

Television and Children

— A Study of the Effects of Television as a Whole —

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(trans. James D. White)

1. Categorization of Effects

Hovland (1954), in a review of research under the title of "Effects of the Mass Media of Communication," drew upon Smith, Lasswell and Casey's (1948) classification of the communication process. Under the same title, some fifteen years later, Weiss (1969), in making an attempt at systemization referred to Lazarsfeld's (1963) two-dimensional framework. Weiss first classified communications effects into (1) the size of the effective stimuli, (2) the social unit affected, and (3) the temporal extent of the effect. After quoting a number of research reports he further classified effects into ten categories (see below) and for each of them gave a detailed review of previously conducted studies. Separately, he summarized previous studies on media use and gratification, on factors related to media use, and on media violence. Further he outlined various research reports on the role of interpersonal communication and on mass media and voting behavior. However, some ten-plus years after Hovland, Weiss's classification still lacks a theoretical framework.

It is difficult to further develop Maletzke's (1962) attempts at a systematic classification system because it lacks developmental possibilities and culminates in nothing more than a formalized collection of effect-related phenomena. It is necessary "that the various

effects be synthesized into an organized system based upon as few components as possible" (Akutsu, 1970) if there is to be any real systemization or generalization of communication effects. Klapper (1960) did a great deal of generalization based upon a one-dimensional direction of effects. However because his attempt focused mainly upon attitude and opinion changes in persuasive communications, his review of the latent functions of the media (Part Two) is less than systematic. Larssen (1964) amended Klapper's generalizations by interrelating the audience's positions, both before and after exposure, and the mass communication's intent with the direction of the effects. This developed, within an even more precise framework, a typology of direction of effects. However his work, also based only upon persuasive communications, leaves some doubt regarding how well it may be applied towards classifying latent effects of mass media. Wright (1960), and Berelson and Steiner (1964) have also contributed valuable literature regarding inventories of the effects and functions of mass communications, but unfortunately they must be left aside due to lack of space.

The above was intended as a summary of past research on effects. However, except in a few instances, most writers have expressed little concern regarding a definition of "effect," "influence," or "function." Although neither Hovland nor Weiss dealt directly with the meaning of "effect" as such, they implied a broad meaning to include anything from individual reactions during media exposure to the social dimension. This author also accepts the broader meaning of the word "effect," and plans to attempt to consolidate previous research reports with reference to Weiss's system of classification.

Until now few studies conducted on TV and children have been on persuasive communications. And, in this author's opinion, most of these may be said to have dealt with the latent functions of TV. Without being related to the intentions of the sender, they have dealt only with reaction phenomena or behavior change on the part of the receiver. Therefore, as far as this paper is concerned, the applicability of Klapper's and Larssen's generalizations of effects is relatively limited in scope.

Himmelweit, *et al.*, (1958), in summarizing their comprehensive study on the effects of TV, divided effects into three categories: (1) effects of program content, (2) displacement effects, and (3) other effects. The last category included effects upon family life, personal relationships, adaptability, passivity and other behavioral tendencies. These effects, however, can be considered as being derived through displacement. In that sense it would be more systematic if "other effects" were included under the second category and to then divide "displacement effects" into overt and covert behavior. Except for a few special cases (for example, the effects of television on ocular fatigue) it is almost impossible to think of the effects of program content as being separable from covert displacement effects. However, because this may be determined by whether the researcher emphasizes *time* or *content*, systematic classification is still possible. When the researcher has a strong interest in *time* it is a foregone conclusion that to him "effects" will mean "accumulated effects over a long period of time." Regardless, in a single case of a certain child in a certain place on a certain day watching a certain TV program at a certain time, it is meaningless to think of "displacement effects" as such. Also,

the "effects of program content" in this case, does not mean the effects of continuously viewing a series of program nor even the accumulative effects of viewing many similar programs; it means the compound effects of *all* the programs viewed. Regardless, under actual conditions, it is not possible to limit viewing over a long period of time only to a certain series of programs or only to programs of a certain type (Furu, 1971).

The system of classification described above may be useful when attempting to determine the effects of TV along the dimension of individual behavior. However certain difficulties may possibly arise if it were to be used in evaluating along the social-cultural dimension. An example would be the decrease in the number of movie theaters which has resulted from the diffusion of TV. It seems that to avoid such difficulties it might be better to include TV along with the other mass media and attempt to understand effects at two levels: message and medium. At the message level we can think of (1) the effects of a single program, (2) the accumulative effects of a program series, or (3) the accumulative effects of all similar programs. At the medium level we can consider (4) the compound effects of all programs as a whole as well as "displacement effects". Research studies on the effects of single program have been conducted primarily as psychological experiments in the laboratory. Research on the cumulative effects of a program series has seldom been done in the laboratory (Seigel, 1958) and as far as TV programs are concerned, except for either educational or campaign studies, very few field studies have been conducted. (Important studies on radio serials were conducted, however, by Herzog, 1944; Arnheim, 1944; and Kaufman, 1944.) A few field

studies have been made by Himmelweit, *et al.*, (1958), Bailyn (1959), Furu (1961), and Yoda (1964) on the accumulative effects of similar programs, however it is rather difficult to separate the effects of TV from the effects of other media content and even more of a problem to confirm cause and effect. Although by using TV viewing groups versus control groups it is possible to compare values or social norms and to find tentatively significant differences for the compound effects of all programs as a whole, unless an extremely objective content analysis of all the media is conducted it is not possible to judge the effects of TV alone. Strictly speaking, even if the before-after study with control group method is employed in trying to determine the effects of TV, except for the immediate effects of a single program it is still necessary to analyze the contents of all the media with which the subjects have come into contact before the above mentioned second or third message level effects of TV may be discussed.

Weiss (1969) summarized previous research on the effects of mass communications using the following ten categories: (1) cognition, (2) comprehension, (3) emotional arousal, (4) identification, (5) attitude, (6) overt behavior, (7) interests and interest-related behavior, (8) public taste, (9) outlook and values, and (10) family life. Public taste and family life can be included at the medium level. Cognition, comprehension, interests and interest-related behavior, and outlook and values can be handled primarily at the message level of research while overt behavior can be treated equally well at both the message and medium levels.

Although importance is placed on the latter, Weiss's classification confuse "effects" with "factors intervening upon effects." This

probably reflects the trend away from the *hypodermic needle model* which has existed from the earliest days of mass communication research towards an emphasis upon the receiver's predispositions and reference groups. Discussing effects without including intervening factors is nonsense. Truthfully, if the intervening factors were to be removed from studies on effects conducted to date, probably "effects" would disappear from many of them. Therefore it is inevitable that more emphasis should be placed upon intervening factors rather than upon "effects" alone.

One thing which is relatively well known from the use of the control group method in doing research on TV and children is that there can be "displacement effects" at the medium level and stimulus effects from single programs at the message level, but very few studies offer reliable proof for accumulative content effects at the message level. For this reason this paper will first give a general outline of studies on "displacement effects" at the medium level.

2. The Effects of Television as a Whole

(1) Changes in Life Patterns

The fact that children go to bed a little later because of TV is a phenomenon upon which almost all surveys based upon the control group method agree (Maccoby, 1951; Abrams, 1956; Himmelweit, *et al.*, 1958; Yoshida, 1958; Furu and Ishiwatari, 1960 a Furu 1962; However, because children who watch TV go to sleep almost immediately upon going to bed while children in the control groups read books and magazines or listen to the radio after going to bed, coupled with the fact that children in the TV groups tend to get up slightly later, it is presumed that there is actually little affect upon the total hours of sleep (Maccoby, 1951; Himmelweit, *et al.*,

1958; and Furu, 1962).

As is well known, (Himmelweit, *et al.*, 1958) proposed two principles—one concerning “functional similarity” and the other concerning “marginal, unorganized activities”—as a hypothesis for predicting what changes would come about in children’s leisure time activities when TV entered a community. The validity of these principles, generalized from the results of their discoveries, has been upheld by the studies by Furu, Takamine and Tsuji (1961) and by Schramm, *et al.*, (1961). The decrease in time spent on radio, comic books, and other mass reading matter as a result of TV which was found in these studies can be explained by the principle of functional similarity. However, this principle cannot be used to explain why Furu and Ishiwatari (1960 a) found that TV also affected serious, including non-fiction, reading matter. Upon noticing this, Maccoby raised the question “Can it be that television and book reading are more ‘functionally similar’ in Japan than they are in England?” (1964, p. 311). The comparative study of Radiotown and Teletown in Canada by Schramm, *et al.*, (1961) supported predictions based upon the principle of functional similarity. But as long as Maccoby’s doubt pierces this principle, there is still great uncertainty. Furu (1967) thinks that this unique phenomenon found in Japan is due to the construction of Japanese houses, which leads to the principle of “physical-psychological proximity.” To briefly state this principle, Japanese houses, in general, are constructed rather openly, and even when the study room is separate from the room with the TV set, the child is still subjected to an environment which makes TV highly tempting. Therefore TV easily erodes indoor activities which are quite different in

function than is TV viewing.

The phenomenon of homework time being affected by “displacement,” unique to Japan and not seen in other advanced countries,¹ can be explained by the principle of “proximity”. The fact that similar inside the home but creative and expressive activities were hardly affected at all by “displacement” was explained by Furu (1967) as being because they fulfill a much different need satisfaction than does TV and are spontaneous activities which are able to withstand its fascination.

The second principle—displacement of marginal, unorganized activities—is supported by the fact that organized group activities are not displaced by TV (Furu, 1962). Without adding Furu’s third principle of “proximity,” which is dimensionally different from the first and second principles proposed by Himmelweit, *et al.*, it would be impossible to predict the “displacement effects” of TV within a community composed of homes of open construction.

The daily life patterns of high viewers and low viewers were compared in the 1967 Shizuoka Study by NHK (Japan Broadcasting Corporation) Radio and Television Culture Research Institute (Muramatsu, 1970). The results showed that there were no remarkable differences for radio listening, reading of comics, inside play, or doing errands; but on the other hand there were quite noticeable differences for outdoor play and recreation. This cannot be explained by the theories of functional similarity or “proximity.” This study

1. In relation to this phenomenon, Maccoby (1964) stated: “In these days of rapid social change in Japan, are the after-school activities of Japanese adolescent boys subject to less parental control than would be true for British children?”

disclosed trends in opposition to those two principles. On this point Muramatsu wrote as follows :

Heavy viewers establish TV viewing as the core of their daily activities. Accordingly, those activities which are functionally similar to television are reduced as little as possible. In addition, those activities which can be carried out in the same area as the television set often are done "while viewing" and therefore are not deleted...For light viewers, on the other hand, those activities which are functionally dissimilar to television are almost completely unaffected. Television's place is determined through its mutual relationships with other activities and the principles of functional similarity and physical-psychological proximity are applicable.

The above study was carried out by matching heavy viewers taken from the top 35% with light viewers taken from the bottom 35% of the group. The 1959 Second Shizuoka Study was conducted using the control group method by matching the top 30% and the bottom 30% of the viewers. Also both studies used the diary method which makes them comparable. According to the latter study, in comparison with light viewers, heavy viewers, declined in helping at home, doing errands, performing their daily habits (washing, eating, bathing), doing homework, and so forth, which are indoor activities functionally different from TV viewing. In other words, there was a trend to support the principles of functional similarity and "proximity" (however no significant differences were discovered). Table One compares the lower limits of the total amount of viewing over a three day period for heavy viewers in the 1967 study with similar figures from the 1959 study.

Except for the fifth grade boys, the total for the three days of the 1967 study exceeded the total of the four days of the 1959 study.

TABLE ONE
COMPARISON OF LOWER LIMITS OF AMOUNT OF VIEWING
BY HEAVY VIEWERS

(In minutes)

	Fifth Grade		Seventh Grade	
	Boys	Girls	Boys	Girls
1959 Study: (Amount of viewing over a four day period, including Saturday and Sunday, top 30%)	721	601	601	601
1967 Study: (Amount of viewing over a three day period, including Saturday and Sunday, top 35%)	698	633	696	681

As previously stated this data is based upon the diary method and therefore if one considers that the viewing time is most likely underestimated, it is not an overstatement to say, as Muramatsu wrote, that heavy viewers today place TV viewing at the core in their organization of leisure time. It should be noted in passing that the average daily amount of viewing for the 1967 study was almost an hour more than that for the 1959 study (Muramatsu, 1969a). The increase in the number of broadcasting hours and in the variety of programs are most likely behind this unusual increase in the amount of viewing. It gives a vivid description of the way that TV has saturated the daily lives of those children who have had TV in their homes from the day they were born.

Even if it appears from the scope of the data in the previously quoted 1967 study that the principle of "proximity" cannot be applied to heavy viewers, the fact that their study and reading time has been greatly influenced should not be overlooked. The

principle of "proximity," which states that due to the open construction of Japanese homes activities carried out inside the home where the TV set is located are easily eroded, is in this way a more effective predictor of TV viewing for a community with similarly constructed homes.

One more thing which must not be overlooked is that approximately 20 to 40% of the TV viewing done by the television-age children of Japan today is "while doing something else behavior" (Muramatsu, 1969b). As in the survey of eight years previous, eating the evening meal while watching TV is most prevalent, however studying, helping around the house, errands, and indoor play are also often done while watching TV. However if the total amount of a particular activity is placed at 100%, the portion which is done "while viewing" is rather small. For example, the percentage of homework done while watching TV is only between 7.3% (seventh graders on Sundays) and 11.5% (third graders on Fridays) (Muramatsu, 1969b).

(2) Effects on Family Relationships

In addition to the changes TV has produced in life patterns, a second point of contention from the time of the earliest surveys has been how its introduction has changed mutual relationships between members of the family. Although, as a result of viewing, the family spends more time together physically, whether or not this has resulted in more joining together of the family is a problem with a history going back into the days of radio (Cantril and Allport, 1935; Robinson, 1941). Maccoby (1951) states that family relationships while viewing TV are of a parallel rather than of a mutual nature. Himmelweit, *et al.*, (1958) can

be thought of as having discovered a similar phenomenon :

The mothers' diaries showed little general discussion and sharing of reactions in the normal course of family viewing ; but the children made a fair number of comments and sometimes asked questions of the adults present. They did not so much talk about the programmes as react to them. Small children, particularly, tended to express their reactions aloud—partly because they wanted to share them and to receive the reassurance of familiar people around them, and partly because such commentaries represent the normal mode of reaction of young children. But the older children talked far less while viewing—although after the programme they might draw other members of the family into the fantasy it had inspired ;... (p. 381).

Belson (1959), using the unique "London Technique" of analysis, found that the family circle centered around TV increases during certain times of the day, but on the other hand in compensation, lessens during other times of the day. He also made it clear that the effects of TV vary dependent upon the region, season of the year, the individual viewer's characteristics, etc., but with the passing of time the changes brought about by TV gradually disappear and there is a return to the pattern of joint family activities which existed prior to its introduction. Referring to other studies, Weiss (1969), in summary, said: "Television is more likely to reinforce or bring to the surface existing family relations than to create new ones (p.113)."

(3) Physical Effects

In addition to statistical reports from school doctors, several

experiments have shown the effects of TV on ocular fatigue. Based upon statistical reports, some doctors say that the number of children wearing glasses increases with the diffusion of TV and that there is an increase in the number of those who report headaches.² On the other hand, Himmelweit, *et al.*, (1958) state that there were almost no differences of this kind between viewing and control groups. Assuming that this may be a dysfunction of TV it may also be no more than a simple surface phenomenon because these reports have been based on simple totaling of figures without controlling of variables. The author has found only two experimental studies upon which any faith may be placed. According to an experiment carried out on American university students there was no impediment to visual acuity even after being exposed to twelve hours of continuous TV viewing. Three out of five did indicate that their eyes or heads hurt, but clinically speaking there were no apparent effects.³ According to a report on an experiment on adults and middle school students by Uemura, Matsu, *et al.*, (1960, 1961), there were no discoverable effects on functions of the sensory system such as visual acuity and flicker fusion frequency, etc. However for functions of the motor system, such as accommodation time and accommodation near point, a change was noticed after viewing for over an hour, although this recovered following a

2. One such statistical report from England was published in the November 29, 1957 *London Times* (as given in "Overseas Report, No. 114" NHK Radio and Television Culture Research Institute). The author also recalls a similar report made in Japan by a doctor in Matsuyama City which was published in the *Asahi Shimbun*, but unfortunately the article has been lost and verification is impossible.

3. See Finn, 1954.

period of rest lasting from 30 to 60 minutes.

Sometimes warnings that watching TV while eating will result in stomach disorders appear, however the author has never found an experimental example of this. Also, the author knows of only one experiment being made to determine the extent that long hours of TV viewing may hinder mental functions.

(4) Effects upon Mental Operations

Ikuta (1967) carried out an experimental study on the effects of TV viewing upon mental operations. His hypothesis was that TV viewing involves a relatively passive mental set and if subjects are assigned mental operations which require an active mental set such as memorization, inference judgement, etc., immediately following long hours of viewing, a negative effect will result. He conducted his experiment using fourth and eighth grade children. Two corollaries to his hypothesis were: (a) the effects of TV will not be apparent on simple operations but a negative effect will show for complex operations; and, (b) according to Uemura's findings, a negative effect can be forecast for *dot counting* even though it is a simple operation.

The experimental groups were shown an hour and twenty minutes of video-taped children's drama programs while the control groups were permitted a free study period (science and mathematics) for the same length of time. The mental operations test was composed of six sub-tests including numerical ability, sentence memorization, space perception and inference. The numerical ability test (counting dots, simple multiplication problems) was defined as a simple operations the others as complex operations. Equivalent A and B forms were prepared for each before or after test. The tests,

which took twenty minutes, were given before and after the experimental viewing or study period. The difference between the after-minus-before scores for the experimental and control groups were compared. The results for the eighth grade students supported the hypothesis, but no significant difference was seen between the after-minus-before scores for both simple and complex operation tests for the fourth grade students. Instead, there was a tendency for the experimental group to have better scores. A significant interaction between grade and treatment was found according to an analysis of variance of two-way classification. It was confirmed that elementary and secondary school students displayed opposite effects regarding the hypothesis. Ikuta explained this as follows:

Fourth grade elementary school children may be said to still be before the turning point of media use, to be full of curiosity, and to be right at the "bulge" of media use (Schramm, *et al.*, 1961). Even though most TV viewing is fantasy oriented, before the turning point of media use fantasizing itself is an enjoyable, normal activity according to Furu (1967). Fantasy orientation based on escapist behavior in order to get away from the pressures of the real world is a characteristic peculiar to the period following the turning point of media use. With this in mind, the viewing behavior of fourth grade students can be considered to be relatively active in comparison with that of eighth grade students. On the other hand, the studying which the control groups did in lieu of viewing TV could also have had an effect. Studying requires a more active mental set than does watching TV. The fact that for the secondary school students it was the control group which received higher scores on the complex operation test can be thought

of as resulting from a carryover effect from the active mental set established while studying. Contrarily, for this grade TV viewing develops a passive mental set which probably extends to the activities immediately following viewing and this creates a negative effect. However, rather than seeing results contradictory to the hypothesis for elementary school students, the control groups became saturated due to the long, one hour and twenty minute study period which would account for the negative effect seen from the tests taken immediately afterwards.

As this experiment was conducted under a situation differing from that of home TV viewing, it is dangerous to predict directly from these results to what effects TV has upon daily life. However, to the degree that Furu's assumption is correct, it is logical that his explanation of the results furnishes valuable suggestions about daily TV viewing behavior.

(5) Passivity

Shimizu (1958) made a comparison of TV viewing and book reading, claiming that the later required more mental concentration and tension. His position could be summarized as follows. Books present printed letters. It is necessary to use one's imagination to go from the printed letters to reality. Without mental tension towards that end the printed word has no meaning. TV viewing, however, begins with pictures. It does not require any great strain to turn these into mental images or to fill in the blanks. At the same time TV leaves no room for the formation of mental images separate from the pictures it is presenting. Reading books, on the other hand, permits one to stop, to develop new mental images, and to return again to the printed word.

In his widely known book, Klapper (1960) devoted one chapter to "Media Attendance and Audience Passivity." In it he reviewed the problem, reported his own interviews with psychologists and psychoanalysts, summarized findings from some empirical studies and presented a theoretical consideration. It is strange, however, that in his critic of the pre-television era, he did not say one word about the passionate warnings given by Arnheim (1936) on passivity and radio listening. Although the *benumbing of creativeness* is commonly brought out by almost every critic, Arnheim's notion of the difference between value and price⁴ are an important attack on passivity (pp.268-269). As far as empirically proven effects are concerned, Klapper's review is almost entirely an introduction of Himmelweit, *et al.*, (1958). That may have been unavoidable, however, again it is strange that he did not touch upon the series of contributions made by the Harvard University psychological laboratories as presented in Cantril and Allport (1935). That experiment's methodology and conception is much better than that of another empirical study which Klapper quoted. A precise experiment on the processes of radio listening, the results suggested that compared to face-to-face groups, the radio groups had a more closed mentality and were more susceptible to direct suggestion, and that the higher mental operation were somewhat less active.

Klapper made the following statement regarding a theoretical consideration: "...that TV viewing would neither create passivity

4. Arnheim wrote along the following theme: A performance by a world famous musician may be heard on radio for the price of a single box of matches. Since it is human nature to not esteem that which is received without effort, radio is developing habits of confusing the value of a thing with the price one pays to receive it.

among those hitherto active nor stimulate great activity among those hitherto essentially passive.” (1960, p. 246). The applicability of his generalization is expounded in a most pausable manner, however just how much meaning does it hold for passivity and TV viewing? It would be more appropriate if his proposal were to be stated as follows: “...television may reinforce withdrawal and passivity when these pre-existed or are latent, but does not create them” (Weiss, 1969, p. 113, summarizing Schramm, *et al.*, 1961, pp. 160-161). Then in conclusion, Klapper states: “The most fruitful line for further inquiry into this matter may well lie through psychoanalytic and case history techniques, rather than through controlled experiments or surveys” (1960, p. 247). Social scientists interested in the mass media often discuss the value of the *phenomenistic* approach. The problem, however, is how to discover effective variables related to passivity and how to make them operational.

It appears that the study by Himmelweit, *et al.*, (1958) offers proof of rebuttal to the warning Shimizu gave regarding a television civilization. In regards to the idea, as advocated by some teachers, that TV presents ready-made fantasy to children and decreases the exercise of their creative imagination, Himmelweit used a three-stage evaluation for teachers to use in judging this ability. A comparison of TV and control groups showed that there were no discoverable differences to support the above assertion. However the measure of imagination was not objective and it is difficult to use her experiment as proof in counter-argument. This author therefore feels that without a much more exact experimental design there is still neither support for nor against the warning advocated

by Shimizu.

Maletzke (1962) examined the meaning of passivity primarily from a psychological point of view and stated at least five different ways in which TV and passivity are related: (1) TV is one-way communication and the receiver cannot ask questions directly of the source. (2) Spontaneous activities are reduced through TV viewing and replaced with simple acceptance and taking. (3) One's view of the world is developed and manipulated by outside opinions and attitudes received through the mass media. (4) Because TV presents an already completed content, one's imagination withers away and there is no longer a demand for spontaneous, productive or reproductive effort. (5) TV viewing is an escape from the real world. To each of these meanings, Maletzke added counter-arguments against passivity, however except for the study by Himmelweit, *et al.*, (1958) there was little empirical support.

Regarding research on passivity, nothing is more necessary than first having an established concept of what it means. Furu (1967) consolidated previous arguments regarding passivity by stating: "When we consider 'passivity' as indicative of the direction of one's attitude along an active or passive axis, it seems reasonable to approach it from the three aspects of perception, emotion and behavior (or action tendency) which are generally accepted as dimensions of attitude." (p. 26). Referencing a number of empirical studies, passivity was divided into "passivity within the behavioral process" and "passivity within the perceptual process." Passivity within the behavioral process was subdivided into personality tests for (a) active-passive activities, (b) strength, scope and direction of interests, (c) escapist tendencies,

and others. Then systematically referring to the results of studies by Himmelweit, *et al.*, (1958), Furu and Ishiwatari (1960b) and Yoda (1964) he wrote that with the exception of the following case, he could find no examples regarding the tendency to strengthen or form "passivity within the behavioral process." Involving secondary school students, this exception showed that the scope of interests for the TV viewing group was narrower than that for the control group (Yoda, 1964). Furu also criticized this almost singularly exceptional discovery as possibly being a superficial phenomenon which was actually due to a difference between the TV and control groups which may have existed prior to the introduction of TV. Regardless, considering that at the time of this study the diffusion of TV in the survey area (Ota Ward of Tokyo) had already reached over 80%, even by using the matching method to construct the television and control groups it would be very difficult to erase the differences intrinsic to both groups. This difficulty, in an area of this type, was clarified by the before-after comparison with control group method made by Himmelweit, *et al.*, (1958) and Furu (1962). Also, in relation to these findings, it is important to note that "passivity in the behavioral process" was not substantiated, and that a survey on daily life patterns found that there was almost no displacement effect from TV upon creative or expressive activities nor upon social behavior (Furu, 1962).

Regarding "passivity in the perceptual process," it cannot be recognized from a psychological viewpoint that TV viewing is a simple process of reception upon white or blank paper, but neither is it necessary to go so far as to refer to the data given in counter-evidence by Himmelweit, *et al.*, (1958). It has been previously

stated that regarding TV's effects upon imagination there is not sufficient basis for evidence to counter the idea that imagination is dulled. Under this heading, Furu (1967), paying attention to the affirmative side of the question, referred to the idea that vicarious role playing which occurs while watching TV may facilitate children's socialization. However we do not yet have any empirical evidence on this point which impinges upon the "message" level of study.

(6) Interests and Interest-related Behavior

Several new facts have been discovered regarding the range and direction of children's interests according to a fairly recent study conducted by Furu (1971) upon 3,000 students of the fourth, seventh and tenth grades from schools in the Santama area (western suburbs) of Tokyo. The reactions of tenth grade children to an interest inventory were divided into five factor groups based upon a factorial analysis using the centroid method. The five groups were:

First Factor Group (Thinking): Eight items—thinking about human life, society and religion; daydreaming alone; reading novels; writing poems and *haiku*; going on walks; etc.

Second Factor Group (Science): Five items—becoming acquainted with the moon and the stars; doing experiments and making observations; reading science books; fooling with machinery; and making models.

Third Factor Group (Social Participation): Six items—going hiking or cycling with friends; playing card games or Japanese chess; working puzzles; etc.

Fourth Factor Group (Daily Work): Six items—doing hand-

work; writing letters to friends; cooking; writing a diary; going shopping; etc.

Fifth Factor Group (Art): Five items—singing songs or playing a musical instrument; listening to music; seeing a drama or a movie; reading movie/TV fan magazines; and dressing stylishly.

For each group of factors a comparison was made between the TV-type children (those who watched more than an average amount of TV and read less than an average number of books and magazines) and print-type children (those who displayed media habits opposite to the TV-type). The TV-type, compared to the print-type, had a significantly lower rate of selection of *interest in thinking* and *interest in science*. This was seen at all three grade levels. Rather than being a consequence of the pattern of media use, it may be more consistent with ideas developed from previous research studies to explain this phenomenon along the lines that there is a general trend for children to become print-types because of having an interest in *thinking* or *science* and for children who are not properly admonished to become TV-types. Or perhaps it might be closer to the mark to think that the media use pattern and these special interests operate to mutually promote each other. According to other data gathered in this study, it was found that among the seventh and tenth grade students the TV-type, when compared with the print-type, were inferior in intelligence, creativity (flexibility of ideas) and adaptability. In addition it was made clear that for tenth grade students the TV-type were at a lower level on future-orientation scores. Because these mental abilities and the level of future need are relatively

low for the TV-type students, they come into more frequent contact with TV which does not require as high a level of media skills as does print (Weiss, 1969, pp. 81-82). It would be proper to think that the reason for not showing a relatively high interest in thinking and science may be because mental abilities and the level of future need are low from the beginning.

The seventh grade students were asked to fill out a check list to show those leisure time activities in which they most frequently were engaged. The response were divided *a priori* into two categories, active and passive behaviors. It was assumed that the TV-type, in comparison to the print-type, would select more passive and fewer active behaviors. Upon comparing the two groups, the results supported the assumption ($p=.002$, two tailed sign test). Also, after giving a slightly modified version of the positivity-passivity test developed by Yoda, *et al.*, (1964), the results showed that for all three grades there was a trend for the TV-types to show more passivity and the print-types to show more positivity. Significant differences were seen for the seventh and tenth grade girls. Including these results in a reconsideration of the mutual relationships between direction of interests and media use patterns, if one or the other has to be named, it is more reasonable to take direction of interests as the predisposing factor.

Further comparisons were made between high users (those who came into more than average contact with both TV and print) and low users (those who come into less than average contact with both media). For seventh and tenth grade students, across the entire interest inventory, the high user's frequency of selection was significantly higher. (The same trend was seen for fourth

grade students but the difference was less noticeable). This result means that high users have a wider range of interests than do low users. No one would raise an objection to the explanation that because their range of interests is broader, the former, when compared to the later, have a higher than average frequency of contact with both TV and printed media. (This, of course, is based upon mutual influence between the two.)

(7) Need and Gratification

Taking TV in its entirety, it is necessary to clarify what children desire of TV and what they get from it midst the flood of varied communications media with which they come into contact. Weiss (1969), inquiring into why people use a particular medium, developed four categories: time filling, relaxation, social use and personal use. His distinction between "time filling" and "relaxation" is a result of his keeping in mind the examples of the research by Berelson (1949) and by Kimball (1959) wherein "time filling" is explained as when a person has a habit of using a certain medium (for example, reading a newspaper) during a certain time of the day (for example, while commuting), and then becomes puzzled over how to fill his time when it is not possible to use that medium or find a substitute for it (for example, during a newspaper strike). However today, at a minimum, there is no need to separate "time filling" from "use for purposes of relaxation" as far as children and TV are concerned.

Based upon their study, Schramm, *et al.*, (1961) categorized the motives for children's watching of TV into passive pleasure, information gain, and social utility. The most common motive was passive pleasure, the second—information gain—being much

less common and the third—social utility—being even more rare. Furu (1971) conducted a research on this point using the picture-projection technique. Attitudes towards TV were divided, *a priori*, into three categories: favorable cognitive responses, favorable emotional responses, and unfavorable responses. A long list of short sentences was prepared for each category and a sheet was printed showing six pictures representing viewing TV, seeing a movie, reading a book, reading a newspaper, reading a comic book, and talking with friends. The subjects were told to select, based upon what the children in the pictures were thinking, the most appropriate picture for each of the short sentences. In line with the general assumptions upon which this research were based, it was forecast that for fourth grade students, who are still in the beginning stages of media use, there would be a comparatively large number who would expect television to suffice for their intellectual needs because TV viewing—which does not require special skills such as does reading—occupies an important place in their source of information. The results, however, were opposite to our expectations. Just as for the seventh and tenth grade students, very few of the fourth grade students seemed to recognize the individual utility of TV, i.e., that TV was value for gaining new knowledge, for providing a stimulus for new interests, and for enriching one's imagination, etc. (Only 4 to 11% of the fourth grade students selected TV to match any of the six sentences related to individual utility.) The percentage selecting TV to match the sentence "It furnishes topics of conversation," used as an indicator of social utility, was 8% for the fourth, 23% for the seventh and 39% for the tenth grade students. Regarding social utility of this

type, the percentage of fourth grade students who thought that they got more topics from talking with their friends was very large (42%). In comparison it was very small for tenth grade students (8%) while seventh grade students displayed a reaction closer to that of the fourth grade students (36%). Children during the early period of media use believe that most topics for conversation between friends are secured through face-to-face communications while during the late period of media use they think that topics are furnished mainly from TV and newspapers (total of these two items for the tenth grade was 74%). A special characteristic of face-to-face communications through all three grade levels was that it was superior to mass communications in fulfilling the functions described by Klapper (1960) of "help and advice" (for example, "It is useful for solving my problems." 63 to 72%) and of vicarious "social intercourse" (for example, "It is consoling." 54 to 58%). This is a natural result if one thinks of the fact that face-to-face communication is not vicarious interaction but functions as a direct, mutual process of self-involvement.

A remarkable aspect common throughout all three grade levels was that a high percentage selected TV for the sentence "I have wasted too much time without realizing it." thereby showing their regret at the expenditure of time in a highly pleasurable activity (fourth grade, 58%, seventh grade, 58%, tenth grade, 49%). The development of a "guilt consciousness" regarding this waste of time became quite clear through the use of the picture-projection technique in this study. Compared to the tenth grade students, a smaller number of fourth grade students had feelings of guilt consciousness, but still one-third of them admitted to this feeling

(fourth grade, 31%, seventh grade, 35%, tenth grade, 51%). A cross calculation of affirmative and denial responses confirmed the existence of ambivalence. For example, 60% of the fourth grade students who replied "It is an aid to relaxation." also felt that it "Absolutely disrupts my studies." while 35% felt that "It hinders thinking." For the tenth grade students ambivalence towards TV was even more evident. Another characteristic of the fourth grade students was that they held a similar level of ambivalence towards comic books. For the tenth grade students reading books and TV showed a negative correlation ($r_s = -.75$). The same was true for fourth and seventh grade students but not as much so (fourth grade, $r_s = -.46$; seventh grade, $r_s = -.65$).

Contrary to our expectations, responses showing a vicarious relieving of emotions, such as "I feel myself the hero." or "It releases my frustrations." were given comparatively less often for TV and movies. A larger number of children in each grade thought that the effect of identification with a hero resulted from reading (43 to 53%). The attitude study emphasized the differences between watching TV and reading books. One could summarize the characteristics peculiar to each as follows:

- (1) TV behavior is emotional and immediate-reward seeking while behavior towards written materials is cognitive and delayed-reward seeking.
- (2) While TV behavior is emotional, it is seen as being simple diversion seeking rather than as a release of complicated emotions. The function of complicated emotional release is significant in book reading, particularly among high users of print.
- (3) There is a tendency for both print-type and TV-type children to give responses indicating good attributes to whichever media

with which they come most frequently into contact.

(8) Escapist Behavior

The dominate thesis among American social scientists seems to be that "fantasy media orientation equals escapism". It seems that the relationship of media content to the concept of escapism is indicated by behavior which seeks media content for relaxation when that content depicts a fantasy world which ignores social or individual values needed in the world of reality (Weiss, 1969, p. 117f; Klapper, 1960, p. 167f.). To that extent, the fantasy content of media does not necessarily contain narcotizing dysfunction; in general, it fulfills a rather normal need and therefore escapism can be called normal behavior. This is particularly true for children. Schramm, *et al.*, (1961) also thinks along these lines. They think that escaping into the world of fantasy is a vicarious outlet for antisocial aggression which in turn comes from frustration. This hypothesis was sustained by the results for the tenth grade students, particularly those in the higher social groups. Results for the sixth grade students, however, did not support the hypothesis. Schramm explained this by saying that for sixth grade students TV behavior is still not fully differentiated and that the social pressures on tenth grade students are much more intense (p. 122). Mccoby (1954), in a study using younger children as subjects, found that there was a correlation between frustration and the amount of TV viewing for children of the upper-middle class. According to her skillful explanation, this supports the hypothesis that frustration leads to fantasy media orientation. The Rileys' study (1951), using fifth and seventh grade students as subjects, showed that children having few friends but anchoring

their reference points within the peer group norm had a high level of tension with their parents, and that compared to other groups, more of these children liked media content within which a fantasy hero played an active part. Because the criteria of measurement for the various studies by the Rileys, Schramm, and Maccoby are different, it is not possible to make any direct comparisons. (The Rileys used preference for aggressive hero content, Maccoby used amount of TV viewing, while Schramm, *et al.*, employed categories of media use.) Furu (1967) thinks that fantasy orientation is an agent for the promotion of the development of imagination during the early period of media behavior. According to his view, fantasizing itself is a pleasurable activity and TV viewing is always for the *release from one's frustrations*. If that is the case, then how can one explain Maccoby's results? Truthfully, this author entertains some doubts and thinks that in solving this question it would be best to make a distinction between *temporary escapism* and *narcotizing escapism*. It is possible for even a normal child, because of frustrations, to temporarily escape into the world of fantasy offered by TV (the dynamics of self-defense). Whether or not this becomes a habit of addiction to narcotizing escapism should be determined by the child's temperament, personality and social relationships with his parents and friends. Thinking in this manner it is possible to explain Maccoby's finding as an indication of temporary escapism and Schramm's finding regarding tenth grade students, as an indication of narcotizing escapism. According to Furu's research (1971), by re-examination of the amount of TV viewing after a one year interval, it became clear that the amount of viewing is very unstable during

the early stages of media use but upon reaching a certain age it becomes fairly stabilized (fourth grade students, $r=.20$, n. s.; seventh grade students, $r=.63$; tenth grade students, $r=.73$).⁵ Assuming that TV viewing habits begin to become fixed at the turning point in media use, it may possibly be rather dangerous to generalize from the results of studies on younger children because of the use of their unstable amount of viewing as a criterion of measurement. The discovery by Schramm, *et al.*, on tenth grade students may be thought of as a symptom of narcotizing escapism based on the fact that the subjects were mature and had a stable amount of viewing.

Furu (1971), as a follow-up study on Schramm, *et al.*, looked for relationships among parent-child conflict, anti-social aggression and media usage, but even for tenth grade students did not get results which supported the hypothesis. However, by substituting preference for aggressive hero content instead of media use as a measure, and by looking for a relationship with the other two variables, he found significant correlations among the three for tenth grade students. Such correlations were not found for seventh grade students. Therefore it can be said that a comparative large number of TV-type children during the later period of media behavior shows signs of narcotizing escapism. The fact that the hypothesis was not upheld when amount of viewing was used as a measure was explained by Furu (1971) as that conflict will increase a child's preference for fantasy hero content and increase his amount of viewing of that type of program, however this does not necessarily result in an increase in his total

5. Similar results were seen for printed media.

amount of TV viewing.

(9) Learning and School Performance

Regarding knowledge gain from TV, the problem is not *what and how much* children learn from TV, but, *in comparison with other media, what do they learn most from TV?* The main point is *in what kind of children* are the effects of TV most noticeable? Summarizing research conducted in the past from this angle, to the extent that matching of viewers and non-viewers or heavy viewers and light viewers has been conducted, almost all studies show similar results in that there is an advantage from TV for the kind of knowledge learned in school for young or dull-witted children (Himmelweit, *et al.*, 1958; Schramm, *et al.*, 1961; Kono, 1960, etc.). Furu (1971) divided knowledge into two categories: heavy knowledge (news and art) and light knowledge (sports and entertainment), and for each measurement conducted an analysis of variance for each grade level using intelligence, amount of TV viewing, and degree of print exposure as the main variables. The results showed that although TV was of value in acquiring light knowledge, there was no advantage at all for acquiring of heavy knowledge. Special note should be taken of the fact that this was true even for fourth grade children who are at the bulge of media use. Because today, compared with ten years ago, the amount of TV viewing by children has increased to a great extent, it can be assumed that reading books and other activities which contribute to the acquisition of useful knowledge have been eroded. (This assumption was supported by the 1967 Shizuoka Study by the NHK Radio and TV Culture Research Institute. Muramatsu, 1970.) However, on the other hand, there was no verification to

support the results of Schramm, *et al.* (1961), regarding heavy viewers and TV's disadvantages in the area of beneficial knowledge. Separate from the studies made during the process of the diffusion of TV which compared TV viewing groups with non-TV viewing groups, Furu's study (1971) compared heavy and light viewers. Therefore it is necessary to consider the fact that regardless of which direction the effects of TV lie—i.e., beneficial or not—these effects are underestimated. Furu's study showed no significant differences between heavy and light viewers in regard to heavy knowledge gain, however it should be noted that there was a tendency at all grade levels for the heavy viewers to be inferior to the light viewers.

A fairly large number of studies have been made regarding the relationship between school achievement and TV. To the extent that consideration has been given to the controlling of intervening variables the results of these studies show that there is almost no difference between viewers and non-viewers, nor between heavy viewers and light viewers (summarized in Furu, 1967). Rather than whether or not TV program content makes a direct or indirect contribution to school achievement, attention should be paid to whether or not TV is dysfunctional in that it decreases the amount of time spent in doing homework and in reading books. As stated before, the amount of TV viewing has increased remarkably over the past ten years. According to the study by Furu (1971), 55% of the fourth, 58% of the seventh, and 71% of the tenth grade students thought that TV "Absolutely disrupts my studies." Also, 30% of the fourth, 34% of the seventh, and 46% of the tenth grade students thought that "It hinders thinking."

On the other hand, 5% or less of the students at each grade level thought that "I gain practical knowledge" from television. These percentages, obtained through comparisons with other media, are only indicative of the children's attitudes, however they still suggest that TV is dysfunctional as far as knowledge and school work are concerned. Based upon this assumption, Furu computed for fourth and seventh grade students a multiple-correction between school achievement and the linear combination of seven variables which had been found to be independently related to school achievement. The extent that TV-viewing behavior contributes to school achievement was shown through a partial correlation. The results for both grades were not significant. He concluded that the lower achievement of the TV-viewing students was not due to the direct effect of TV-viewing behavior but due to the intervening effects of such variables as intelligence, creativity, positivity and parent-child conflict (fourth grade students only), and social norm (seventh grade students only). The 1967 Shizuoka Study included a detailed analysis of the competitive relationship of TV and homework (Muramatsu, 1969b, 1969c; Fujioka, 1970). The results showed that to an extent management of the competitive relationship between TV and homework could be maintained through the parents' manner of controlling the children's TV viewing—control by agreement (promises between the parent and the child, for example: certain programs forbidden, only certain viewing times permitted) and control by faultfinding (parents constantly comment about the child's TV viewing, for example: "Isn't that enough?" or "Don't imitate that program!") It suggested that there is a connection between *control by faultfinding* and the

negative correlation between school achievement and parent-child conflict made clear by Furu (1971) for fourth grade students.

3. Intervening Variables Related to Media Use

Touching upon the *media behavior of others* as a variable related to media use, particularly the influence of family members, (Himmelweit, *et al.*, 1958), then quoting the report by Schramm, *et al.*, (1961) on the interaction of *age* and *intelligence*, Weiss (1969) warned that *free time* must not be ignored as a variable when discussing the correlation between amount of TV viewing and intelligence. As the report by Samuelson, *et al.*, (1963) indicates, if the time expended on required or role-related activities is statistically controlled the slightly negative correlation seen between the amount of TV viewed and level of education is eliminated. Also, according to the report by Schramm, *et al.*, (1961), while the relationship of level of intelligence and amount of TV viewing was marked for weekdays, for Sundays it was low. Further, Weiss presented *middle class values* as a variable related to media usage; quoting the research by Schramm, *et al.*, (1961) as proof. He also touched upon *personality* as an intervening variable.

Furu and Inoh (1961) itemized sixteen variables related to media use under two major categories—environmental and individual. They sought the correlation of these variables with how well fourteen different types of TV programs were liked. When looking at each program type separately no consistent relationships were found between any of these variables and program selection. However children with relatively higher intelligence, or whose parents had a relatively higher level of schooling, or who were

blessed with favorable family surroundings, or who had socially approved personality characteristics, when compared to those who were not so fortunate, selected from a broader range of programs. Later, Furu (1971) made social relationships independent from environmental categories. In place of the environmental concept he laid out demographic constructs (social variables) and alongside them made categories for individual differences, social relationships, and social-psychological incentives. He then made a detailed study regarding the correlation between these variables and media behavior for fourth grade students in the early stages, for seventh grade students at the turning point, and for tenth grade students in the later stages of media usage. A special feature of this study was its search for multiple correlations between amount of TV viewing and linear combinations of eleven to thirteen variables.

(1) Multi-variate Analysis of Intervening Variables

Furu established the following variables for the above research:

(1) Social Variables—social class (i. e., householder's occupation), number of TV sets, sex; (2) Individual Differences—intelligence, creativity, passivity, adaptability, social norm; (3) Social Relationships—parent-child conflict, group membership and reference group; and (4) Social-Psychological Incentives—family viewing situation, attachment to TV, self-control over TV viewing. Although most of these factors had been used in previous studies only simple correlations with amount of TV viewing had been sought. Variables newly added for this research included creativity (flexibility of ideas: Sumida, 1967), attachment to TV, and self-control over TV viewing. There were no close correlations between

these thirteen variables according to the pilot study made with tenth grade students nor from the preliminary analysis of the data for the fourth and seventh grade students; therefore each one was handled as an independent variable. One weakness was that "maturation" or "socialization" were not included as a factor. As a result the fourth and tenth grade students showed rather different phenomena. They were similar in that both school grades had a significant partial correlation for *sex* and *amount of TV viewing* (boys watched more TV than did girls). However, although the variables *number of TV sets* and *reference group* showed significant partial correlations with amount of TV viewing for fourth grade students, such was not the case for tenth grade students. On the other hand *social class* and *social norm* were significant for tenth grade students. Also, while *family viewing situation* showed the highest correlation with amount of TV viewing for fourth grade students, *attachment to TV* showed the highest correlation for tenth grade students.⁶

One interesting point regarding this discovery was that during the early stages of media use social class has almost no effect upon amount of viewing, but there was considerable affect from the number of TV sets available in the home. (Children from

6. The multiple correlation coefficients were 0.43 to 0.50, much lower than anticipated. Therefore each separate variable has little value as a predictor of TV viewing. Assuming that variables, not used in this analysis, which have an even closer relationship with amount of TV viewing were eliminated, the significance of the above mentioned partial correlation could well disappear. However, at a minimum, it can be said that those variables which did not have a significant partial correlation have almost no relationship with TV viewing.

homes with two or more sets viewed more TV than those where there was only one set.) Another interesting point was that "viewing situation" is a construct which indicates whether or not there are any agreements regarding family viewing habits and to what extent the parents control their children's TV viewing. The finding that there was a relatively high correlation between this variable and amount of TV viewing indicates that the children from a *laissez-faire* home without any agreements, compared to homes where the parents controlled the children's viewing to an extent and where there are agreed upon family viewing rules, show a higher level of TV viewing. In addition children who were apt to use parents as a reference group viewed more TV than did those who used peers as a reference group. These facts demonstrate that during the early stages of TV viewing the parents' outlook on TV and the ease with which TV can be used (children from families with two or more TV sets can more easily use TV than those from families with only one set) influence the child's amount of TV viewing.

As previously mentioned, because the pattern of media use is still unstable during the early stages of media behavior it is rather easy to establish a behavior pattern of either TV-type or print-type through guidance by parents and teachers or through the family situation.

Furthermore, this study indicated that there was a simple correlation between amount of TV viewing and *intelligence*. At each grade level a tendency was seen for the lower the child's level of intelligence the more TV he watched. However it is perhaps of value to mention that at each grade level this correlation almost

disappeared when the other variables were controlled

The phenomenon that emotionally disturbed, isolated children view more TV has been seen in previous studies (Himmelweit, *et al.*, 1958; Hirota and Nagai, 1962). Even in the report by Furu (1971) there was a negative correlation between adaptability (measured using a simplified form of the standard test developed by Nagashima, Yamazaki and Fujiwara) and amount of TV viewing. However if the effects of other variables are eliminated the correlation between the two almost disappears. It is necessary that attention be paid to the fact that single correlations often indicate little more than surface relationships.

(2) Amount of TV Viewing with Regard to Sex and Role Expectations

The tendency for boys to watch more TV than girls, not seen in surveys conducted in European and American countries, is a phenomenon peculiar to Japan. Furu (1962) thought that this was based upon the traditional differences of role expectations for boys and girls and a later study has furnished proof of this to an extent (Furu, 1971). It is known that girls spend more time, in comparison with boys, running errand and helping in the house (Furu and Ishiwatari, 1960a). and it is true that boys are left alone and given more freedom as far as TV behavior is concerned. Furu thinks that these facts, plus the finding that an interaction exists between the viewing situation and sex, indirectly support the interpretation that *role expectation* prescribes the differences between boys and girls regarding amount of TV viewing. For example, in comparison with the fact that for 27% of the fourth grade boys viewing time was not restricted by the parents, for

girls it was only 19%; while 22% of the tenth grade boys replied that "I often watch TV alone." only 14% of the girls gave the same answer: and 38% of the tenth grade boys but only 21% of the tenth grade girls replied that "If there isn't anything interesting on the air I just twist the dial." These differences between sex were all significant. In addition a significant interaction between sex and viewing situation was seen for the seventh grade students; for the "high" viewing situation group (*laissez faire* type) there was an average daily difference between boys and girls of approximately fifty minutes, while on the other hand, for the "low" viewing situation group (control type) this difference was shortened to twenty minute (Furu, 1971, pp. 96 and 108). For the fourth grade students there was a significant interaction between sex and adaptability: for the low adaptability group the average daily viewing for girls was about one hour less than for boys, but for the high adaptability group there was no difference between the two (Furu, 1971, pp. 98 and 108). This series of findings indicates that because, in general, boys are given more freedom for TV viewing than girls and come into contact with it more, the freedom for boys to watch TV is limited and the amount they view is reduced in those homes where promises are made regarding the family viewing situation and where there is a certain amount of control over the children's viewing. It also indicates that boys who have a relatively high level of adaptability, of their own accord, control the "freedom" they receive.

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