotated and compared with that of another group.

Results and Discussion

EXPOSURE TO SELECTED TV SHOWS. To determine exposure to the selected television shows, respondents were asked how often they watched the shows: never/hardly ever; about once a month; about twice a month; almost every week; and almost daily. The exposure data were collapsed into two categories: never or less than once a month (considered essentially non-viewers of the show); and twice a month or more often (regular viewers). As expected, children were much heavier viewers across all countries with 63.6% of the children across all countries classified as regular viewers. This ranged from a low of approximately 45% of the Korean children being regular viewers, to approximately 70% for the children in the U.S., Japan and Britain. The average percent of parents classified as regular viewers was 33.4%. In all five countries the fathers watched the shows the least (27% were regular viewers). Exposure scores were correlated with the distances between the Galileo questionnaire concept pair, *television* and *me*. Correlations were low (−.11 on the average) but in the predicted direction (as exposure increases, the distance between *TV* and *me* decreases).

TABLE 2. DIFFERENCES BETWEEN THE CONCEPTUAL PERCEPTION OF SELECTED RESPONDENT GROUPS

	Most differently perceived concept	Units apart	Least differently perceived concept	Units apart	Overall mean difference
Seoul					
Mothers and fathers	Me	16.2	Showing emotion	4.8	9.5
Fathers and daughters	Ma Young (F)	26.9	Television	11.0	11.3
Daughters and sons	Being obedient	20.5	Showing emotion	−4.8	10.5
Northampton					
Mothers and fathers	Wolfie Smith (M)	30.0	Showing emotion	−8.6	15.1
Fathers and daughters	Wolfie Smith	43.1	Television	4.6	27.1
Daughters and sons	Me	47.9	Showing emotion	8.0	16.6
Tokyo					
Mothers and fathers	Sasae-san (F)	17.8	Being obedient	3.3	10.4
Fathers and daughters	Mito Komon (M)	52.3	Television	22.1	31.1
Daughters and sons	Mito Komon	54.8	Television	−21.0	26.9
Manila					
Mothers and fathers	Me	12.6	Being obedient	1.9	8.9
Fathers and daughters	Jack (M)	18.6	Charlie's Angels	5.7	11.9
Daughters and sons	Me	24.6	Being obedient	6.3	15.8
Park Forest					
Mothers and fathers	Charlie's Angels (F)	16.5	Laverne	5.7	9.8
Fathers and daughters	Mork (M)	22.1	Being obedient	8.3	17.9
Daughters and sons	Showing emotion	20.7	Television	5.3	13.8

GALILEO-SCALED CONCEPTS FARTHEST FROM AND CLOSEST TO THE CONCEPT OF TELEVISION. As shown in Table 1, concepts farthest (most dissimilar) from *television* were consistent among all respondent groups and did not seem related to sex or parent-child status. For Seoul parents and children, Manila and Park Forest parents, and Park Forest sons, *television* was farthest from *me.* For Tokyo parents and children, Northampton parents and sons, Manila children, and Park Forest daughters, *television* was farthest from *being obedient.* Only Northampton daughters were different,—they put *television* farthest from *showing emotion.*

In every case, the concept closest (most similar or related) to *television* was a TV character. The placement of characters close to *television* differed along parent-child lines in Seoul, Northampton, and Tokyo; in Manila the split appeared sex-related (males chose one character, females another); and in Park Forest, fathers and girls chose *Fonzie,* while mothers and boys chose *Mork.* All respondents in Manila put American TV closer to *television* than Filipino TV characters.

PARENT-CHILD PERCEPTUAL COMPARISONS. One of the great advantages of the Galileo methodology is that it permits the examination of change in the positions of concepts from one time to the next, or from one group to another. The theory assumes that the meaning of a concept is given by its pattern of differences or "distances" from other concepts. In this case, we were interested in the differences and similarities between the overall perceptions or domains of meaning of mothers, fathers, daughters, and sons. In comparing two family groups at a time (i.e., mothers and fathers), we looked at three indicators—the overall difference in total means for all of the concepts in the conceptual space for the two groups, the concept that seemed to be perceived most similarly, and the concept that seemed to be perceived most differently. The overall mean difference tells us something about the extent of general agreement in the conceptual spaces of the two groups (the overall difference in the locations (distances) among all concepts form one group to the next). The single concept showing the least amount of difference from one group to the next is the one that both groups perceive in fairly similar ways; and the concept with the greatest difference is the one which is perceived most differently by the two groups.

The groups were rotated sequentially—fathers to mothers, daughters to fathers, and sons to daughters. All within-country plots generated in this fashion may be compared to each other.

Table 2 presents the results of this analysis. The units in Table 2 for concepts refer to the distance between the position of the concept from one space to the next, and the overall mean distance units refer to the average distance for all concepts from one space to the next. Because the program deals with Riemann space, negative numbers in the table refer to imaginary space and are interpreted as very small differences (see Woelfel and Fink 1980). In three of the sites (Tokyo, Manila and Park Forest), there were larger differences in the overall conceptual spaces between children (daughters and sons) than between parents (mothers and fathers). According to our theory, these data suggest that male and female adults show more agreement on the meaning of the concepts than

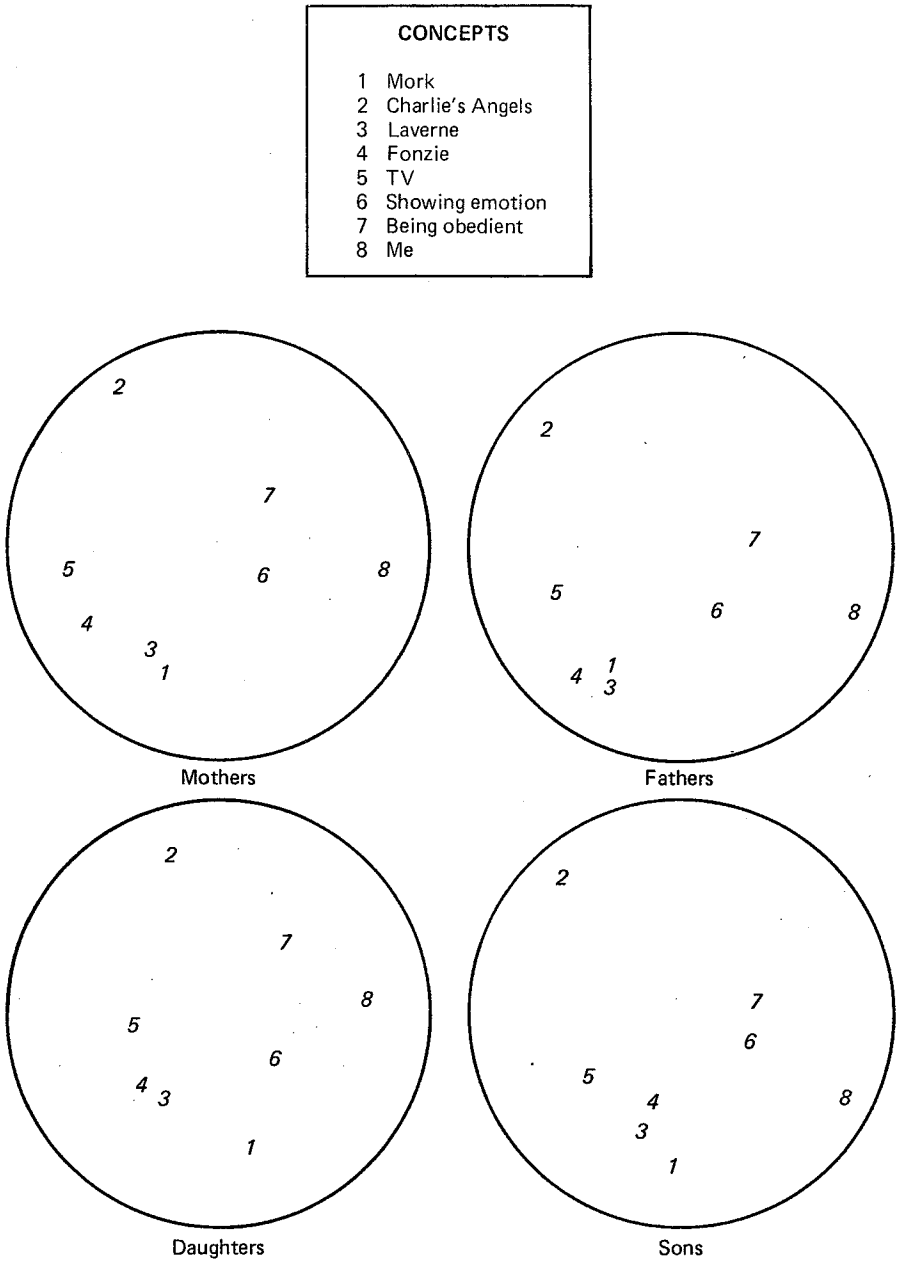

FIGURE 1. TWO-DIMENSIONAL PLOTS OF PARK FOREST GROUPS

do male and female children. The most differently perceived concepts by mothers and fathers across all five countries were either *me* or a TV character. Between fathers and daughters, the most differently perceived concept was always a TV character. For sons and daughters, there was no consistent pattern among their most differently perceived concepts. The concepts on which the compared groups agreed most were behavioral, *showing emotion* and *being obedient.* Whereas fathers and daughters always differed most about specific TV characters, in three countries they most agreed about the general concept of *television.*

These data suggest that the meaning of such concepts as *showing emotion, being obedient,* and *television* are relatively stable, but the meanings of *me* and TV characters are much more variable and reflect the differences in identity among the groups.

REALITY-FANTASY PERCEPTIONS. An examination of the U.S. plots (see Figure 1), as well as Table 1, suggests that the concepts tended to form one primary cluster and perhaps one secondary cluster; one composed of TV characters and *television,* and the other composed of the sex-role related concepts and *me.* Other possible clusters within the television grouping seem to be related to type of show. Characters associated with situation comedies tended to cluster, likewise characters for dramas and detective programs. These clusters may support the findings of Reeves and his colleagues who found that humor was the main attribute used to distinguish

TABLE 3. AVERAGE DISTANCE OF CHARACTERS AND VIEWERS FROM SEX-ROLE CONCEPTS AND OF VIEWERS FROM CHARACTER

Distance between:					
1	2	3	4	5	6
Viewers	Characters and showing emotion	Viewers (me) and showing emotion	Characters and being obedient	Viewers (me) and being obedient	Characters and viewers
		Park Forest			
Mothers	Charlie's Angels (F) 48.1		40.6		74.6
	Laverne (F) 39.7		46.7		60.2
		23.0		37.9	
	Mork (M) 27.8		42.1		60.5
	Fonzie (M) 54.4		56.4		70.2
Fathers					
	Charlie's Angels 47.6		50.5		87.7
	Laverne 31.6		48.0		65.2
		28.1		32.8	
	Mork 34.5		46.7		71.6
	Fonzie 43.8		58.8		66.3
Daughters	Charlie's Angels 44.4		32.8		60.1
	Laverne 34.6		50.4		67.3
		34.6		37.2	
	Mork 41.0		55.0		64.3
	Fonzie 45.3		60.9		59.1
Sons	Charlie's Angels 40.2		65.6		86.2
	Laverne 48.8		52.2		66.6
		53.5		56.2	
	Mork 38.6		68.0		69.8
	Fonzie 59.8		58.5		44.3
		Manila			
Mothers	Luisa (F) 15.3		16.7		57.2
	Charlie's Angels (F) 38.9		39.0		70.0
		37.8		37.9	
	Jack (M) 37.1		43.7		70.8
	Rene Boy (M) 33.0		36.1		64.8
Fathers	Luisa 22.0		24.5		61.1
	Charlie's Angels 34.4		33.4		56.6
		38.7		31.9	
	Jack 25.1		21.8		53.1
	Rene Boy 41.8		30.8		50.7
Daughters	Luisa 25.1		23.6		63.9
	Charlie's Angels 33.6		38.3		57.9
		39.1		28.1	
	Jack 39.7		47.2		73.5
	Rene Boy 38.2		40.2		65.0
Sons	Luisa 27.2		28.2		91.3
	Charlie's Angels 41.6		33.6		64.4
		46.0		24.6	
	Jack 30.9		53.0		59.6
	Rene Boy 41.6		44.2		53.7
		Northampton			
Mothers	Elsie (F) 28.3		67.1		97.5
	June (F) 37.0		33.4		67.6
		31.0		49.7	
	Wolfie (M) 49.5		112.0		100.9
	Rockford (M) 46.3		75.8		78.6

TABLE 3. CONTINUED

Distance between:						
1	2		3	4	5	6
Viewers	Characters and showing emotion		Viewers (me) and showing emotion	Characters and being obedient	Viewers (me) and being obedient	Characters and viewers
Fathers	Elsie	30.1		63.1		98.5
	June	37.0		33.5		57.9
			39.2		29.2	
	Wolfie	34.5		98.3		118.2
	Rockford	58.2		77.1		62.5
Daughters	Elsie	51.3		42.7		70.3
	June	56.4		28.0		75.1
			51.8		31.2	
	Wolfie	61.0		82.5		81.1
	Rockford	73.6		54.8		99.3
Sons	Elsie	88.9		59.6		134.9
	June	29.9		44.7		113.3
			94.9		50.0	
	Wolfie	71.9		102.3		47.6
	Rockford	70.6		49.8		63.9
			Seoul			
Mothers	Young-dal (F)	24.6		57.5		76.8
	Da-hye (F)	29.4		40.0		60.8
			43.6		40.5	
	Manim (M)	33.4		54.2		56.0
	Park (M)	27.5		54.5		60.4
Fathers	Young-dal	25.8		59.0		62.1
	Da-hye	36.2		54.5		67.5
			45.8		53.4	
	Manim	41.3		47.6		60.2
	Park	29.0		49.1		43.5
Daughters	Young-dal	26.7		69.1		112.7
	Da-hye	26.2		41.5		77.1
			37.9		37.2	
	Manim	32.3		61.3		92.5
	Park	32.2		68.1		82.8
Sons	Young-dal	31.0		89.0		90.4
	Da-hye	30.5		40.4		95.9
			41.5		44.7	
	Manim	43.8		65.0		102.8
	Park	38.5		81.0		76.1
			Tokyo			
Mothers	Micky (F)	35.0		39.1		73.6
	Sasae-san (F)	28.4		33.1		44.8
			30.8		35.4	
	Mitokomen (M)	49.4		53.6		83.3
	Todo (M)	56.9		60.1		79.0
Fathers	Micky	33.1		37.0		72.6
	Sasae-san	31.9		44.8		67.9
			38.3		41.9	
	Mitokomen	51.6		51.3		68.8
	Todo (M)	49.8		53.4		68.2
Daughters	Micky	73.7		67.4		121.1
	Sasae-san	78.6		71.5		90.3
			64.2		42.4	
	Mitokomen	67.4		72.2		127.8
	Todo	81.6		84.9		126.9

TABLE 3. CONTINUED

Distance between:						
1	2		3	4	5	6
Viewers	Characters and showing emotion		Viewers (me) and showing emotion	Characters and being obedient	Viewers (me) and being obedient	Characters and viewers
Sons	Micky	94.1		76.7		95.3
	Sasae-san	47.1		64.3		85.9
			82.5		70.5	
	Mitokomen	82.1		75.7		161.7
	Todo	61.7		60.1		100.8

among characters. One interpretation of these groupings is that people tend to associate characters or shows along a reality-fantasy dimension. In general, the concepts that may have been perceived as more "real" (the sex-role concepts and the more dramatic/realistic characters) tended to be placed closer to *me,* and the concepts that may have been perceived as more "fantastic" (sit-com characters) were placed farther from *me.* Similar groupings were observed in the plots of the other four countries; even so, our interpretations of the clusters are highly tentative as only eight stimuli are involved.

SEX-TYPING. Table 3 presents, for all groups, the mean distances for all characters from *showing emotion* and being obedient, as well as the distances of the respondents themselves, *me,* from these concepts and from the TV characters.

We interpreted the closeness of a TV character and the concepts *showing emotion* and *being obedient* (columns 2 and 4 in Table 3) as an indication of the viewers' perceptions of the sex-role stereotyping of these characters. In every country there were one or more groups that perceived some overlap between male and female characters on these two concepts—some male characters were perceived as more obedient than female characters, and some female characters were perceived as less emotional than the male characters. At the same time, some characters in each country were perceived as sex-typed. Respondent groups across the five countries did not show any consistent generational or gender patterns in their sex-typing of characters.

IDENTIFICATION. Three questions were asked about identification. First, which TV characters did the viewers seem to identify with by putting themselves close to them (see column 6 in Table 3). Second, did that identity seem related to the gender or general popularity of the character. Third, did identification appear to be related to similarities between viewers' descriptions of themselves as emotional and obedient (columns 3 and 5) and viewers' descriptions of the TV characters as emotional and obedient (columns 2 and 4).

Most viewers did choose to put themselves closer to one TV character than another, but their choices could have been related to gender in only one country (the Manila sample). The choices in Tokyo and Seoul might be explained by the general popularity of the TV character (as all four groups in each country selected the same character). The Park Forest and Northampton results were complex and cannot be handled by appeals to gender or to general popularity. Finally, similarities in *showing emotion* and *being obedient* between viewers and TV characters did not seem strongly related to viewers' identification with the characters. That obedience and emotion, critical features of the sex-role domain, did not influence identification in this sample suggests that other attributes, unrelated to sex-roles, may be much more salient in the identification process. Reeves and Lometti (1978) and Lull (1980) reported that humor and attractiveness were important to identification for children; they did not include obedience or emotion in their list of attributes.

Conclusion

In conclusion, we have found that there are differences in the ways that children and parents perceive TV characters and sex-role concepts, but these differences do not appear to be consistent across the five different cultural contexts. Even within countries, differences and similarities in television and sex-role perceptions were not consistent within same generational and gender groups. For all five cultures there did seem to be a reality-fantasy dimension to the clustering of concepts, with the more fantastic sit-com characters being placed farther from *me* and the sex-role attributes, and the more realistic, dramatic characters being placed closer to *me.* Sex-role stereotyping was indicated by all Filipino viewers' perception of Luisa, a character from the Filipino soap opera, *Gulong ng Palad,* but less traditionally stereotyped characters, such as *Charlie's Angels* and *Mork,* were perceived differently by males and females. On the whole, viewers did not tend to put themselves closer to those characters perceived as most similar to themselves in terms of obedience and emotion, suggesting that other characteristics are much more important in facilitating identification.

NOTE

[1] *Galileo* is a trademark of The Galileo Company, 2 Schuyler Road, Albany, New York 12203.

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Alternative Views of "The Energy Problem": Why Malian Villagers Have Other Priorities[1]

by DOLORES KOENIG

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Key words: international development, energy, women, West Africa

Several years ago, I began working on a US/AID-funded energy project in Mali. The purpose of the project was to bring renewable energy technologies to rural villages, through the funding of research in a renewable energy lab (*Laboratoire d'Energie Solaire* or LESO) in the capital, Bamako. It soon became apparent that the project had problems in defining appropriate technologies, in large part because LESO and the local people had very different definitions of what "the energy problem" was. LESO defined the problem in terms of fuel and fuel shortages, while the people saw it in terms of their own labor and a need to conserve human energy.

As an anthropologist working on the project, I saw my major role as that of informing LESO of the local population's viewpoint. There were two parts to this: 1) descriptive information on how it was that the local population saw and interpreted their world (i.e., their culture); and 2) explanatory information—showing why it is that people see the world as they do. The first task is primarily ethnographic, but the second task is only partly based on ethnography. Explanation to non-anthropologists becomes more convincing if based on a combination of ethnography and "hard" data, taken from measureable indices, often through some form of survey. Once the local viewpoint is known and understood, suggestions for changes or improvements can be made as needed. Here, a combination of what people say they want and an analysis of their present situation should be combined to come up with practical recommendations.

This paper pursues the energy problem in rural Malian villages primarily from the second perspective, using survey data to show why it is that local villagers perceive their problems very differently from the solar engineers. The conclusion then suggests appropriate new technologies in light of the analysis. Although it deals primarily with the energy issue, this paper should also serve as an illustration of one way in which anthropologists can show administrators not only what people believe, but also why these beliefs make sense and how alternate approaches to innovation can be developed from that information.

Major Questions

Mali, like many Third World countries with no exploitable oil and gas reserves, has a clear-cut energy problem. All oil and natural gas must be imported. In 1977, the country spent U.S. $29.8 million on petroleum product imports, 30% of

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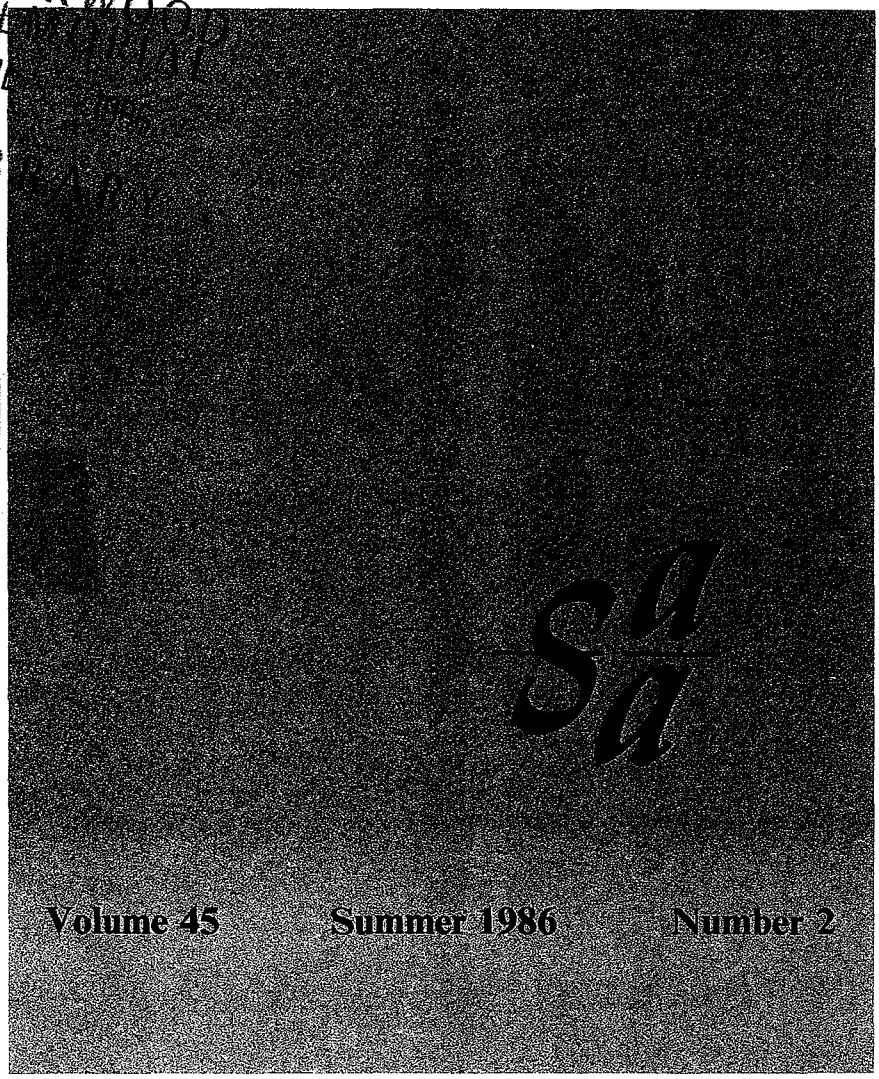

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