Of Hearts and Minds: Filipino Adult Viewers' Message Interpretation Processing of Vaccination-Related Public Service Announcements

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This study aims to find out how Filipino adult viewers interpret vaccination-related public service announcements (PSAs), using the Message Interpretation Processing (MIP) framework by Austin, et al. (2001). Specifically, the study targets to: 1) determine the interpretation process used by viewers (logic-based or emotion-based); and 2) identify influential factors in relation to these interpretation processes. Data was acquired from 174 walk-in patients of three randomly selected barangay health centers in Parañaque City. Respondents answered a survey questionnaire after viewing three PSAs on rabies, polio and measles. Data were analyzed using correlation analysis and multivariate regression analysis. The study revealed that most viewers tend to interpret vaccination-related PSAs more logically than emotionally. Results also showed that logic-based interpretation is highly influenced by outcome expectancies, while emotion-based message interpretation processing is highly influenced by viewers' close identification with PSA portrayals.

Key words: health communication, message information processing, public service announcements, health promotion, health advocacy, message design

In spite of marked improvements in the overall health status of people in developing countries, it has been found that most vaccination or immunization programs have not been thoroughly successful in reducing the burden of disease (Lucas, 1997). The United Nations Children's Fund (UNICEF) estimates that although immunization saves the lives of almost 3 million children per year, 1.7 million still die due to measles and other vaccine-preventable diseases (Lucas, 1997; Kane & Lasher, 2002). Efforts toward improved vaccination programs by various governments have been made since the late 70s, when the World Health Organization (WHO) and the UNICEF set up programs to address problems caused by infectious diseases prevalent in most developing countries (Vaccine Handbook, 1996).

Riddiough, Willems, Sanders and Kemp (1981) stress the need for health communication researchers to study the various factors that influence the public acceptance of vaccines. It is important to describe the nature and significance

of health communication research as well as the application of specific types of media advocacy (in this case, the public service announcement, or PSA) in communicating issues about vaccination.

Health communication research is essential to the complex system of improving health outcomes in various parts of the globe, particularly developing countries (Asian Development Bank, 1999). Moreover, due to the increasing concern over public health risks, health professionals look into various strategies for reducing the dangers posed by numerous risks and threats to health through, among other means, health advocacy. This study emphasizes the importance of a holistic analysis of health advocacy in terms of its major communication components: source, message and process.

One of the key categories that comprise comprehensive health communication campaign programs is media advocacy (Global Health Council, 2003) which involves the use of print, radio and television as channels for communicating and advocating relevant health issues. This study focuses on a specific form of advocacy tool--the PSA.

The PSA is a popular means for advocating health issues as it combines various methods of health promotion: advertising, publicity and the *enter-educate* method, or the strategy of providing relevant information without compromising entertainment value and recall (Egger, Donovan & Spark, 1993). The Philippines' Department of Health (DOH) regularly produces a number of PSAs as part of its various health promotion campaigns for issues such as reproductive health, personal hygiene, nutrition and vaccination. Concepts in advertising to the public are widely used, as many of these materials (distributed through public television) deal with marketing or promoting health behavior and knowledge to a broad audience, as well as announcing important DOH-sponsored projects such as free vaccination programs and reproductive health programs.

While other types of media such as print ads and the internet are readily available, the use of television and radio PSAs in the promotion and advocacy of health-related concerns over a wider, more diverse public has been found to be an effective strategy toward public awareness and acceptance (Berja, 1999).

A number of studies have dealt with health-related PSAs. Austin, Pinkleton and Fujioka's (2001) study investigated the influence of PSAs on its viewers and compared it to commercial advertisements, taking into consideration

important factors like production quality and viewers' message processing methods. Although Austin's earlier studies focused primarily on alcohol PSA research, a pattern that was closely followed by other researchers such as Barg (1993) and Schrader (1995), other scholars have looked into a variety of other health concerns. Examples of other PSA-related studies would be those on women's attitudes toward anti-smoking PSAs (Denis, 1992), HIV-intervention programs and PSA viewership (Pellegrino, 1997; Colon, 1998) as well as viewers' perceptions toward narrative anti-violence PSAs (Bernhardt, 1999). Other PSA-related studies have also focused on factors that determine or influence health-related behavior, such as gender (Denis, 1992; Slater et al., 1997) and the use of fear appeals (Barg, 1993).

There are existing Philippine studies on public persuasion and the appeal of TV and print advertisements (Costales, 1997), but few have focused on PSAs and other social advocacy materials on health-related issues. There are unpublished undergraduate and graduate communication studies done in universities which have focused on either vaccination or PSA research. Existing studies include those that tackle known local health issues such as infectious diseases (Simbulan, 2001), AIDS (Lim, 1991; Dimaapi, 1996; Bulan, 1998), smoking (Imperio, 1998), and fitness (Candor, 1998; Dabao, 1999). Some studies have also emphasized the importance of analyzing the public's perception toward risk and risk-related information to hasten the development, design, and creation of health communication campaigns (Egger, Donovan & Spark, 1993; Asian Development Bank, 1999; Duck & Morton, 2001).

This paper studies the message interpretation of health-related PSAs: 1) to provide data that can guide the design and strategy of health campaigns; and 2) to extend our understanding of the public perception of risk and, in the process, help in future campaigns that seek to produce positive risk-related behavior change particularly in the promotion of vaccination.

The Message Interpretation Process (MIP) model

The principal framework used in this study was adapted from the Message Information Processing (MIP) model by Austin (2001), initially used to analyze viewers' interpretations of alcohol and tobacco use. This research applied the same model in the Philippine context, focusing on the interpretation of vaccination-related PSAs among adult Filipino viewers.

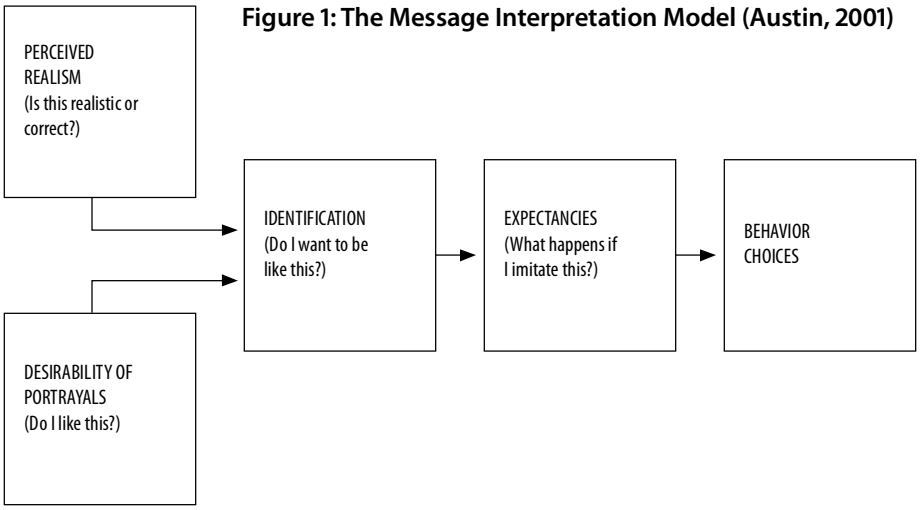
Austin, Pinkleton and Fujioka (2001) define the MIP model as such:

> "The message interpretation processing model holds that internalization of a message can range that it may be representative of social norms, to the belief that it represents the individual's own experience, to the belief that it represents a reality to which an individual might aspire. The model is based on a body of research that demonstrates that individuals internalize messages differently depending on a variety of factors. The MIP model maps out these factors in the individual's decision-making process and suggests how they affect one another to influence behavioral outcomes." (p. 578)

The model allows health communication researchers to determine behavior choices made by target audiences in relation to the interpretion processing pathway that they utilize when viewing a particular health-related media text. In other literature (Austin, Roberts & Nass, 1990; Andsager, Austin & Pinkleton, 2002), the MIP model underscores two important points: (1) that decision-making is arrived at through two pathways: the *logic*-based and *emotion*-based processing methods; and (2) that message interpretation occurs at various levels or stages: message processing methods (interpretation process), identification, expectancies, and behavior.

Figure 1 illustrates how the process works. Austin's various MIP studies with her colleagues have allowed them to develop a complex, yet comprehensive

Figure 1: The Message Interpretation Model (Austin, 2001)



research design that looks closely into five *sequential* variables. Each variable in the model looks into a particular aspect of human interpretation that reveals how individuals process messages received through the media in terms of logical and emotional responses to these messages. The following is a description of each variable in the MIP model, as developed by Austin (2001).

The MIP model argues that there are two pathways to the interpretation of messages: the **cognitive** or *logical* element and the **affective** or *emotional* element. The cognitive or logical element, determined by *perceived realism*, pertains to the extent to which television is perceived as a realistic source of information for what makes people popular, what makes people successful, and how people act. The affective or emotional element, determined by *desirability of portrayals*, pertains to the degree to which respondents find media portrayals to be attractive or appealing.

Identification looks into the extent to which respondents "want to be like" certain media portrayals. On the other hand, *expectancies* reflect respondents' agreement or disagreement toward particular "expected" events that will happen if a certain behavior is adopted. Finally, *behavior choices* look into whether or not the respondents have done certain activities that are in accordance with the message; for instance, if the message is on alcohol use, the behavior choices would be a series of activities done in accordance with the use of alcohol such as drinking, being offered a drink or drunk driving.

This study applies the MIP model by understanding the interpretation processes that audiences use when viewing PSAs on vaccination programs. Figure 2 presents the resultant operational framework applied to this study.

Research Objectives and Hypotheses

This study examines how Filipino adult viewers interpret vaccination-related public service announcements. Specifically, the study attempts to determine the type of interpretation process used by adult viewers in processing vaccination-related PSAs (logic-based or emotion-based interpretation) and identify the procedural factors that influence logic-based and emotion-based interpretation processing.

The following hypotheses were tested in this study:

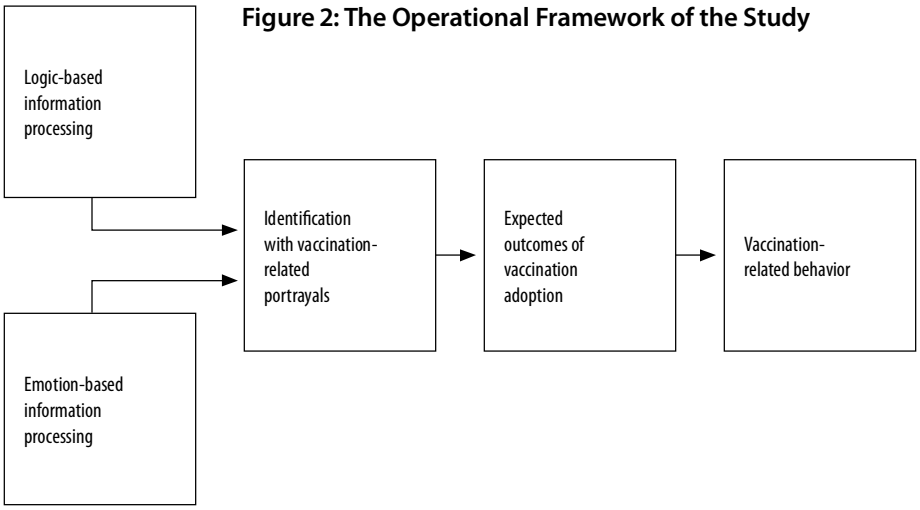
Hypothesis 1: Filipino adult viewers interpret vaccination-related PSAs emotionally.

In most studies conducted by Austin and her colleagues, the role of affective or emotional message interpretation is strong (Austin, Pinkleton & Fujioka, 2001), although these remain weaker compared to PSAs that use the emotion-based strategy (Godbold & Pfau, 2000; Andsager, Austin & Pinkleton, 2002; Moscato et al., 2001). Furthermore, Dillard and Peck (2000) contend that "liking" a particular message leads to distinct judgments that favor the effectiveness of a PSA-channeled message.

Hypothesis 2: Identification, expectancy, and behavior choice patterns are more positively correlated with, and are more influential toward, affective or emotion-based interpretations in the processing of vaccination-related PSAs.

In terms of the influence of the type of message interpretation with the identification, expectancy, and behavior choice patterns on PSA viewing, however, most studies do not support the argument that logic-based approaches foster effective message interpretation. For example, Duck and Morton (2001), in their analysis of communication and its influence on personal health beliefs, stress that impersonal, logic-based communication messages usually fail to achieve desired changes in behavior. Previous studies conducted by Austin and her colleagues also support the belief that if individuals identify closely with

Figure 2: The Operational Framework of the Study



people who appear in PSAs, and their expected and chosen behaviors are in congruence with what is seen on the advertisement, the impact created by the message would be more emotion-based.

In Austin, Pinkleton and Fujioka's (2001) study on perceived PSA quality, results showed that in an ethnically diverse sample, respondents rated more favorably those PSAs which involved affective or emotion-based interpretations rather than those utilizing logic-based interpretation methods. Furthermore, the researchers added that the effects of logical appeals in PSAs come too late in the decision-making process.

Method

Materials and Instruments

The public service announcements were selected from 30-seconder vaccination-related TV spots produced by the DOH's National Committee on Health Promotion (NCHP) during the term of former Health Secretary Manuel M. Dayrit, from 2001 to 2003. Twelve of 37 PSAs screened were vaccination-related, with the rest tackling other health issues such as reproductive health, infectious diseases, severe acute respiratory syndrome (SARS), and healthy lifestyle checks. The 12 vaccination-related PSAs initially viewed were categorized by the researcher into three types, according to its general content (vaccination program): polio, measles and rabies. One PSA for each type of vaccination program was used for this study.

The primary research instrument used in the study was based on Austin's survey questionnaire which was used originally to determine message interpretation factors in viewing alcohol-related public service announcements. A modified questionnaire was then designed to adopt some components from the original but applied a vaccination-related perspective to the new one which was later translated into Filipino. Because of this modification, the new instrument was subjected to validity and reliability testing across an identified study sample before it was administered to the actual respondents. The researcher then developed a final instrument based on the pre-test results.

Procedure for Data Collection and Analysis

Prior to data collection, the researcher subjected the original MIP survey questionnaire to a pre-test to check if the instrument is applicable to the Philippine setting and using a vaccination-related context. With the assistance

of a hired statistician, the following specific measures were used: 1) Cronbach's α-test, to measure for internal consistency, and 2) factor analysis, to establish construct validity.

After this, the researcher followed, with slight modifications, the research procedures used by Austin and her colleagues.

First, the survey questionnaire was administered to the target respondents, who were asked to answer a survey questionnaire which intended to obtain data regarding their perceptions about PSAs, and their perceived realism, desirability, identification with portrayals, expectancies, and behavior choices concerning vaccination. Respondents viewed the three PSAs prior to completing the questionnaire. Viewing was done in groups of 15 to 20.

Data were analyzed using correlation and multivariate regression analysis. Correlation procedures were used to determine the degree of influence between variables (using Pearson's Correlation Coefficient), and to identify the type of message interpretation processing used by the PSA viewers (using paired comparisons *t* test). Multivariate regression analysis was used to analyze the influence of the identification with portrayals, expectancies and behavior choices variables to the logical (perceived realism) or emotional (desirability) interpretation of PSAs.

Measures

To measure the variables of perceived realism, desirability, identification, and expectancies, the researcher used 23 statements, where respondents rated their agreement or disagreement to each statement using a four-point Likert scale (from 1 to 4). A positive attitude toward a particular variable was coded as 4, while a negative attitude was coded as 1.

For the *perceived realism* variable, respondents evaluated statements such as: "TV is a realistic source of information for what makes people healthy" and "TV is a realistic source of information for what makes people happy." For *desirability*, statements such as, "People getting vaccinated seem happy" and "People getting vaccinated seem to have few problems" were rated. The *identification* variable used statements such as, "I wish I could do the things people in ads do" and "I wish I could be like people in TV ads." For the *expectancies* variable, respondents evaluated statements such as, "Getting your

child vaccinated will make him resistant to diseases" and "Getting your child vaccinated helps reduce the spread of the disease."

For the *behavior choices* variable, respondents were asked to assess their vaccination-related practices over the past six months by answering four statements and the frequency in which they have applied such behaviors. The statements were: "asked a friend about vaccination," "asked a health officer about vaccination," "had my child vaccinated," and "recommended or suggested vaccination to someone." For each statement, respondents rated their practices from 1 to 6, using the following options: "none," "1-2 times," "3-5 times," "1-3 times a month," "once a week," and "over once a week." Greater frequency was coded as having higher values.

Sampling

The research was conducted in Parañaque City, primarily due to accessibility and cost-related concerns, as the researcher is a resident of the said city. Next, three randomly selected barangay health centers (BHCs) were identified through lottery.

Quota sampling was then used in selecting walk-in adult clients of the identified barangay health centers until at least 150 answered questionnaires were collected (50 for each BHC). It was also predetermined that respondents should be parents or should have at least one (1) child to qualify for the study. It must also be noted that data gathering was conducted during *araw ng bakuna* (days of vaccination), or days that are normally assigned for vaccination purposes only.

The survey was administered to a total of 174 walk-in patients of the three randomly selected health centers in Parañaque, namely Barangay Marcelo Green Health Center (MGHC), Barangay San Isidro Health Center (SIHC), and Barangay Sun Valley Health Center (SVHC). Fifty respondents came from MGHC, 67 respondents from SIHC, and 57 respondents from SVHC. MGHC and SVHC are located in District 2, while SIHC is in District 1.

The age distribution of the respondents revealed that the youngest respondent was aged 27, while the oldest was 67. However, descriptive statistics show that the mean age of the respondents was 30.2 with a standard deviation of ±8.64; most of the respondents fell within the age range of 21 to 39.

Out of these 174 respondents, 12 were male and 162 were female; in percentages, the male respondents accounted for 6.9% of the total sample population, while 93.1% were female respondents. Majority of the respondents were female, most likely because of the culturally defined role of women as child-rearers. Furthermore, it should also be noted that the male respondents who answered the survey had merely accompanied their wives who were too busy attending to the needs of their children while at the health center.

Focus Group Discussion

A focus group discussion (FGD) was also conducted to substantiate the quantitative findings, considering the complexity and multi-facetedness of health communication behavior. The researcher developed an interview schedule to gather information regarding the respondents' perception of the quality and persuasiveness of each PSA. These FGDs were tape-recorded, transcribed, and entered into response matrices for a clear and organized analysis of qualitative data.

Three FGDs were organized by the researcher for the study. Each FGD lasted for 30 to 45 minutes. With the assistance of a barangay health official, eight to 10 participants for each FGD were recruited from the same health centers where the survey questionnaires were distributed. Most participants were female. There were only three male participants overall: two for the first FGD, and one for the third. The only requirement for participation in the FGD was that individuals had to have first-hand experience with vaccination practices. Participants were asked to respond to questions that probed into three main aspects: 1) their logic-based or emotion-based interpretation of the PSAs; 2) identification of strong and weak points of each PSA (rabies, measles and polio); and 3) suggestions for improvement.

Table 1: Pearson correlation coefficients (N = 174) across all variables

	DESIRABLITY	PERCEIVED REALISM	IDENTIFICATION	EXPECTANCIES	BEHAVIOR CHOICES
Desirability	1.00000	0.29520	0.56605	0.39467	0.09348
Perc. Realism		1.00000	0.28927	0.35580	0.03509
Identification			1.00000	0.20034	0.09321
Expectancies				1.00000	0.07643
Beh. Choices					1.00000

Results

To determine the extent to which variables in the model are influential or correlated with other variables in the MIP model, data were analyzed using the Pearson's Correlation Coefficient test. Data showed that except for behavior choices, all other variables were mostly found to be at least moderately correlated with each other (see Table 1). Only one strong correlation was observed ($r > 0.5$), and this was between desirability and perceived realism.

The variables that were found to be moderately correlated with each other were desirability and perceived realism, desirability and expectancies, perceived realism and identification, and perceived realism and expectancies. A strong correlation was found between desirability and identification. However, expectancies and identification, as well as all behavior choices variables, were found to have weak correlations. This means that the influence of behavior on all the other variables in the model is not statistically significant and, therefore, not influential. At the same time, expectancies and identification have a weak correlation and the influence on each other is not high. All other variables, however, were either moderately or strongly correlated. These findings support the second hypothesis as these establish a significant influence between the variables in the model.

The data was then subjected to paired comparisons *t*-tests to determine the type of message interpretation process that the respondents utilized in viewing vaccination-related PSAs. The *t*-test compares the two dependent variables, desirability and perceived realism, that reflect emotion-based and logic-based interpretation processing methods respectively, by determining the difference between the two, using the formula $\mathbf{diff} = \mathbf{t}_{d}$ (desirability) $- \mathbf{t}_{pr}$ (perceived realism). A negative difference would suggest a higher score for perceived realism, while a

Table 2: Multivariate regression predicting emotion-based and logic-based processing

VARIABLE	EMOTION-BASED PROCESSING (DESIRABILITY)			LOGIC-BASED PROCESSING (PERCEIVED REALISM)		
	PARAMETER ESTIMATE	STD. ERROR	P-VALUE	PARAMETER ESTIMATE	STD. ERROR	P-VALUE
Intercept	2.34324	1.21209	0.0549	5.81614	1.54583	0.0002
Identification	0.54042	0.06486	<.0001	0.26450	0.08272	0.0017
Expectancies	0.26909	0.05590	<.0001	0.31138	0.07129	<.0001
Beh. Choices	0.01333	0.03299	0.6866	-0.00595	0.04207	0.8876

positive difference would suggest a higher score for desirability. The test results (t = -6.13, p < 0.0001, M = -1.43, SE = 0.23) suggest that respondents scored significantly higher in the perceived realism variable than in the desirability variable. The magnitude of the difference between the computed means for the two variables is 1.431, which, in a four-point Likert scale, is relatively large. The implication is that most respondents tend to interpret PSA messages in a logic-based manner, hereby answering the first research problem.

Table 2 shows the multivariate regression results for the perceived realism and desirability variables, predicting the information processing methods employed by PSA viewers across the other variables of the MIP model.

As the viewers' level of identification with portrayals seen in PSAs increases, the level of emotion-based processing of the individual (or desirability) increases as well (specifically, by 0.54 points). The same can be said with expectancies, though not as high as the identification variable; there remains a corresponding 0.27 increase in desirability. It can be noted, however, that desirability does not have a significant effect on the behavior choices of the individual, as for every unit of increase in behavior choices, there is simply a 0.01 increase in the level of desirability.

The second dependent variable, which is perceived realism, or logic-based interpretation, also produced similar results. The effect of the identification and expectancies variables on perceived realism is also significantly higher than desirability, with parameter estimates of 0.26 and 0.31, respectively. Similarly, the perceived realism variable does not affect behavior choices greatly, as it only gives a parameter estimate of -0.006.

Table 2 also shows that the expectancies variable has a relatively higher statistical effect on perceived realism, while identification has a higher statistical effect on desirability. Such findings partially support the second hypothesis, as the influence of variables on information processing of PSAs are limited to: 1) expectancies and perceived realism (logic-based processing); and 2) identification and desirability (emotion-based processing).

FGD Findings: Logic-based Processing of PSAs

For all three PSAs (rabies, polio and measles), FGD respondents were asked to explain why and how the portrayals in the clip were perceived to be realistic and truthful.

For the rabies PSA, majority of the respondents acknowledged that rabies vaccination is a necessity, and that this was a problem that truly exists in their respective communities. It is also significant to note that all FGD participants mentioned that they consider the PSAs as truthful because everyone had experienced this type of vaccination in one way or another. One participant mentioned that someone close to her was, in fact, a rabies survivor, saying: "My cousin was bitten by a dog when he (or she) was still young… we saw him (or her) salivating also." Others attributed the reality of the PSA to their own experiences, for a variety of reasons, such as: 1) they know people who have gone crazy because of rabies (as was seen in the clip); and 2) they noted that the depiction of rabid dogs in the PSA was similar to what they themselves have seen. A small number of participants questioned the truthfulness of the PSA, observing that they have seen rabies victims before but not in the way they were portrayed in the clip. According to two participants:

> "I think that in the PSA, they capitalize on the belief that if you are bitten, you go crazy. I know a lot of people who have been bitten by dogs but that didn't happen to them."

> "I know a lot of people who have been bitten by dogs but not like that. Both were shown like they were tied to their beds. I guess that's already an extreme case, or the rabies virus has already spread to their brains which is why they acted that way."

One participant also mentioned that the PSA seemed "scripted," especially the part where the health secretary enters the scene and delivers his message, saying that the latter didn't "look sincere."

For the polio PSA, many participants identified the scene where Secretary Dayrit conducts a door-to-door vaccination program as realistic, because they noted that this really happened in their communities. One participant shared one such experience:

> "The door-to-door campaign happened in my mother's house. They go around, giving out polio vaccines for free. Then they record it if the child is below five years old, then they give him/her the vaccine. You just have to sign it. It's true."

The respondents also offered other reasons why they considered the PSA as truthful. Some participants said that their children were given free vaccines while others pointed out that they themselves have received polio shots, or have had their children receive the free vaccine. Many acknowledged that the method of administering polio vaccine in the PSA (through a dropper, or the *patak* method) was similar to what they have actually seen. One participant mentioned that she has polio and expressed regret over not receiving the vaccine when she was young. They were, however, some participants who did not think that the PSA was realistic because they have not had personal encounters with polio or persons afflicted with the virus. One participant commented on the "limping" motion of the polio victim (as portrayed in the PSA) by saying that having polio is a more complicated situation than just something that affects one's movement.

For the measles PSA, many participants recognized the fact that measles can "lead to death" and is actually very dangerous. One participant recalled an experience with her own child:

> "…my child already had measles when she was just eight months old. Since the health advisory recommends vaccination before the child reaches nine months, the disease overtook my child's vaccination. She had to be confined at San Lazaro (Hospital) because of complications. But I took her back home because the others in the hospital were dying one after the other."

Other participants acknowledged that measles was a real problem in their own communities, and that there existed a collective concern over this disease and its impacts. One participant mentioned that they even checked on their neighbors if they have availed themselves of the vaccine, saying that "we don't want this to happen in our communities…because measles is infectious." Two participants referred to a scene in the PSA where the mother forgot to have her child vaccinated (which eventually led to the death of her child), confirming that this was something that had happened to people they knew. A few participants, however, questioned Dayrit's sincerity and noted that he was smiling while delivering his message in the PSA.

FGD Findings: Emotion-based Processing of PSAs

Another aspect that the FGD looked into were the participants' emotion-based processing of the PSA, or the extent to which they found the portrayals to be desirable or emotionally charged.

For the rabies PSA, majority of the participants admitted that they felt "scared" upon seeing the images, particularly the scenes showing salivating dogs and rabies victims going crazy and salivating as well. Many participants attributed this fear to first-hand encounters with rabies victims. One shared a personal experience: "I observed a victim once; he was really running here and there… They had to lock him up because he was trying to bite a child (and then) he died." Another said that the same thing happened to someone close to her:

> "It was scary when that happened to my aunt. After five days, she already began to salivate. They had no choice but to feel regretful because it was too late, she had already gone crazy. The shots couldn't do anything anymore."

Some considered emotional pain as a feeling they get when they think of the cost that rabies vaccination and rehabilitation incurs. One said that "it is heavy on the pocket because each shot costs a thousand pesos." Another participant, a dog owner, said that whenever his dog bites people on the street he would end up paying for the medication of the victims. "I go with them to the hospital, we line up, and we buy the medicine." Other emotional responses were anger toward irresponsible pet owners who let their dogs wander in the streets and pity for the rabies victims. However, fear was observed as the most dominant emotion felt by FGD participants upon seeing the PSA.

For the polio PSA, some participants expressed fear for their children and pity for those afflicted with the disease. A few participants expressed happiness because instead of having to go to the health centers, they learned that health workers could deliver the vaccines to their houses. However, most participants said that they did not feel any emotion toward the PSAs for the following reasons: 1) they found the PSA to be "simply informational" and that it merely aimed to inform people about the availability of the vaccine and the door-to-door vaccination schedule; 2) they were not really worried because they have been regularly taking part in these vaccination programs; and 3) they perceived polio as a minor problem, noting that this was not as prevalent as rabies and measles, and that this could be avoided for as long as their children are fed well. For instance, one participant commented, "You get polio if you don't eat properly. Polio's not really a sickness. You just lack food and nutrients."

Most FGD participants reacted consistently with the overall emotion evoked in the measles PSA. Some felt worry and fear for their own children upon

realizing one of the PSA's subtle message: that the most vulnerable life stage for the measles virus is from infancy to early childhood. Some participants said:

> "My baby had measles even before she reached nine months. She had terrible cough and colds. I was very afraid so I brought her to the doctor right away."

> "That happened to my child. It started with a simple cold but I just let it pass. Then slowly, his fever went higher and higher. People were telling me that it might already be measles. I feared that my child would not get well. It was very difficult."

On the other hand, some participants felt happy and relieved knowing that their children have already been vaccinated. A few individuals admitted that they found the PSA "difficult to watch." One such individual explained that some parts of the PSA, particularly the scenes leading up to the child's death due to measles, made her more "prayerful" for her family's sake. Another one felt traumatized after watching the PSA, saying that it reminded her of her own bout with the virus as a teenager. A male participant, however, argued that it was not measles per se that he was worried about, rather the complications that went with it, which he felt was not discussed adequately in the PSA.

FGD Findings: Strengths, Weaknesses, and Points for Improvement of PSAs

FGD participants were also asked to evaluate the three PSAs in terms of their strengths and weaknesses, leading to suggestions for the improvement of these informational materials.

Almost unanimously, FGD participants agreed that the information communicated by these PSAs was the strongest element. They acknowledged the importance of a clear content and the provision of substantial and useful information as key elements in making an effective PSA. Aside from this, participants noted what they perceived to be other indicators of good content, such as: 1) providing related information like where to go for the vaccine, how it is administered, and if this will be given for free; 2) the use of TV as the most appropriate mode of delivery for these PSAs, since most of them are too busy to read newspapers; 3) the use of human interest in the PSAs, thereby making them more appealing to viewers; 4) the use of emotional appeals, such

as dramatizations and graphic images of victims of the disease; and 5) the use of Secretary Dayrit as an authority figure, legitimizing the need for these vaccination programs.

Some weak points of the PSAs were also identified by the FGD participants. Majority commented that although the information was sufficient, they noticed that they rarely saw these PSAs on television. One participant said, "They should show PSAs like this more frequently, not just when it's needed." The participants in one FGD session, however, noted several weak points in the PSAs. One such point was the use of Secretary Dayrit as an authority figure, for two major reasons: 1) he seemed to smile all the time while delivering his message, making viewers doubt the sincerity of the authority figure; and 2) the allocation of too much time to Dayrit when the focus should be more on the problem rather than on him.

A few criticized the PSA as boring, while a number commented on the poor technical quality of the PSAs. Some, however, recognized that this should be attributed to budgetary constraints which may have affected the production of the PSAs.

Based on these observations, FGD participants were asked to suggest points for improvement of these PSAs. While many acknowledged the important role of PSAs in the dissemination of vaccination-related information, they pointed out that it is more important for the government to continue its role of providing adequate health care to the local communities. Some noted that the PSAs should use real people, not actors, to add to the credibility and believability of the PSAs. They believed that the use of testimonials and real-life footage are more compelling and persuasive than dramatizations. One participant explained that the government should tie up with big advertising firms or media outfits to enable them to produce higher-quality PSAs.

Discussion

Data gathered using the initial correlation test (Pearson's) suggest that all MIP factors are either moderately or strongly correlated with one another, with the exception of vaccination behavior. Essentially, this would mean that the various viewership factors (as outlined by the MIP model) significantly influence viewers' message information processing of PSAs, while vaccination-related behavior does not.

The results of the paired comparisons *t*-test, however, tell us that most respondents tend to agree more on the perceived realism variable, which reflects a logic-based type of message interpretation. Although the data do not suggest that respondents do not score high in the desirability variable either, the significant mode of comparison between the two is the magnitude of the difference between the computed means of the two variables.

This hereby answers the first research problem. Data show that respondents scored *significantly higher* in the perceived realism variable, a reflection of logic-based interpretation processing, than that of the desirability variable, which is a reflection of emotion-based interpretation processing.

Finally, the data acquired from the multivariate regression analysis suggest that individuals who have high levels of identification with television of PSA portrayals tend to interpret vaccination-related PSAs on a more emotional manner. Conversely, individuals who have high expectations of vaccination practices tend to interpret vaccination-related PSAs on a more logic-based type of information processing. However, it is still important to note that the behavior choices variable is seen as unrelated to either pathway, since it has a very low parameter estimate, confirming the results of the initial correlation test used. It should also be noted that the sampling procedures did not yield enough variance in the behavior choices variable to assess the overall predictive quality of the independent variables, since all respondents were recruited in health centers on the day when vaccinations were being administered.

Conclusions

Using measures of correlation (i.e., Pearson's correlation coefficient, paired-comparisons *t* test), respondents scored significantly higher in the perceived realism variable than with desirability which suggests that most viewers tend to interpret vaccination-related PSAs on a more logic-based perspective than emotion-based, thereby answering the first research subproblem. The first hypothesis is therefore rejected.

For the second research problem, two sub-conclusions can be made. First, through the use of multivariate regression analysis and the paired-comparisons *t* test, results revealed that the correlation of desirability or emotion-based message interpretation processing is strong with the identification variable and moderate with the expectancies variable. Second, results also revealed

that identification and expectancies variables are moderately correlated to perceived realism or logic-based message interpretation processing. These findings allow us to see key elements that influence both emotion-based and logic-based information processing of messages. Viewers who can strongly identify with PSAs have a higher tendency to interpret messages emotionally, while those who have stronger expectations toward these PSAs may tend to interpret messages on a more logical manner.

Based on these two sub-conclusions, it was found that logic-based message interpretation processing is highly influenced by outcome expectancies generated from viewing vaccination-related PSAs, while emotion-based message interpretation processing is highly influenced by viewers' close identification with portrayals shown in these PSAs. The second hypothesis is therefore partially accepted.

Data from the FGD seem to validate these quantitative findings, as most viewers realize that the overall message communicated by these PSAs is the most important element, and the persuasive appeals used remain secondary. It is also important to note that most FGD participants observed that while information and education campaigns are important, the government's actual execution of such programs should also be strengthened.

The results gained from the study imply that emotional appeals used in some government-produced PSAs do not have to be a necessary component of health-related PSAs (although to prove this, a follow-up study on the impact of various emotional appeals should be looked into in future research). Likewise, it is quite interesting to note that the data generated from this study reject the common notion that emotional elements are highly influential in the communication potential of PSAs. This implies, therefore, a need to look at the message interpretation process on a larger scale, by integrating the limitations of the methodology and other realities that exist in the viewing of PSAs. There may also be a need to restructure existing PSAs on other health-related concerns, especially those information, education and communication (IEC) campaigns which have encountered serious problems in health advocacy.

Vaccination is a continuing program in the Philippines, which means that further and continuous research on communicating about vaccination is recommended. For example, analyzing the entire health promotion package should be done, since PSAs are just one type of IEC material that health

departments worldwide use in promotion and advocacy. A comparative analysis of these various IEC materials across various audience profiles may be looked into to allow health promotion experts design the appropriate mix of IEC materials. It is also recommended that the MIP model be used to analyze other forms of government-produced PSAs on health.

References

Andsager, J.L., Austin, E.W. & Pinkleton, B.E. (2002). Gender as a variable in interpretation of alcohol-related messages. *Communication Research*, *29*(3), 246-269.

Asian Development Bank. (1999). *Health sector reform in Asia and the Pacific: Options for developing countries.* Manila: Asian Development Bank.

Austin, E.W. (2001). *A simple model of the message interpretation process.* Retrieved (February 17, 2004) from http://www.nationaltelemediacouncil.org/ericaaustin.pdf

Austin, E.W., Roberts, R.F., & Nass, C.I. (1990). Influences of family communication on children's television-interpretation processes. *Communication Research*, *17*(4), 545-567.

Austin, E.W., Pinkleton, B.E., & Fuijioka, Y. (2001). The relationship of perceived beer ad and PSA quality to high school students' alcohol-related beliefs and behaviors. *Journal of Broadcasting & Electronic Media*, *45*(4), 575-597.

Barg, H.K. (1993). *The effectiveness of using fear appeals depicting legal and physical consequences in anti-drunk driving public service announcements.* Unpublished doctoral dissertation, Michigan State University.

Berja, C.L. (1999). *Case study, Philippines: Communication and advocacy strategies for adolescent reproductive and sexual health*. Bangkok: UNESCO ProAP.

Bernhardt, J.M. (2000), *Effects and perceptions of a narrative anti-violence public service announcement*. Unpublished doctoral dissertation, University of North Carolina, Chapel Hill.

Bulan, M.R.T. (1998). *A survey research on the relationship between exposure to PSAs and the knowledge, attitude and behavior of young adults*. Unpublished undergraduate thesis. College of Mass Communication, University of the Philippines Diliman.

Candor, J.L. (1998). *Effects of television body advertisements on women's perceptions of body types.* Unpublished master's thesis. Ateneo de Manila University.

Colon, S.E. (1998). *Targeting health promotion: The influence of sensation-seeking, PSA recall and classroom involvement on the effectiveness of a school-based HIV prevention program.* Unpublished doctoral dissertation. University of Kentucky.

Costales, T.P. (1997). *Effectiveness of advertising appeals used by liquor ads to persuade teenage consumers: A survey*. Unpublished undergraduate thesis. College of Mass Communication, University of the Philippines Diliman.

Dabao, K.V.V. (1999). *A study on the production technique employed in selected fitness infomercials and people's attitude toward these advertisements*. Unpublished undergraduate thesis. College of Mass Communication, University of the Philippines Diliman.

Denis, R. (1992). *An exploratory study of the characteristics and effects of relevance in persuasive messages for deterrence of female adolescent smoking*. Unpublished master's thesis. San Jose State University.

Dimaapi, M.M. (1996). *A case study on the strategies used by the DOH in AIDS information, education and communication*. Unpublished undergraduate thesis. College of Mass Communciation, University of the Philippines Diliman.

Duck, J.M. & Morton, T.A. (2001). Communication and health beliefs: Mass and interpersonal influences on perceptions of risk to self and others. *Communication Research, 28*(5), 602-626.

Egger, G., Donovan, R., & Spark, R. (1993). *Health and the media: Principles and practices for health promotion*. Australia: McGraw-Hill Book Company.

Global Health Council. (2003). *Global health advocacy manual*. Washington, DC: Global Health Council.

Graeff, J.A., Elder, J.P. & Booth, E.M. (1993). *Communication for health and behavior change: A developing country perspective*. San Francisco, CA: Jossey-Bass, Inc.

Kane, M. & Lasher, H. (2002). *The case for childhood immunization*. Occasional paper No. 5. Children's Vaccine Program, Program for Appropriate Technology in Health. Seattle, WA. Retrieved March 4, 2004 from http://childrensvaccine.org/files/ CVP_Occ_Paper5.pdf

Lim, B.E.E. (1991). *A descriptive study on the level of awareness, knowledge and attitude of Quezon City respondents on AIDS*. Unpublished undergraduate thesis. College of Mass Communication, University of the Philippines Diliman.

Lucas, A.O. (1997). Perception of needs and problems in developing countries. *Biotechnology and world health: Risks and benefits of vaccines and other medical products produced by genetic engineering*. Geneva: World Health Organization.

Northouse, L.L. & Northouse, P.G. (1998). *Health communication: Strategies for health professionals*. 3rd ed. Stanford, CT: Appleton and Lange.

O'Keefe, G.J. & Reid, K. (1990). The uses and effects of public service advertising. In L.A. Grunig & J.E. Grunig (Eds.). *Public Relations Research Annual*. Hillsdale, NJ: Lawrence Erlbaum.

Pellegrino, R.J. (1997). *The relationship between specified dispositional and cognitive variables and AIDS-related health behavior*. Unpublished doctoral dissertation. Louisiana Technological University.

Riddiough, M.A., Willems, J.S., Sanders, C.R., & Kemp, K. (1981). Factors affecting the use of vaccines: Considerations for immunization program planners. *Public Health Reports, 96*(6): 528-535.

Schrader, J.T. (1995). *An investigation of the relationship between need for affect and responses to alcohol public service announcements*. Unpublished doctoral dissertation. Florida State University.

Simbulan, N.P. *The effects of a health education package on the health-seeking behavior of TB-symptomatic urban poor residents*. Unpublished doctoral dissertation. College of Public Health, University of the Philippines Manila.

Slater, M.D., Rouner, D., Domenech-Rodriguez, M., Beauvais, F., Murphy, K., & Van Leuven, J.K. (1997). Adolescent responses to TV beer ads and sports content/context: Gender and ethnic differences. *Journalism and Mass Communication Quarterly*, *74*(1), 108-122.

Vaccine Handbook. (1996). Researchers' Associates (Eds.). National Institute of Health. Tokyo: Maurizen Co., Ltd.

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