

Decision Strategies on Content and Utilization of Family Planning Radio Program in Taiwan

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I. INTRODUCTION

The communication source is one of the less explored areas in the literature of communication research. In communication process research, little attention has been given to decision-makers. Especially, in family planning research decision-making behavior is one of the neglected areas, no effort has ever been made to examine the decision-makers' strategies on content of messages and selection of channels. Audience research studies have dealt with receiver attitudes, beliefs, and behavior, but very few studies have been concerned with decision-makers' attitudes and their behavior. As a result, we know little about decision strategies on content and channel utilization in the communication process. However, knowing of the decision-makers' attitudes toward decision strategies is as important as understanding the receivers attitudes towards the entire communication process. Decision-making has been defined as the pivotal administrative act. Decision strategies are a potent cause in determining the efficacy of organizational processes, for sound decision-making is the key to effective administration.

The focus of this investigation is on family planning communication. Taiwan's family planning communication program has had only 10 years of history, but the speed of fertility decline has been accelerated after the initiation of the organized program in 1964 with the birth rate decreasing from 35.6 in 1963 to 27.7 in 1969, and 23.0 in 1975. The rate of national population growth also declined from 29.6 in 1963 to 22.7 in 1969, and to 18.3 in 1975. This happened in conjunction with one of the remarkable and successful population information, education, communication programs in the world. Since the organized large scale family planning program was started in 1964, the main emphasis of the information and education program has

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been face-to-face communication, carried out by home-visiting family planning workers. Taiwan's use of the mass media to support the family planning program, however, has a very short history. It was limited by the absence of government policy officially supporting the program until the Cabinet announced that family planning became one of the governmental functions in May 1968. Since then, Taiwan's family planning agencies have widely used mass media to support the program, especially radio. In Taiwan, there are many radio stations operating family planning information-education programs on the air, but there are rarely any station-produced family planning programs, except "radio forums" from time to time. Many of the family planning messages aired by the respective radio stations are produced by the family planning agencies. These programs range from "Spot announcement" to 20-minute "radio drama", are taped and sent to respective radio stations directly. Here, the important questions might be asked: What assumptions do program decision-makers have when they make decisions on use of radio for family planning? What are the factors which influence these decisions? What are the decision-makers' attitudes toward decision strategies on content and channel selection in family planning communication programs? What is the relationship between decision-makers' attitudes and their decision behavior on content and utilization of radio programs? To answer these questions is the purpose of this study.

Recently, the increasing role of mass media, especially, radio, in carrying family planning campaigns has been recognized by many developing countries. This is the case in Taiwan. Previous studies show that males and young females are seldom reached by the face-to-face contacts in family planning campaigns, because the face-to-face campaigns only emphasize on 20-44 years old married women as target audiences. The cohort of young girls born during the post-war baby boom years is reaching the reproductive age. They are better educated and more cosmopolitan, and have more exposure to mass media too. Generally speaking, they are more "modern", more "intelligent", "Persons with high intelligence will tend to be more influenced than those with low intellectual ability when exposed to persuasive communications which rely primarily on impressive logical arguments." (Hovland, Janis and Kelley, 1963) Under this context, mass media, especially, broadcast

media, may play more important role in communicating family planning messages than they did. The purpose of this study, therefore, is to understand some of the decision strategies on content and utilization of family Planning broadcasting programs in order to provide some guidelines for policy makers and communicators in the design of more effective family planning messages and training programs.

We assume that family planning program decision-makers could be classified into the following groups. (1) those who make subjective judgements, that is, they make decisions only from their own personal criteria, (2) those who make objective judgements, i.e., they base their decisions on the result of research findings or the opinions of scholars or experts, (3) those who follow only the superiors' direction and offer suggestions or their own opinions, and (4) those who not only follow the superior's direction but also submit their own judgments or opinions. The factors affecting the decision making process of each group are institutional pressures, funding agencies emphases, network policies, political considerations group norms, social value system, personal background, etc.

Research and evaluation findings could be utilized for program policy guidance. But many politicians and government bureaucrats and other relative reference agencies are traditional and are most notorious for applying different pressures on the programs. Feedback from the audience is a significant factor leading to two-way communication. The decision-maker's background is also an important variable in analyzing objectivity of judgment.

Decision-makers' attitudes toward decision-strategies is also an important factor relative to their decision making processes. Attitudes are inferred from what a person says about an attitude object, from the way he feels about it, and from the way he says he will behave toward it. Attitudes cannot be directly observed; they are hypothetical constructs that must be inferred from verbal expression or overt behavior. "Behavior often changes attitudes, as people develop attitudes that justify their previous behavior." (Triandis, 1971) We may assume that a communicator's decision strategy on content and medium represent his communication behavior. Communicators' attitudes and behavior in decision-making may be inferred from a content analysis of documents.

Psychologists tell us that behavior is the result not only of attitudes but also of norms, habits and expectations about reinforcement. When all four factors are consistent, there is consistency between attitudes and behavior. (Triandis, 1971) However, in this study, our central interest is on collective attitudes rather than on individual attitudes. "In collective decision-making process the social system is the decision-making unit, whereas the individual is the unit in the case of individual innovation - decision." (Rogers and Shoemaker, 1971) Therefore, under this circumstance, the collective attitudes toward decision strategies seem to be reasonably useful predictors of behavior (decision-making). Following these statements, two assumptions will be tested in this study.

1. Decision-makers' attitudes toward family planning radio program messages will be expressed in the content of messages which they design and produce.
2. Decision-makers' attitudes toward the functions of communication channels will influence their decisions on the medium which they eventually select.

II. RESEARCH METHODOLOGY

The basic design of this study is integration analysis and interpretation of data and will be accomplished through an analysis of content of messages and appeals in sample radio programs in order to understand decision-makers' strategies on content design. Content of messages is grouped into two categories: "What is said" and "How it is said."

"What is said" category is to describe trends in communication content and to relate known characteristics of source to the messages they produce. It is further divided into several sub-categories as follows:

1. Method-oriented message: Introducing contraceptive methods, e.g., loop, contraceptive pills, condom, sterilization, etc.
2. Information-oriented message: Diffusion of "how-to" and "Principles" knowledge information, e.g., where to obtain contraceptives, how to properly use them, where to get further information, where babies come from, and the physiology of human reproduction, etc.
3. Motivation-oriented message: To motivate the audience to practice

family planning, e.g., using health, education, economic, and welfare reasons.

4. Change-norm-oriented message: To change the audience's beliefs, values, and attitudes, e.g., sex preference, age at marriage, and ideal family size.

In the "How it is said" category an analysis of techniques of persuasion style will be undertaken including those which describe the communicator's decision strategies in persuasive communication, i.e., the organization of the communication. The "How it is said" category is grouped into several sub-categories, namely:

1. One-sided presentation versus two-sided presentation.
2. Negative appeal versus positive appeal.
3. Fear-arousing versus reward-appearing.
4. Emotional appeal versus rational appeal.
5. Conclusion-explicit versus conclusion-implicit.
6. Immediate-objective versus ultimate-objective.

The operational definition of content appeals are as follows:

One-sided presentation: Message content only presents one side of an argument.

Two-sided presentation: Message content includes both advantage and disadvantage arguments.

Negative appeal: Message content describes the disadvantage if one doesn't follow the source's recommendation.

Positive appeal: Message content describes the advantage if one follows the issue's recommendation.

Fear-arousing: Message content emphasizes the dangers and arouses audience fear reaction.

Reward-appearing: Message content emphasizes the benefits and encourages the audience to accept the idea.

Emotional appeal: The source is expected to stimulate the audience's emotion, arousing feelings, affection and reactions to energize support.

Rational appeal: Message content describes the reasons for the idea, and tries to stimulate the audience to think about the issues in order

to achieve positive response.

Conclusion-explicit: The source draws an explicit conclusion.

Conclusion-implicit: The source does not draw a conclusion. That is, the source leaves to the audience to draw its own conclusion.

Ultimate-objective: The source tries to persuade the receiver to adopt the idea or tries to change his behavior in the long-run.

Immediate-objective: The source attempts to persuade audience adoption of the idea immediately.

In this study, a questionnaire was designed and mailed to subjects in order to obtain data regarding decision strategies and decision-makers' attitudes toward decision process. The questions tried to ascertain and measure major variables such as personal background and other factors which influence decision-making, and reasons for using radio. The decision makers' attitudes are measured for according to their opinions toward "what is said" and "how it is said" categories as well as utilization of medium.

Stratified sampling is used in content analysis studies. The stratification variable depends on the time. The sample documents are according to the year in which they were on the air. The sample documents are randomly selected from one-third of the documents produced each year. That is, 57 documents came from 1970, 74 from 1971, 12 from 1972 and 13 from 1973. The total sample is 156 documents.

The subjects in the sample for the decision strategies and attitudes studies consisted of family planning program planners at the central level, and family planning program designers at the provincial and city level. Those people included family planning and population information, education, and communication activities workers who are working in (1) National Health Administration (5 persons), (2) Taiwan province, the Committee on Family Planning (8 persons), (3) Taipei City, Family Planning Promotion Center (2 persons). The total sample is 15 persons.

Because this is a small-sample survey study, the simple percentage is only used to test the decision-making model, and to explain the relationship between decision-makers' attitudes and their behavior (decision-making). While in content analysis the frequency or percentage is used to describe decision strategies on content of messages.

III. Reasons for Using Radio

Since 1968, government policy has officially supported Taiwan's family planning program. The mass media have been widely used to carry family planning information to the various audiences. In Taiwan family planning mass communication channels have included posters, newspapers, booklets, television, and radio. Among these radio was identified as one of the most effective mass communication channels at that time. In addition, the Kao-hsiung City audience survey conducted by Family Planning Committee in 1966 findings, 72 percent of women were listening regularly, as compared with 40 per cent attending movies, 29 per cent reading newspapers, 19 per cent reading magazines, and 13 per cent watching television. The need for a more extensive communication campaign using the mass media was further reinforced by the findings of the late 1967 island-wide KAP survey where about 38 per cent of wives who was interviewed knew nothing about the loop and 53 per cent knew nothing about the pill (Cernada, 1970 : 99-112). At the same time, in contrast to 47 per cent of women reached by TV, 67 per cent by movies, 37 per cent by newspapers, and 28 per cent by magazines, it was found that 87 per cent of women interviewed were reached by radio, which make it the most important among the five major mass media. There has been a particularly significant increase in radio program output in recent years. From 1968, 23 of Taiwan's 92 radio stations were carrying spot announcements and brief family planning skits. About 80 spot and 60 skits were being broadcast daily. In 1969, a critical review of both radio content and timing was carried out. As a result of the review, emphasis was shifted toward lengthening the programs. Also, prime time was purchased at eight local radio stations during the daily "Taiwanese Opera" presentations. The survey also showed that this was the most popular program among housewives. (Cernada, 1970: 18-19) By the end of 1969, it was estimated that about one in every five people in Taiwan owned radio sets. Radio had a much wider coverage than any of the other mass media in Taiwan. With such a large potential audience, radio appeared to be one of the most effective ways of reaching people concerning family planning. Therefore, family planning messages were being broadcast island-wide daily and to this date, radio is still used in family planning programs to facilitate the spread of information and create a desirable

climate for family planning.

Why has radio been selected for use in family planning programs? Table 1 shows that 73.3 per cent of decision-makers indicate that radio can reach special audiences such as the illiterates and those who live in remote rural areas which could not be reached by other mass media. Forty per cent of respondents stated that radio can reach more audiences than other media. Only 20 per cent had indicated that radio is cheaper than any other media. However, no one had suggested that radio is more effective than other media.

Table 1
Functions of Radio Selected by Decision-Makers

Functions of Radio	Percentage of Respondents Who Selected This Item
Reach Special Audiences	73.3
Reach More Audiences	40.0
Cheaper	20.0
More Effective	0

Some reasons to explain this finding are: (1) Since the family planning program was started in 1964 in Taiwan, the interpersonal channel (Home-visits) has been the only method for diffusing family planning messages. However, face-to-face communication was found to be the most expensive channel to reach women who live in rural settings. According to KAP I and II survey findings, the percentage of rural women who practice family planning is very low in comparison with those who live in urban areas. Also, the rural women's knowledge of and attitudes about family planning is lacking. Similarly, the results hold for illiterate women when compared with literate women. Therefore, radio was considered an effective medium which can reach villagers and the illiterates. (2) Because home visits are costly, family planning agencies find it difficult to hire enough field workers needed for follow-up in order to prevent a high rate of discontinuance. Radio was, therefore, utilized to spread further information thus providing a reinforcement

function. (3) During family planning communication campaigns, radio was used as a supplementary medium to diffuse information and to create a climate for motivating potential family planning acceptors.

With regard to decision-making in the use of radio in the family planning program, 86.7 per cent of the respondents say that their decisions were based on the findings of research and evaluation results. Also, 13.3 per cent state that they use radio to support family planning programs on the basis of reference groups' opinions. Only 6.7 per cent indicated that they made decisions based on their own personal criteria or judgment (see Table 2).

From these findings, we know that the use of radio was primarily based on the knowledge of research and evaluation findings and the opinions of scholars or experts. Therefore, it can be inferred that Taiwan's family planning communication program designers utilize objective criteria when they make decisions on communication channels.

Table 2
Reasons for Decision to Use Radio

Reasons	Percentage of Respondents Who Selected This Item
Research and Evaluation Findings	86.7
Reference Groups Suggestions	13.3
Personal Judgment	6.7

IV. Factors Which Have Influenced Decision-Making

What are the factors which have influenced decision-making in the design of content of radio messages? The scores, shown in Table 3, are based on four-point scales and describe how often the person is affected by each factor when he made the decision. The mean score for total factors is 1.3. The mean score of the research and evaluation findings (2.5), the personal

knowledge, beliefs and values (1.5), the advisory group opinion (1.5), and the feedback from audiences (1.4) are higher than the mean score and total factors (1.3). The rest of the factors were ranked by decision-makers on the basis of academic institution's opinion, colleague's opinion, funding agency's opinion, superior's preference, and political institutions's opinion. Their mean scores are 1.2, 1.1, 0.9, 0.8 and 0.7 respectively.

The results presented in Table 3 also show that findings from research and evaluation are the most important factors in the decision-making process. According to respondents' judgments, the second most important factor is the advisory group's opinion and the decision-makers' personal knowledge, beliefs and values of family planning programs. The advisory group is composed of those who are members of family planning agencies. Feedback from audiences was ranked as the third most important factor in the process. The rest of the factors, such as academic institutions, colleagues and other reference groups' opinions are seldom used in the decision-making process.

Table 3
Factors Which Influence Decision-Making

Factors	Scores of Influence
Research and Evaluation Findings	2.5
Political Institution Pressure	0.7
Academic Institution Opinion	1.2
Funding Group Opinion	0.9
Personal Knowledge, Beliefs and Values	1.5
Feedback from Audiences	1.4
Superior's Preference	0.8
Colleague's Opinion	1.1
Advisory Group Opinion	1.5

Note: All entries are mean scores; higher numbers indicate more importance in the list of factors.

According to this data, we may also infer that the findings of family planning communication research and evaluation appear to be important for program policy guidance. The reasons for this are: (1) Research and evaluation needs determined by program goals, for research and evaluation function was integrated early into the overall action program. Research needs were directed toward the applied and most of the more than one hundred formal studies carried out tried to answer questions posed by program problems. (Cernada and Sun, 1973). (2) Also, both the research and evaluation and the action program implementation are the responsibility of one agency under one directorship and under one roof. The research staff works closely with the program staff. Their value system is more in accordance with each other. Those research studies and evaluations which are more important are the Tai-chung Study (1964), Kaohsiung Audience Survey (1967 and 1968), KAP I, II, III, and IV (1967, 1969, 1970 and 1973), the Young Women Study (1971), and the Mass Communication Study (1972).

The members of the advisory group are experts, scholars and top officials who have special knowledge or valuable task experiences in health service. They come from different health administrative and medical service organizations in the Taiwan area. Although they are just advisors of the top executives of the family planning agency, their opinions still strongly influence the non-medical administrative workers--e.g., the program planners and designers.

Personal knowledge refers to decision-makers' formal education, task experiences and professional training in population and family planning. Most decision-makers (53.3%) have masters or Ph.D. degrees in the social sciences or public health in domestic or U.S. universities. The rest (46.7%) are graduates of domestic colleges majoring in the social sciences or health education. Furthermore, 66.7 per cent had participated in professional training in family planning or related population training experiences at least once. Additionally, most of program designers have had more than six years of working experience in the same organization. Therefore, they have enough knowledge and sufficient experience to help them arrive at decisions based on objective information. The decision-makers' personal beliefs and values which have served as frames of reference concerning family planning reflect

the norms and cultures of a social system to which the individual belongs.

Informal feedback from audiences shows a pattern of two-way communication. A large proportion (57.1%) of decision-makers say that they often received audience feedback via calls and letters to their office. Feedback on the radio programs from audiences usually are in a form where communicators answer questions that audiences write to family planning agencies and radio stations. This strategy was intended to establish a two-way flow of information between users of the media in order to provide a more data-based decision-making process on media and message choice.

Academic institutions in Taiwan have paid little attention to family planning, especially with regard to communication strategies for family planning programs. Few scholars know much about what is going on in family planning communication programs in Taiwan. Starting 1972, the National Taiwan University and Academia Sinica began recruiting a few scholars who would study family planning. They established a Behavior Science Study Group on Population which, under Population Council financial support and the cooperation of the Provincial Family Planning Committee, undertook research activities in the attempt to find out the determinants of family size in Taiwan. This study group became a major stimulus for research concerning the population programs and family planning. It also created an interesting climate for family planning programs among the academic institutions.

Colleague opinion comes naturally and informally. But planning communication strategies requires thoughtful decision. Decision-makers need objective information and high credibility sources in order to be able to make more rational choices. Peer groups do not appear to have much influence in decision-making.

The financing of the Taiwan Family Planning program has come from four main sources: the Sino-American Fund for Economic Development, the Joint Commission on Rural Reconstruction, the Provincial Health Department and the Population Council. The former two funds represent the USAID "second generation" counterpart monies. Those funding agencies except the Population Council, require that the program should attempt to bring the population growth rate down to a specified level over a period of time. The Population Council's contribution to Taiwan's family planning program not only offered

financial help but also provided service for the improvement of the program.

In traditional Chinese society, respect for elders and their orders have been identified as an important value. In this social-cultural system, superior preference was also considered an important factor in the decision-making process. However, the data showed that the superior preference does not appear to be an important factor in decision-making. It may, however be due to the fact that the respondents did not want to reveal their real opinions because of political and psychological reasons.

Political institutions appear to be traditionally notorious in applying pressures on the family planning program. Today, however, the pressures tend to be less and some of the reasons for this are:

- (1) From 1968, family planning has become one of the governmental functions for the official policy support;
- (2) The tendency toward family planning has been strong in domestic and international circles.

In addition, social norms play an important role in the decision-making process. A social norm is defined as a standard behavior expectation shared by the members of a social system against which the validity of perceptions is judged and the appropriateness of feelings and behavior is evaluated. (Secord and Backman, 1964) In our sample, a high proportion (64.3%) of respondents show that there are some social norms affecting their decisions when they design family planning programs. They also point out that boy-preference, maintenance of family name, large family size ideal and taboo communication in sexual problems are popular social norms in the Chinese Society. Boy-preference is shown in the desire to maintain a family name and family lineage continuously. Most Chinese couples believe that if they do not have a son, their families would cease to exist when their generation ends. Also, it is a common belief that only the male members of the family can bear the living expenses when parents have grown old. In the traditional rural farming societies, people believe that a large family is a happy family, because they need more laborers to help with the farming. Finally, family planning is considered a "taboo" subject so that some women feel shame and embarrassment when going to a clinic to ask for this service even if they have positive attitudes toward family planning. (Rogers, 1972).

These norms serve as a frame of reference against which perceptual judgments are made regarding family planning.

What is the communication strategy regarding those norms? The data indicate that 62.5 per cent of decision-makers advocate that messages should try to persuade the audience to change these norms. The rest (37.5 per cent) say that the content of messages must avoid conflicting with those norms. KAP surveys found that the "KAP-gap" still exists in Taiwan, for attitudes and behavior do not have a one-to-one relationship for most individuals (women). (Rogers, 1973)

V. Attitudes toward communications

Attitudes Toward Radio Programs

There are various types of radio programs which can carry family planning messages. The spot announcement offers a flexible and efficient means of reaching target audiences. It had been widely used in family planning communication programs in introducing contraceptive methods and in diffusing general family planning information before 1971. At that time, spot announcements were known to be the most important types of programs according to analysis of documents which have been used on the air. At the present time, however, decision-makers prefer to use radio dramas and women's programs rather than spot announcements.

The scores, shown in Table 4, are based on four-point scales and describe decision-makers' attitudes toward to effectiveness of each type of radio program. The mean score on format is 1.9. The mean score on radio drama appears to be the highest one among the five types of programs (2.4). The women's program was ranked second (2.0). The spot announcement format is down to third priority, and its mean score is the same as the mean score of the total formats (1.9). The other two programs (interviews and discussion) were ranked fourth and fifth, i.e., 1.7 and 1.5 respectively.

Spot announcements are unable to carry complex messages while radio dramas have been considered more effective for they can carry more complex messages. A radio dramatization not only creates awareness of family planning as a concept and of the specific methods available but it does also

develop cognitions of "how-to" and "principles" knowledge. Moreover, radio drama can apply social-psychological theories to stimulate audiences' motivation or emotion and to manipulate their feelings leading to behavior change. Finally, radio drama via various special techniques and message strategies may be able to change some of the social norms described earlier.

Women's programs include several types of formats which provide multiple purposes for family planning communication programs. These program deliver family planning message strategies to promote audiences' knowledge about family planning and behavior change as well as to provide "principles" knowledge which may be able to render a mass audience competent to judge future family planning innovations.

Why have the interview and discussion programs been viewed as not being very effective in comparison with other programs? Maybe these two programs are too monotonous to attract the target listeners and decision-makers can't easily control the content of participants' contributions, especially in discussion programs.

Table 4
Decision-Makers' Attitudes Toward Radio Programs

Programs	Attitude Scores
Spot Announcement	1.9
Radio Drama	2.4
Women's Program	2.0
Interview Program	1.7
Discussion Program	1.5
Average	1.9

Note: The scores are based on four-point scales obtaining, all entries are mean scale scores; higher numbers indicate more effectiveness in the types of programs listed.

Attitudes Toward Content of Message

Decision-makers' attitudes toward message strategies can be divided into two aspects: "What is said" and "How it is said."

The scores, shown in Table 5, are based on four-point scales for questions such as "what do you think of the importance of..... in radio programming?" Table 5 shows that the mean score of the total message orientations is 2.3 which is the same as the mean score of the information-oriented and the change-norm-oriented message, but a little higher than the mean score of the method-oriented message. and a little less than the mean score of the motivation-oriented message. The mean score of the four kinds of messages are very close. It shows that decision-makers' attitudes toward the importance of the four kinds of messages are not too different. However, they still present a rank order.

Table 5

Decision-Makers' Attitudes Toward Message Orientations

Message Orientations	Attitude Scores
Method-oriented	2.0
Information-oriented	2.3
Motivation-oriented	2.5
Change-norm-oriented	2.3
Average	2.3

Note: All entries are mean scores; higher numbers indicate greater importance in the types of content listed.

Table 5 shows that messages which create a motivating climate for family planning are the most important in current radio programs. The diffusing of "how-to" and "principles" knowledge and the changing of audience's beliefs, values and attitudes messages were ranked second in importance. Method-oriented messages were ranked last.

It has been mentioned previously that a "KAP-gap" exists in the Taiwan family planning program because the KAP survey found that 96% married women knew at least one contraceptive method and 94% were in favor of the general idea of family planning while only 55% adopted contraceptive methods. Hence, the functions of messages, which describe the advantages of adoption and depicts the unpleasant consequences of failure to adopt family planning is to motivate people to practice family planning. These are important in closing the KAP-gap. One reason for the plateaus in IUD, pill and vasectomy adoption curves may lie in a less-than-satisfactory level of 'how-to' knowledge. Also, the messages intended to change audience's beliefs and values are also attempting to effect some change in intervening factors such as social norms in order to speed adoption of family planning innovation.

Consider the "how it is said" content of messages. The communication content was classified into two categories: (1) Informational content -- factual information intended to help people implement family planning, e.g., the content puts emphasis on contraceptive-oriented service and education; (2) Motivational content--content intended to arouse interest in or precipitate a decision to try practicing family planning, or to persist in adopting it permanently. That is, the content puts emphasis in creating motivation and changing norms.

Table 6 presents decision-makers' attitudes toward communication appeals in the content of messages. The scores, shown in Table 6, are based on seven-point continuum scales asking respondents to distribute the weight of their concern between each pair of communication appeals. The data show that their opinions toward communication appeals in family planning radio programs are summarized as follows:

- (1) A two-sided presentation is more effective than a one-sided one.
- (2) A rational appeal message is more effective than an emotional one.
- (3) A positive appeal is more effective than a negative one.
- (4) A reward-appearing communication is more effective than a fear-arousing message.
- (5) An explicit conclusion-drawing message is more effective than an implicit conclusion-drawing one.
- (6) Content intended to change audience beliefs and values for ulti-

mate objectives appear to be more adequate than immediate-objectives type of content.

Table 6

Decision-Makers' Attitudes Toward Communication Appeals by Content of Messages

Communication Appeals	Content of Messages		
	Informational Content	Motivational Content	Average
One-sided <u>vs.</u> Two-sided	5.3	5.3	5.3
Emotional <u>vs.</u> Rational	4.6	5.1	4.9
Negative <u>vs.</u> Positive	5.3	4.9	5.1
Fear-Arousing <u>vs.</u> Reward-Appearing	5.3	5.0	5.2
Conclusion-Explicit <u>vs.</u> Conclusion-Implicit	2.5	2.7	2.6
Immediate-Objective <u>vs.</u> Ultimate Objective	3.4	4.7	4.1

Note: All entries are mean scores; lower numbers indicate more favorable attitude toward former appeal; higher numbers indicate more favorable attitude toward latter appeal; and "4" indicates neutral appeal in each pair of communication appeals.

According to Hovland, Janis and Kelly (1963), a one-sided communication appeal is more effective than two-sided message if the audience is already in substantial agreement with the communicator's position or if the audience is less educated or intelligent.

Also, the KAP survey indicated that 94 per cent of wives were in favor of the general idea of family planning, and their average educational level

was in the primary school and below. Under this situation, Taiwan's family planning messages should probably use one-sided presentation instead of a two-sided one. However, the message which presents both the advantages and the disadvantages of the innovation were viewed as more effective than one-sided messages. It is thought that the two-sided presentation will provide knowledge to help people prepare for possible unpleasant side effects from using contraceptive methods. Otherwise, if the receivers learned about negative effects through their own experience with the contraceptive method or via rumors from peers, this will induce them to discontinue the contraceptive method.

The emotional approaches are intended to arouse feelings and to energize the audience's support in adopting family planning. As we know, family planning innovation behavior is concerned with one's attitude, belief, value and behavior change. It seems to be a thoughtful and rational decision-making process. An emotional appeal communications does not appear to be a reasonable path to a given goal to fit a person's cognitive structure.

The negative and fear appeals arouse receivers' emotional tension. Emotional appeal does not allow receivers' to think reasonably in order to make thoughtful decisions. "The use of fear appeal is playing with fire." Rogers (1973) described "the emotional arousal in the receiver may cause him to ignore the message content, or the unpleasantness of the fear appeal may cause hostility toward the source of the message." On the contrary, rational, positive and reward appeals function as incentives which call attention to the rewards to be gained from acceptance. Those incentives will create cue to action and lead to closing the KAP-gap in family planning programs.

As to explicit versus implicit conclusion-drawing content, Hovland and others (1963) suggested that in complicated issues drawing an explicit-conclusion is more effective than to rely upon the audience to draw its own conclusion. Similarly messages which state a conclusion are more effective with less intelligent persons. Finally, when there is high ego involvement, the explicit conclusion-drawing is more effective than implicit conclusion-drawing. Rogers (1973) emphasized the use of explicit conclusion-drawing content in family planning messages. He said: "Attitude and behavior change

are more likely if the message states a conclusion, especially for less sophisticated receivers.

Decision-makers' attitude toward communication strategy objectives depend on content. In informational content, the messages are intended to produce short-term attitudes and behavior effects. Thus, immediate-objectives strategies are more suitable than ultimate-objectives. However, if communications objectives are in harmony with the cultural patterns of society, no short-run attempt would be more suitable for this need. Therefore, the content which is intended to change audience beliefs and values for ultimate-objectives seems to be more adequate than immediate-objectives even if long-run efforts are usually more costly than short-run ones, especially when we are trying to solve family planning's key problems--large ideal family size and strong son preference, which have been obstacles to the family planning program in Taiwan.

Attitudes Toward Communication Channels

Studies in 1966 (Kaoshiung Audience Study), 1967 (KAP II), 1968 (Kaoshiung Fellow-up) and 1969 (Economics Survey) revealed that radio is the most important medium in reaching women. At that time television as an advertising medium was both too expensive and reached an uneven distribution. In 1970, KAP II survey found a very dramatic decrease in radio listening and the largest increase in "never" listeners as compared to the KAP II survey in 1967. On the other hand, the data showed that the percentage of radio listeners reduced from 87% in 1967 to 50.3% in 1972. In contrast, the percentage of TV watchers increased from 47% in 1967 to 90.5% in 1972.

According to findings from various studies, a large proportion of the female audience watches the Taiwanese opera on TV. Younger women with lesser number of years of education are more likely to watch the opera on TV than hear it on radio. The latter finding strongly supports the use of television instead of radio. For this reason, emphasis on use of TV has dramatically increased in the family planning communication program in Taiwan since 1971. The trends in this area are shown in Part III-A, which indicates percentages allocated for various media in the total information-education budget in the total information-education budget was higher than TV from 1968 to 1970.

Since 1971, the percentage for television has increased over radio. Radio has decreased in percentage from 50% in 1969 to 3% in 1972. However, TV increased in percentage from 0.2% in 1969 to 50% in 1972.

Table 7

Percent of Radio Listeners and TV Watchers:
1967 - 1972

Surveys	% Listening To Radio	% Watching TV
Kaoshiung Studies (1966 & 1968)	72	25
KAP II (1967)	87	47
Economics Survey (1969)	64	43
KAP II (1970)	60	59
KAP Young Women (1971)	44	72
Mass Communication Study (1972)	50.3	90.5

Source: Based on Cernada (1970), Wang, (1973) and Committee on Family Planning Report (1972).

Table 8

Percentage Distribution of Taiwan's Family Planning
Information-Education Budget by Media, 1968-1972.

Media	1968	1969	1970	1971	1972
Radio	36.0%	50.0%	19.0%	10.0%	3.0%
TV	0.5%	0.2%	0.2%	35.0%	50.0%
Other	63.5%	49.8%	80.8%	55.0%	47.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Based on The Chinese Center for International Training in Family Planning, "Family Planning Communications in Taiwan Area, Republic of China." 1972. And Jenny Chen, "Expenditure in Health Education, 1972." Reported in East-West Communication Institute Family Planning Communication Workshop, 1973.

Under this situation, the decision-makers' attitudes toward utilization of radio and television for family planning communication programs in eight main functions are shown in Table 9. Seventy-eight per cent of the respondents suggested that TV was more important than radio in family planning programs. Only 10.2 per cent said that radio was more important TV. Also, 11.8 per-cent stated that there were no discernible difference between radio and TV in the eight main functions.

Table 9
Percentage Distribution of Decision-Makers'
Attitudes Toward Functions of Radio & TV

Functions	% of Respondents Who Valued the Effectiveness of Radio & TV		
	Radio > TV*	Radio < TV**	Radio = TV***
Introducing Methods	6.7	86.7	6.7
Diffusion Information	13.3	23.3	13.3
Motivation	13.3	80.0	6.7
Change beliefs and Values	6.7	80.0	13.3
Audience Reach	14.3	78.6	7.1
Persuasive Power	6.7	80.0	13.3
Cost-Effectiveness	6.7	66.7	26.6
Feedback	14.3	78.6	7.1
Average	10.2	78.0	11.8

Note: * > : greater than; ** < : less than; *** = : equal

From Table 9, it is apparent that television was perceived to be more effective than radio. The reason for TV's increasing popularity appears to be as follows:

To begin with, the number of television sets in use has increased rapidly over the past several years, while the number of radio sets has almost stabilized. Secondly, research studies show that the percentage of television watchers has increased, but the number of radio listeners has dramatically decreased during recent years. Thus, in the broadcast audience, the proportion of TV program watchers is larger than that of radio listeners. In addition, TV advertising is cheaper than radio. An informal survey conducted by the family planning agency reveals that the cost per contact would be 1.8 cents per TV-watching among eligible women per month, compared to 2.1 cents per radio-listening among women per month. (CFP Annual Report, Taiwan, 1971). Finally, television is a space-time organized medium and the receiver can more easily remember TV advertising messages. Therefore, television has been identified as a more effective medium than radio in Taiwan's family planning program.

VI. Content Analysis

There are many ways that one can study human behavior content analysis of documents is also one way by which one may be able to examine decision-maker's Communication strategies on content of messages and trends in using techniques of persuasion. In other words, the decision-maker's behavior will be expressed in messages which they have designed or produced.

In this study, content of messages has been grouped into "What is said" and "How it is said" categories. As previously mentioned, the "What is said" category describes trends in communications content and relates known characteristics of sources to the messages they produce. This category message was further divided into four themes: Method-oriented, information-oriented, motivation-oriented, and change-norm-oriented messages. According to the four themes, the percentage distribution of 156 documents are shown in Table 10.

Table 10
Percentage Distribution of Message Themes
1970-1973

Message Themes	% of Message Themes in This Item				
	1970	1971	1972	1973	Average
Method-oriented	19.3	27.0	8.3	7.7	15.6
Information-oriented	45.6	37.9	16.7	7.7	27.0
Motivation-oriented	26.3	23.0	41.7	23.0	28.5
Change-norm-oriented	8.8	12.1	33.3	61.6	28.9
Total	100.0	100.0	100.0	100.0	100.0

Among four kinds of script themes, that of changing audience's beliefs and values messages (28.9%) and the creation of a climate for family planning messages (28.5%) i.e., motivational content, played an important role in radio program scripts. Diffusion of "how-to" and "principles" knowledge was ranked third which is about 27%, in terms of content of radio program scripts which have been used on the air. The theme of contraceptive method-oriented message is found in only 15.6 per cent of the total number of scripts.

In analyzing the data by individual year, one finds that the percentage of the theme which diffuses "how-to" and "principles" knowledge was the highest one in 1970 (45.6%) and 1971 (37.9%), but it decreased in percentage from 45.6% in 1970 to 7.7% in 1973. On the other hand, the theme of change-norm-oriented message increased its percentage was the highest among the four types of script themes. The theme on "motivation-orientation" also increased in importance from 26.3% in 1970 to 41.7% in 1972. The method-oriented message theme, however, maintained a low percentage and was reduced in importance each year. To summarize, the trend is clear that the themes of informational content have decreased in importance and the themes of motivational content have increased in importance.

During the early years of the family planning program, a large proportion of women knew nothing about contraceptive methods and family planning. At that time, introducing contraceptive methods and the concept of family planning was necessary. Later, the diffusion of "how-to" and "principles" knowledge was believed responsible for breaking the plateaus in contraception adoption. The motivation-oriented message had been emphasized in order to motivate women to practice family planning ever since the KAP-gap was found in Taiwan. Nowadays, however, although 96 per cent of wives knew at least one contraceptive method and 94 per cent are in favor of the general idea of family planning, the KAP-gap still exists, because large family size ideals and strong boy-preference norms influence the rate of adoption. Therefore, the change-norm-oriented message was emphasized by program designers in the attempt to close the KAP-gap.

In the "How it is said" content category, an analysis of the techniques and styles of persuasion which describe the communicator's decision strategies on the organization of the communication was made. Six different pairs of communication appeals were used as categories of analysis. The results of this content analysis are shown in Table 11.

Table 11 shows that the percentage of one-sided presentation and positive appeal messages is significantly higher than two-sided presentation and negative appeal messages, respectively ($p < .05$). Furthermore, the percentage of rational appeal, conclusion-explicit, and immediate-objectives message is significantly higher than emotional appeal, conclusion-implicit, & ultimate-objectives communications respectively ($p < .01$). Finally, the reward appearing message is slightly higher than the fear-arousing on ($p < .50$). In informational messages, the percentage of immediate-objectives content is much higher than the ultimate-objectives one.

However, in motivational messages, an ultimate-objectives content has a little higher percentage than the immediate-objectives one, because motivational messages need content which tries to change deep-seated family norms.

Table 11

Frequency and Percentage Distribution of Communication Appeals by Content of Messages

Appeals	Informational Content		Motivational Content		Total	
	Freq.	%	Freq.	%	Freq.	%
one-sided	30	53.6	30	56.7	68	55.3
two-sided	26	46.4	29	43.3	55	44.7
Emotional	6	25.0	17	24.6	23	24.7
Rational	18	75.0	52	75.4	70	75.3
Negative	11	30.6	31	47.7	42	41.6
Positive	25	69.4	34	52.3	59	58.4
Fear-Arousing	15	45.5	30	47.6	45	46.9
Reward-Appearing	18	54.5	33	52.4	51	53.1
Conclusion-Explicit	54	27.0	59	84.3	113	78.8
Conclusion-Implicit	21	28.0	11	15.7	32	21.2
Immediate-Objectives	70	94.6	31	44.3	101	70.1
Ultimate-Objectives	4	5.4	39	55.7	43	29.9

VII. Attitude and Behavior

Here, attitude is defined as the decision-maker's opinion toward decision-strategies on radio program messages and functions of channels in family planning communication programs. Behavior is defined as the decision-maker's decision-strategies on content of messages and utilization of media. In this study, attitude and behavior are considered collective rather than individual. The relationship between decision-makers' attitudes and behavior are shown as follows:

First, consider the decision-makers' attitude toward the "What is said" message. They judged the motivational content of messages as more important than the informational content of messages in radio programs (see Table 5).

Similarly, in action programs, the percentage of motivational content of messages is higher than the informational content of messages, at the .05 level of significance, one-tailed test. It is concluded that decision-makers' attitude are in accord with their behavior toward communication strategies on content of messages.

Second, consider the decision-makers' attitudes and behavior toward communication appeals. The data show that attitudes and behavior tend to be consistent in all six appeals with the exception of one-sided versus two-sided appeal content (see Table 6 and Table 11). According to decision-makers' opinions, a two-sided presentation content is more effective than a one-sided presentation, but the content of a one-sided presentation content is much more than a two-sided message.

In summary, although decision-makers' attitudes could not fully predict decision behavior in communication appeals, these attitudes seem to be helpful in predicting most of their behavior.

From the above analysis, we may conclude that decision-makers' attitudes toward content of messages are in accord with the content of radio scripts which have been designed or produced by decision-makers themselves. Thus, we may claim that the assumption which states that "decision-makers'" attitudes toward family planning radio program messages will be expressed in the content which they "design and Produce" has been supported by the findings.

Finally, attitudes and behavior toward utilization of channels are more explicitly consistent, as had been shown in Tables 8 and 9. Table 9 shows that decision-makers believe that utilization of television for family planning communication program is more effective than radio in the eight main functions. Meanwhile, Table 8 indicates that television use has dramatically increased since 1971. From this analysis, we can conclude that decision-makers' attitudes toward the functions of media are in accord with their behavioral expression in the selection of communication channels. These findings seem to provide support for the hypothesis that "decision -makers' attitudes toward the function of communication channels will influence their decisions on the selection of media."

VIII. Conclusions

Summary of Findings

In time study, we tried to examine two assumptions: (1) that decision makers' attitudes toward family planning radio program messages will be expressed in the content of messages which they design and produce; and (2) decision makers' attitudes toward the functions of communication channel will influence their decisions on the medium which they eventually select. Both assumptions were found to be true. Some of the findings are summarized as follows:

1. Radio has been used in Taiwan's family planning programs for reaching special audiences such as the illiterates and those who live in remote rural areas which could not be reached by face-to-face channels and other mass media.
2. Decision makers usually base decisions on objective criteria when selecting media or channels. They make decisions based on both research and evaluation findings and on the opinions of scholars and experts.
3. Social norms were found to be significant obstacles to family planning programs in Taiwan. "Boy-preference" and "large family size" were found to be the most important one this knowledge has been utilized in the design of persuasive communication appeals in radio messages.
4. Radio drama is viewed as the most effective family planning radio program format because it can carry more complex messages which touch deeply the listener's imagination, his emotion, or his intelligence. In other words, it can create awareness, develop cognitions, stimulate motivation, and change behavior via various special techniques and message strategies.
5. In current radio programs, motivational content of messages is considered more important than informational content. During the early years of the program, information content has placed heavy emphasis on contraceptive-oriented service and education in order to create awareness of family planning. At the present time, most women in Taiwan are aware of contraceptive methods and are in favor of the family planning idea. But the KAP-gap still exists. Within this

context, the motivation-oriented and change-norm oriented messages appear to be more suitable for program needs.

6. In communication appeals, decision makers felt that a two-sided presentation, a rational and positive appeal, a reward-appearing and an explicit conclusion-drawing content is more effective than a one-sided presentation, an emotional appeal, a negative appeal, a fear-arousing and an implicit conclusion-drawing content respectively in both informational and motivational content of messages. The two-sided presentation provides both advantage and disadvantage knowledge which may prevent adopters to discontinue the family planning program. The rational, the positive, and the reward appeal appears to be a goal which can fit a person's cognitive structure and allow receivers to make thoughtful decisions. The explicit conclusion-drawing message is more easily perceived by women at the lower educational level. In information content immediate-objective messages is suitable to meet short-term attitudes and behavior effect. But in motivational content, if communications objective is in harmony with the cultural patterns of society, no short-run attempt will work.
7. In a comparative study of eight major functions of radio and television, TV was believed to be more effective than radio. Considering the dramatic increase in the number of TV watchers, TV in the long run may become a less expensive medium than radio.
8. The content of message is classified into two categories. "What is said" and "how it is said." In the "What is said" category, it was found that the informational content of messages has played an important role in broadcast scripts before 1971. But since 1972, the motivational content of messages has been playing a more important role than the informational one. The theme on change norm-orientation and motivation-orientation is increasing in popularity every year. These strategies are intended to change strong family size norms and to speed closing KAP-gap. In the "how it is said" category, it was found that the frequency and percentage of a one-sided presentation, a rational appeal, a positive appeal, a conclusion-explicit, and an

immediate-objective content is significantly greater than a two-sided presentation, an emotional appeal, a negative appeal, a conclusion-implicit and an ultimate-objective appeal.

DISCUSSION

The decision-makers' qualifications and attitudes appear to influence their judgment on decision strategies on content and utilization of family planning radio programs. For example, a high level of education, considerable professional experience, and training in population and family planning are factors relevant to the issue. Also, family planning communication research and evaluation have been found to provide guidelines for program designers in making decision on communication strategies.

Decision-makers' decision strategies on the content of messages tended to focus on the method-oriented message in the early years, which emphasizes creating awareness of contraceptive methods and the concept of family planning. The second stage is information-oriented, which focuses on the diffusion of the "how-to" and "principles" knowledge message; the information-oriented stage is followed by the motivation-oriented stage, which is creating a favorable climate for family planning; the latest stage is the use of change-norm-oriented message, which emphasizes ideal family size and strong boy-preference norms. The decision processes on the content of messages and strategies for development seem to be logical and suitable for the needs of family planning information, education and communication programs in Taiwan. These decision strategies have enabled Taiwan family planning IEC programs to achieve remarkable success. This model of decision strategies may provide a good example to developing countries' family planning policy-makers and communicators who would like to design effective family planning information, education and communication programs.

Even though there has been a decrease in radio listening compared with TV watching, there are still a considerable number of women reached by radio. Fortunately, there appears to be no conflict in either viewing or listening time among audiences. (Wang, 1973; Freedman, 1972) Radio has still a strong potential power and both can be used to supplement each other in Taiwan's family planning communication programs.

Decision-makers' attitudes and their decision behavior tend to be consistent; this demonstrates further the assumption that objective judgment is applied in decision strategies. However, attitudes and behavior are complicated variables. More precise and testable data and studies are needed.

Here we are just trying to raise hypothesis for future research in this area.

In the study, closed-ended questionnaires and mailing surveys are used instead of open-ended approach provides responses which structure the respondents' answer to the question. In decision-making and gatekeeping studies, open-ended questions and face-to-face interviews seem to be more suitable, according to communication research literature. However, there is no choice in this study because of limitation of money and time. Moreover, in the content analysis, because of the lack of scripts from 1969 and earlier, we are unable to examine the longer trends in communication content strategies. This is the second weakness of this study.

Reference

1. Budd, Richard W. etal., content analysis of communications. New York : The Macmillan Company, 1967.
2. Cernada, George P. (ed.), Taiwan Family Planning Reader : How a program Workers. Taichung, Taiwan : The Chinese Center for International Training in Family Planning, 1970.
3. Cernada, George P. (ed) and T.H. Sun, :Research utilization in Taiwan. "Paper prepared for the conference on Making Population / Family Planning Research Useful, East-West Communication Institute Honolulu, December 3-7, 1973.
4. The Chinese Center for International Training in Family Planning, Family Planning Communications in Taiwan Area, Republic of China. 1973.
5. Committee on Family Planning, Taiwan Provincial Health Department, Annual Report. 1969-1973.
6. Fulcher, S. Gordon, Common Sense Decision-Making. Northwestern University Press, 1965.
7. Freedman, Ronald and John Y. Takashita, Family Planning in Taiwan : An Experiment in Social Change. Princeton University Press, 1969.
8. Freedman, Deborah S., "Recent Findings on Mass Media Exposure: Their Implications for Policy Guidance," unpublished report in Committee on Family Planning, Taiwan Provincial Health Department, January 20, 1972.
9. Holsti, Ole R., Content Analysis for the Social Sciences and Humanities. Addison-Wesley Publishing Company, 1969.
10. Hovland, Carl I. Irving L. Janis and Harold H. Kelley, Communication and Persuasion: Psychological Studies of Opinion Change. Yale University Press, 1963.
11. Levin, Harry L., and R.W. Gillespie, The use of Radio in Family Planning. A world Neighbor Publication, 1971.
12. Rogers, Evertt M., "Taboo Communication and Social Change: Family Planning in Asia, and Some Suggested Modifications in

classical Diffusion Model." Paper presented to the Department of Human Communication, Rutgers - The State University, May 5, 1972.

13. Rogers, Evertt M., Communication Strategies for Family Planning. New York : The Free Press, 1973.
14. Rogers, Evertt M., With Floyd F. Shoemaker, Communication of Innovations: A Cross-cultural Approach. New York : The Free Press, 1971.
15. Schramm Wilbar, Mass Media and National Development : The Role of Information in the Developing Countries. Standford University Press, 1964.
16. Secord, Paul F., and Carl W. Backman, Social Psychology. New York : The McGraw - Hill Book Company, Inc. 1964.
17. Triandis, Harry C., Attitude and Attitude Change. New York : John Wiley & Sons Inc., 1971.
18. Wang, Chin M., "A Preliminary Report of 1972 Mass Communication Study in Taiwan Area." unpublished, Committee on Family Planning, Taiwan Provincial Health Department, April, 1973.

台灣家庭計畫廣播節目內容 與運用方式策略之研究

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中文摘要

在開發中的國家，廣播仍被認為是最有效的傳播工具之一，廣泛用以影響其教育水準低落的廣大受播者。台灣家庭計畫工作顯著之成效及其運用廣播推行家庭計畫之策略可作為其他開發中地區家庭計畫傳播工作解決人口快速增長之參考。

本研究是從兩個方向來探討台灣家庭計畫廣播節目內容與運用方式之策略。首先從家庭計畫傳播的計畫者與設計者方面來分析影響廣播內容與媒介選擇的決策因素，同時並測得這些決策者對兩者的態度傾向。另一方面則從廣播文獻中做內容分析，以求得決策行為之型態與模式。其次再測定決策者對廣播內容形式與選擇媒介之態度及其所表現於實際傳播訊息之行為的關係。

由此研究發現，台灣家庭計畫傳播的決策者大都能以理性及客觀之標準處理廣播訊息內容與方式，用以適應社會發展之需要：廣播之運用主要為接觸那些教育水準較低又無法接受其他傳播媒介的鄉村居民；媒介的選擇及訊息內容的設計係根據研究考評之發現及學者專家意見為主；廣播劇最為廣泛運用；訊息內容主題之演變是由「介紹節育方法為主」→「散佈家庭計畫一般消息為主」→「引起動機為主」→「改變社會規範為主」，此模式乃應社會實際需要而發展出來；同時訊息訴求方式均能適合於個人心理及社會情況之需求。本研究結果最後證實了兩個假設：(1)家庭計畫傳播決策者對家庭計畫廣播節目內容與形式之態度傾向將表現於其實際製作與設計之訊息內容。(2)決策者對家庭計畫傳播頻道功能之態度會影響其決定媒介之選擇。總之，決策者決策態度之傾向與其決策行為甚為一致。由此研究乃引出一種新的「態度與行為」間關係之假設，做為將來進一步研究之依據。

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