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The Structure of Attitudes toward International Aid: Exploring an Effective Communication Campaign Strategy for International Aid

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Abstract

This study explored an effective communication strategy for aid promotion by considering the structure of donors' attitudes toward international aid. Prior studies on aid campaigns have usually concerned the spontaneous effects of messages with ignoring inter-attitudinal structure of donors. Galileo spatial-linkage model, which has the same theoretical perspective as connectionist approaches, represents the attitudinal structure within a spatial coordinate system. A public opinion survey about 218 American college students was conducted. The results indicated that the potential donors' attitudes toward international aid were not only relatively reluctant, but also weakly associated with each other. This means that potential donors are unconcerned about international aid; however, the attitude structure can be changed by the attitude formation processing. For the reason, an effective message strategy on the basis of message optimizing procedure was suggested as follows: relatively close issues to donors, such as *education*, *health*, and *human rights*, would assist attitude change to participate in international aid projects.

Donor Attitude toward International Aid:

An Effective Message Strategy for Attitude Formation and Change

Introduction

Public communication campaigns aim to persuade or motivate desirable behavior changes in a large number of people and within a specified time period by using organized communication activities (Rogers & Storey, 1987). In order to achieve this goal, campaign messages are designed to effectively persuade the target audiences by acknowledging more information on the topic.

International aid campaigns can be defined to persuade donors to help poor people throughout the world. These campaigns focus on various issues, such as reducing extreme poverty, promoting primary education, preventing the spread of HIV/AIDS, and developing global partnerships. A major issue might be considered to reduce extreme poverty in the world.

Traditionally, international aid campaigns emphasize that the poor people are helpless and hopeless. This campaign strategy may appeal people's emotions to help. It might be effective to promote aid in short-term and emergency situations. However, concerning longer term chronic poverty, the campaign strategy seems to be inappropriate. Godwin (1994) asserted that negative campaigns may be obstructing efforts to persuade people to participate in aid projects. The reason is that the negative images from long-term campaigns make potential donors have a negative bias to blame the poor rather than gain sympathy for them. Biased donors believe that poverty is caused by the poor themselves due to personal traits, such as laziness. Thus, they feel uncomfortable in helping the poor.

Although many researchers have been trying to find a more effective campaign strategy, there are several theoretical issues. Some have supported the emotional appeals. Others have

concerned the negative effects of donor bias. Generally, the arguments seem to come from different theoretical perspectives on attitude formation and change. After critically reviewing the prior research, this study will develop an effective communication strategy for aid promotion by carefully considering donors' attitude structure on the basis of information learning processing.

Prior Research

Emotional appeals

Generally, aid campaigns might have two substantial aims; public awareness and fund-raising (Doddington, Jones, & Miller, 1994). First, they should positively change public attitudes. That is, they persuade people to regard recipients as neighbors instead of aliens. Second, they also have to promote practical donations, such as money and time, to take care of recipients. The former can be idealistic, and the latter can be realistic. For this reason, the aims seem to be mutually exclusive rather than complimentary.

Eayrs and Ellis (1990) examined the kind of dilemma in charity campaigns for the disabled. They found that the desire to donate to the disabled are negatively related to positive portrayals describing handicapped people as having the same rights, value, and capability as non-handicapped people. Conversely, negative portrayals which illustrate the disabled as being helpless and hopeless are associated with strong intention to donate because they are more likely to elicit feelings of guilt and sympathy.

The effect of negative campaigns with guilt appeals can be explained by negative state relief model (Cialdini, Darby, & Vincent, 1973). According to this model, people who experienced feelings of guilt have an unpleasant emotional state, so that they seek relief from the bad feelings. In this situation, people will be motivated to participate in charity campaigns because the pro-social behavior reduces feelings of guilt and supports a balanced emotional state.

For this reason, aid agencies may be more likely to use a negative campaign strategy to promote monetary donations at the expense of public attitude change.

However, it is not certain that negative campaigns eliciting the feelings of guilt and sympathy are necessary to raise funds. Doddington and colleagues (1994) suggested that positive portrayals possibly encourage donating behaviors because their effects are not significantly different from the effects of negative portrayals. Barnett and Hammond (1999) also noted the ambiguous relationship between negative campaigns and donating behaviors. Moreover, Mitchell, Brown, Morris-Villagran, and Villagran (2001) argued that emotional appeals on persuasive message processing are not crucial. The effect of the negative state relief model cannot be supported in the cognitive processing of persuasive messages.

Likewise, the effects of negative campaigns with emotional appeals seem to be ambiguous. Although recent studies have supported the effect of emotional appeals (Hibbert, Smith, Davies, & Ireland, 2007; Massi, 2005), the ambiguity is not easily discounted. Generally, campaign research utilizes different theoretical models, experimental treatments, concepts and variables. For the reason, it is difficult to judge how emotional appeals precisely affect donating behaviors.

Although emotional appeals have powerful effects on fund-raising, the perspective has another limitation. It mainly examines the instantaneous effect of campaign messages, so that it tends to ignore negative side effects in the longer term. The use of negative campaigns which described the recipients as helpless and hopeless can reinforce prejudice and negative stereotypes for the recipients and their group (Barnett & Hammond, 1999; Bozinoff & Ghingold, 1983; Doddington et al., 1994). Thus, the negative effects can harmfully affect future donations, even though emotional appeals seem to increase monetary donations on the spot.

In this study, international aid campaigns are generally related to long term issues, such as reducing poverty. The long term issues require consistent supports rather than a single shot. This study attempts to find a more effective campaign strategy to encourage steady supports for international aid. For the reason, a more intensive perspective considering donors' cognitive processes is necessary.

Donor bias

Attribution theory (Heider, 1958) is useful in explaining the causes of human behavior. It provides a guide to understand why people do what they do or how people determine the causes of others' behavior. There are two major causal attributions: dispositional and situational. Dispositional is focused on causes inside people, such as personality traits. Situational is assigned outside them, such as social system and situations. If people are asked about the cause of poverty, there may be various answers. Some people may blame the poor themselves, poverty is due to laziness or idleness. It might be counted as a dispositional attribution (DA). On the other hand, people may blame social disparity and inequality, poverty is beyond the poor's own control. It is an example of situational attribution (SA).

Attribution researchers noted that people make attribution errors. Ross (1977) suggested that people generally make fundamental attribution errors. That is, people tend to over-emphasize DA to explain others' behavior while under-emphasizing SA. Jones and Nisbett (1972) proposed an actor-observer bias, which refers to the tendency to explain others' behavior using DA, but to make use of SA in their own situations.

People might make these kinds of attribution errors in explaining poverty. Feagin (1972) found that individualistic explanations for poverty are more likely to be favored over structural and fatalistic explanations. That is, people generally think that poverty is caused by lack of

personal ability and effort rather than social inequality and bad luck. This finding can be associated with the fundamental attribution errors.

Concerning the actor-observer bias, Campbell, Carr, and Maclachlan (2001) noted that people in a developed country, such as Australia, are more likely to attribute poverty to dispositional characteristics of the poor than people in a developing county, such as Malawi. Recently, Bolitho, Carr, and Fletcher (2007) supported this finding. They reported that Australians and Malawians significantly different on attributions for poverty. Australians blame poverty more on the poor themselves, while Malawians blame poverty more on situations.

These tendencies of attribution errors in explaining poverty provide a social psychological reason why expected donors are reluctant to participate in aid campaigns. If donors think that poverty is caused by the poor's own responsibility, they might blame the poor's characteristic of charity dependency. Consequently, they regard welfare programs for the poor as meaningless efforts. Zucker and Weiner (1993) revealed the negative relationship between dispositional attributions and behavioral intentions to aid the poor.

However, attribution theory has been criticized as having several theoretical limitations. Harper (1996) indicated four critiques: individualism, stability, independent causes, neglecting the effects of explanations. First, attribution theory assumes that individuals' explanations are unitary and internally consistent; however, there are possibly different varieties of individualism. Also, it might mean that organizational explanations are ignored. Second, it assumes that fundamental cognitive structures remain stable over time and across situations. Dynamic attitude changes cannot be explained. Third, it traditionally examined independent causes or factors. This oversimplifies possibly interconnected causes. Lastly, most of the studies simply try to categorize individual explanations. There is little attempt to further explain functions of causes.

The Structure of Inter-Attitude

Defining attitude

Attitude is the most fundamental psychological construct because of a crucial guide to explain human behaviors and social phenomena (Eagly & Chaiken, 1993). Traditionally, attitudes are based on three types of information sources: cognition, affect, and behave (Katz & Stotland, 1959; Rosenberg & Hovland, 1960). Cognitions are beliefs about an attitude object which is associated with a given attribute. Attribution theory might be a representative perspective which examines an attitude on the basis of cognitions. Affects are emotional reactions to an attitude object. The studies of emotional appeals might have a basic assumption that attitude can be formed from the feelings of an attitude object. Behaviors are obvious actions of people. Bem (1972) asserted that an attitude toward an attitude object can be inferred on the basis of past behaviors. Likewise, an attitude can be formed through various evaluation processes toward an attitude object.

Zanna and Rempel (1988) noted that attitudes can manifest themselves, regardless of agreement among the information sources, from one or any combination of them. That is, attitudes manifest themselves through cognitive, affective, and behavioral evaluation processes, but there is no assumption about which source is dominant. Thus, this study takes a broader view of attitude rather than a specific perspective which relies on only one source, such as attribution theory or the research of emotional appeals.

In this study, attitudes are defined as associations, represented in memory, between attitude objects and their evaluations (Fazio, 1990, 1995). In this definition, evaluations can be represented as summary evaluations considering various associations, such as cognitive, affective, and behavioral, through individual experience. An attitude can be showed as a simple

two-node network with one node representing an attitude object, another representing the evaluation, and the link the strength between two nodes (Fabrigar, MacDonald, & Wegener, 2005; Fazio, 1995). These attitudes also make up larger structures that link attitudes (Eagly & Chaiken, 1993).

Dynamic processing of inter-attitude structure

An attitude toward an object is often associated with another attitude toward a different object. If people have chicken allergy, they might have a negative evaluation of Buffalo wings (e.g., “I do not like Buffalo wings.”). If they also regard duck as a kind of chicken, their attitude for duck cuisine might be negative (e.g., “I do not like duck cuisine either.”). Likewise, an attitude can affect other attitudes. Moreover, attitudes might be interrelated to each other rather than isolated in individual’s mind.

Traditional attitude studies have focused on inter-attitudinal structures (Abelson & Rosenberg, 1958; Festinger, 1957; Heider, 1958). Specifically, balance theory (Heider, 1958) would be the most representative in this domain. They generally regard the property of inter-attitudinal structure as cognitive-consistent processes that tend to maintain psychological balance (Eagly & Chaiken, 1993). Also, they usually examined simple structures which are relatively static. For this reason, although traditional theories have tried to examine dynamic processes of the inter-attitudinal structure, they have had difficulty capturing actual attitude change which is continuously ongoing processes.

Judd, Drake, Downing and Kronsnick (1991) emphasized the dynamic properties of attitude structure which is a memory structure with active implications for information processing:

> Our fundamental argument is that such a structure of attitudes in long-term memory ought to have dynamic properties concerning information processing and retrieval, properties that characterize the structure of other non-evaluative pieces of information and judgments that are stored in long-term memory. The dynamic property documented in these studies is spreading activation. The notion of spreading activation posits that activation of one bit of information in memory increases the probability of activation of another piece of information in memory to the extent that the two pieces of information are linked in a memory structure. Accordingly, when a given attitude is retrieved from memory, linked attitudes should become activated. (p. 200).

Similarly, Tourangeau, Rasinski, and D'Andrade (1991) supported this idea of spreading activation by examining the structure of attitude about abortion and welfare. Recently, in order to examine attitude formation that depends on information learning processes, Eiser, Fazio, Stafford, and Prescott (2003) suggested connectionist approaches based on biological properties of the brain.

Attitude formation and change: Connectionist perspective

According to Van Overwalle and Siebler (2005), connectionist approaches have several superior characteristics to traditional attitude research. First, the fundamental idea of neural networks in the brains provides an intensive consideration of adaptive learning processes. The learning process can be analogous to the notion of spreading activation that novel information can be adapted to existing network structure (Eiser et al., 2003). After the adaptive information process, it also allows structural changes of the network by adjusting the strength of the connections between attitudes. Through this mechanism, attitudes represented as the associations between attitude objects and evaluations can be reconstructed.

Second, connectionists regard the inter-attitude structure as an organic structure with highly interconnected networks rather than a hierarchical structure that has been generally accepted in attitude research. Dinauer and Fink (2005) indicated that hierarchical models have some ambiguity from their assumptions of isomorphism between attitude objects and evaluations hierarchies as well as explicit top-down influences between attitudes. Also, hierarchical models ignore the dynamic processing of attitude information and integrate different evaluations of an attitude object into an overall attitude (Van Overwalle & Siebler, 2005). On the contrary, connectionists consider all kinds of evaluative reactions on the basis of the underlying mental mechanism. For the reason, connectionist approaches might help to examine implicit attitude formation and change without explicit conscious reasoning.

Finally, connectionists attempt to examine psychological processes of real human beings rather than computerized ones. Traditional studies often described human rational processes as simple input-output relationships, in which a memory is considered a hard drive in a computer system and processing is a unidirectional relationship. Likewise, traditional computational or algebraic models have represented a low level of information processing. Conversely, without separation between memory and processing, "connectionist models naturally integrate long-term memory (i.e., connection weights) and short-term memory (i.e., internal activation) with outside information (i.e., external activation)" (Van Overwalle & Siebler, 2005, p. 233). These characteristics of the connectionist perspective will help to better understand how attitudes form and change in the human mental mechanism.

Galileo spatial-linkage model

The Galileo spatial-linkage model (Woelfel & Fink, 1980) has the same theoretical perspective as the connectionist approaches (Dinauer & Fink, 2005). It regards inter-attitude

structures as neural systems of human brains, and represents the structure within a spatial coordinate system. In the model, an attitude toward a concept (an attitude object) can be elicited from the set of interrelationships defining the concept's proximity to all other concepts, and the attributions of the concept can be identified by its comparisons to others (Barnett, Serota, & Taylor, 1976; Barnett & Woelfel, 1988; Woelfel & Fink, 1980).

The Galileo space, which is the spatial coordinate system for the model, is constructed by multidimensional scaling using paired-comparison magnitude-scale judgments (Barnett & Woelfel, 1988; Dinauer & Fink, 2005; Woelfel & Fink, 1980). In the space, the psychological distances between every possible pair of concepts are measured on the basis of their dissimilarity (Barnett & Woelfel, 1988; Woelfel & Fink, 1980). From the measurements, a square matrix of interposing distances is produced. Within the space, concepts which are similar or closely related are near each other, while concepts which are different or relatively unrelated are far apart. In addition, one of concepts in the Galileo space is the self. It is a conscious representation of a person. Also, it can be identified by the associations with other concepts in the space. That is, people's selves are close to consistent concepts that define them, and far from inconsistent concepts that do not describe them (Barnett & McPhail, 1980; Woelfel & Fink, 1980).

In the Galileo model, an attitude toward a concept can be defined as the distance between the self and the concept (Woelfel & Fink, 1980). If a behavioral concept like donation is relatively close to people's selves, the behavior would be more frequently performed than other concepts that are far from them. Conversely, if the distance between people's selves and donation is relatively farther apart, people would be more reluctant to do the behavior than those that are close to them.

This study examines inter-attitude structure toward international aid through the Galileo model. Although the main issue of international aid is about poverty in the world, its concept seems to be ambiguous because it is composed various specific issues, such as health, education, human rights and poverty. For the reason, this study specifically explores the salient issues of international aid as well as potential donors' attitude toward international aid.

Generally, the studies of international aid campaigns have two questions. First, why are potential donors usually reluctant to participate in international aid projects? The possible answers can be inferred from the donors' reluctant attitudes described by the Galileo model. At this point, this study suggests the following hypotheses:

H1: The concept of international aid would be relatively far from donors' selves in the Galileo space.

H2: The concept of international aid would be not relatively close to other concepts which are relatively close to donors' selves in the Galileo space.

Second, what is the most effective communication strategy to encourage donors to participate in aid projects? For this question, Galileo model provides an effective message strategy for attitude change on the basis of information learning processing. It will be discussed after examining the structure of attitudes toward international aid (Serota, Cody, Barnett, & Taylor, 1977) .

Method

Participants

This study explores potential donors' attitudes toward international aid. Specifically, this study focused on American college students. Initially, participants for the study were 281 undergraduate students enrolled in an introductory communication course at the State University of New York at Buffalo in the 2007 spring semester. 34 international students and 29 insincere

respondents were eliminated from the initial data. The final data were based on 218 participants including 115 females and 105 males. The participants' mean age was 20.06 (*SD* = 1.94).

Fractionation scaling

The Galileo model's fractionation scaling is a more precise measurement system. It is consistent with the properties of real number system, which is the basis for most mathematical operations, in the measurement process. The real number system has five properties: 1) the numbers are ordered, 2) the difference between the numbers are equal, 3) the system has a rational origin (a absolute zero point), 4) the system is unbounded, 5) the system is infinitely dense (Barnett, Hamlin, & Danowski, 1981). Most statistical techniques basically require these properties. Unless there is an absolute zero point, the ratio is meaningless. Likewise, the mathematical operations can be more fully applied to the collected data with the properties of real number system.

Barnett, Hamlin, and Danowski (1981) indicated the problem of Likert-type scales, which are usually used to measure attitudes, in the measurement process. Likert-type items have only two properties of real number system: order and equal interval. They do not have an absolute zero point, they are severely bounded, and they limit density. These qualities severely restrict the precision of measure. The scales basically have 14-20% measurement error because they discriminate only five or seven different values. Also, they tend to produce ceiling effects because they limit the possible variation in measurement process. Thus, Likert-type scales can cause serious problems in reliability and validity of measure. On the contrary, in the Galileo model, the direct magnitude estimates on the basis of the real number system have great advantages in reliability and validity (Barnett et al., 1981). The estimates allow maximizing the potential variation because they are unbounded, that is, there are no ceiling effects. They do not

build measurement error like Likert-type scales. Also, they are capable of greater control over the measured data, to which the mathematical operations can be fully applied.

The fractionation scaling has been tested for reliability and theoretical validity. Gillham and Woelfel (1977) noted that the Galileo procedures produce a stable and precise measurement system with reporting the high level of reliability coefficients (above .90) in repeated tests with 29 cases. Barnett (1972) indicated that the high reliability coefficients would be facilitated by the homogeneity of the population and the selected concepts. He also suggested that acceptable levels of reliability in a nationwide study would be obtained with more than 100 respondents, whereas small sample size from well-defined population could achieve a high level of reliability. Barnett, Serota, and Taylor (1976) provided clear evidence for the validity of the fractionation scaling by longitudinally examining political attitude changes. Recently, various studies have demonstrated the reliability and validity of the Galileo measurement (Colfer, Woelfel, Wadley, & Harwell, 2001; Dinauer & Fink, 2005; Vishwanath & Chen, 2006; Woelfel & Murero, 2004).

Selecting concepts

Concepts used in this study were selected through preliminary examinations. First, several non-governmental organizations (NGOs) associated with the United Nations' Millennium Campaign were examined by using computer-based content analysis. The analysis was conducted using CATPAC (Woelfel, 1993, 1998), which is part of Galileo modeling program. CATPAC is used to identify the most frequently occurring words in a text and explore the pattern of similarity based on their co-occurrence (e.g., Choi, Lehto, & Morrison, 2007; Doerfel & Barnett, 1999; Doerfel & Marsh, 2003; Kim, Su, & Hong, 2007; Rosen, Woelfel, Krikorian, & Barnett, 2003). In this study, the program was used to determine the major issues in

the international aid domain as described by the mission statements of the 59 developmental NGOs[1].

Based on the results of the CATPAC analysis, Table 1 shows the 25 most frequently used words in the mission statements of the developmental NGOs. The most frequent word was *world*, which occurred 121 times by 40 (67.8%) organizations of the sample NGOs. The second most frequently mentioned word was *people*, which appeared 116 times by 40 (67.8%) organizations. Other frequently occurring words were *children*, 89 times (19, 32.2%); *poverty*, 82 times (31, 52.5%); *community*, 72 times (34, 57.6%); *organization*, 61 times (40, 67.8%); *help*, 59 times (27, 45.8%); *hunger*, 56 times (13, 22.0%); *global*, 51 times (25, 42.4%); *development*, 48 times (25, 42.4%). These words represent the issues that the developmental NGOs emphasize in international aid campaigns.

With the 25 most frequent words, a cluster analysis, which is part of CATPAC analysis, was conducted in order to further examine the underlying issues. The Ward's method was employed. It provides a grouping of words that have the greatest similarity in the co-occurrence matrix, where each cell shows the likelihood that the occurrence of a word will indicate the occurrence of another. The cluster analysis resulted in one major grouping of words and three minor groupings[2]. The major cluster includes the words: help, poverty, together, global, health, Africa, AIDS, people, world, and organization. The average number of mission statements, which have the grouping of words, was 25.8 (43.7%). From the association of the words, it could be inferred that the developmental NGOs mainly focus on poverty and health related issues.

Second, a simple opinion survey with 54 students enrolled in sophomore and junior level communication courses was conducted. An open-ended question was about what major issues or problems are in the world. It allowed multiple responses. The most salient world issue was war

and conflict, indicated by 92.6% of respondents. The second major issue was poverty (75.9%). Other issues were environment (25.9%), health (22.2%), human rights (16.7%), power inequality (16.7%), social safety (11.1%), education (9.3%), and government (9.3%).

Lastly, the eight Millennium Development Goals (UN, 2005), which provide the fundamental aims of international aid, were considered. The goals are to eradicate extreme poverty and hunger, to achieve universal primary education, to promote gender equality and empower women, to reduce child mortality, to improve maternal health, to combat HIV/AIDS, malaria and other diseases, to ensure environmental sustainability, and to develop a global partnership for development (UN, 2005).

On the basis of the preliminary considerations, 12 final concepts were selected: Poverty, Education, Health, Human Rights, Human Resources, Natural Resources, Social Safety, Governmental Leadership, Global Cooperation, Global Conflict, International Aid, and Self.

Survey instrument

From the 12 concepts, a complete list of 66 pair comparisons[3] was included in a survey questionnaire for this study. Respondents were asked to make direct magnitude judgments of the differences between paired concepts using the following form:

If COOPERATION and CONFLICT are 100 units apart,

how different or how far apart each word or phrase is from other in the pair?

POVERTY and EDUCATION are _____ units apart.

This criterion pair was given before the questions. The criterion pair helped respondents to judge the differences between concepts scaled as a standard distance. Respondents were instructed to report a real number less than 100, if they recognized the differences between any paired concepts to be less different than the standard distance. Conversely, if they perceived the

concepts to be more different, a larger number above 100 was reported without upper limit. If the paired concepts were perceived to be the same, zero point was entered. Additionally, if respondents did not know the differences, blank answers were allowed.

The survey questionnaire also contained two additional questions measuring explicit intentions to participate in international aid behaviors, such as money donation and volunteer. The former is “if your available money is 100%, how much percentage do you intend to donate for the poor people in the world?” The latter is “if your spare time is 100%, how much percentage do you intend to make time to volunteer for the poor people in the world?” Lastly, demographic questions, such as sex, age, and citizenship, were included.

Galileo analysis procedures

The Galileo analysis produced two kinds of tables: a mean distance matrix and a spatial coordinate matrix. The mean distance matrix presented the dissimilarities of all possible concept pairs. The mean distance of each concept pair was determined by aggregation techniques on the basis of fundamental measurement assumptions, the Central Limits Theorem and Law of Large Numbers, that the arithmetic average of observations will converge on the true population mean as the sample grows large (Barnett et al., 1976; Serota et al., 1977).

The mean distance matrix was transformed to a scalar product matrix between concept positions referred to an origin at the centroid of all concept locations (Torgerson, 1958). This matrix was subsequently factored to achieve a coordinate matrix whose columns are orthogonal axes of the space, and whose rows are the projections of the concept position on the orthogonal axes (Torgerson, 1958). Since the coordinate matrix is based on unstandardized distance vectors between all possible concept pairs, all variance in the sample population is completely explained by the multidimensional space (Barnett et al., 1976; Serota et al., 1977). Additionally, the

coordinate matrix was visualized in three-dimensional space. Although the configurations in the three-dimensional space could not completely represent all associations between concepts, the three dimensions would simultaneously facilitate the understanding of the dissimilarities (Woelfel & Fink, 1980).

Lastly, a message optimizing procedure, which is part of the Galileo analysis, was conducted in order to examine effective message strategies for attitude change. In this study, the effective strategies would move the concept of international aid toward donors' selves in the Galileo space. The procedure produced a large number of two pair, three pair, and four pair message solutions. The message effects of the possible solutions were inspected by considering the angles between a expectedly moved location of international aid and the target vector in the space (Serota et al., 1977; Woelfel & Fink, 1980). Consequently, the best message strategy, which has a minimal angle between the concept vectors, was suggested (Serota et al., 1977).

Results

After removing outliers[4] from the data set, the number of concept pairs judged from 218 respondents was 14,176. The average of total judgments was 52.07 units (*SD* = 49.16). The range was from 0 to 330 units.

Table 2 presented the mean distances between concepts. The range of sample size in each concept pair was from 210 to 218. Overall, the closest concept pair were s*elf* and *education*, 23.2 units apart (*SD* = 35.95). In terms of *self*, *health* (*M* = 30.92; *SD* = 44.27) and *human rights* (*M* = 31.92; *SD* = 36.61) were closer than other concepts. Conversely, the farthest concept pair were *self* and *poverty*, 98.21 units apart (*SD* = 63.29). *International aid* (*M* = 72.67; *SD* = 54.48) and *global conflicts* (*M* = 69.55; *SD* = 55.98) were farther from *self* concept than others.

To statistically determine the differences of the mean distances between concept pairs, *F* tests were performed[5]. First of all, in terms of *self*, the mean distances of eleven concept pairs were tested. The results revealed that the distances between *self* and other concepts were significantly different[6], $F(10, 2349) = 45.012$; $p < .01$. The follow-up Tukey's HSD tests indicated that *international aid* was significantly farther from *self* than a grouping of concepts, such as *education*, *health*, and *human rights*. This supported the first hypothesis that *international aid* is relatively far from donors' selves.

In terms of *international aid*, the mean distances of ten concept pairs except *self*, were examined. The results of *F* test reported that the differences of the mean distances between *international aid* and the concepts were insignificant, $F(9, 2136) = 1.94$; $p > .01$. The range of the mean distances was from 44.28 to 58.0 units. However, the mean distance of the closest concept pair, *self* and *education*, was significantly different from a grouping of the mean distances between *international aid* and other ten concepts, $F(10, 2352) = 8.53$; $p < .01$. This supported the second hypothesis that *international aid* is not close to the concepts that are relatively close to donors' selves.

Table 3 presented the spatial coordinate matrix for this study. Nine of the dimensions, which have positive eigenvalues, were represented on the real space; however, three dimensions, which have negative eigenvalues, were embodied on imaginary space, that is, non-Euclidean space. Real variance can be explained only by the real spatial configurations. Based on the matrix, one-dimensional space accounted for 36.02% of the real variance, and two-dimensional space accumulatively explained 52.05%. Three-dimensional space provided 14.92% more information than two-dimensional space. Figure 1 represented the visualized configurations in the three dimensional space. 66.97% of the real variance was described in the space.

The results of the message optimizing procedure recommended that the best message strategy using the concepts relatively close to donors' selves, such as *education*, *health*, and *human rights*, would facilitate the movement of *international aid* toward *self* concept. If full effects of the message strategy were obtained, the concept of *international aid* would move to a point 14.41 units away from the donors' selves. The percentage of improvement from original position of *international aid* would be 80.18%.

In addition, to examine the relationship between donors' attitude toward international aid, measured by Galileo analysis, and explicit intentions associated with international aid behaviors, correlation analysis was performed. The average percentage of money donation was 14.77% (*SD* = 13.64), and expected time to volunteer was 16.8% (*SD* = 15.78). The two intentions were closely related to each other ($r = .73$, $p < .01$). However, the correlation between the donors' attitude and the intention of money donation was not significant ($r = -.02$, $p > .05$), and neither was the intention of volunteer significantly related to donors' attitude ($r = -.08$, $p > .05$).

Discussion

This study examined the structure of potential donors' attitudes toward international aid by using the Galileo model. The results indicated that the concept of *international aid* was located at a relatively farther position in the Galileo space. That is, the attitude toward international aid was relatively reluctant. This provided the reason why donors are usually unwilling to participate in international aid projects. Also, concerning associations between *international aid* and other concepts, *international aid* had no any close relationship with both relatively consistent issues (*education*, *health*, and *human rights*) and relatively inconsistent issues (*poverty* and *global conflicts*). It might mean that potential donors are unconcerned about

international aid, and that the attitude has the possibility to be changed into a well-disposed attitude. For this reason, an effective communication campaign strategy would be required.

The message optimizing procedure of the Galileo analysis for this study suggested that the relatively close issues, such as *education*, *health*, and *human rights*, would assist attitude change for international aid promotion. Serota, Cody, Barnett, and Taylor (1977) mathematically explained the message optimizing procedure. Figure 2 briefly illustrated the principle of the procedure for this study. That is, the resultant vector of international aid through the associations with the relatively close concepts forms a smallest angle with the target vector (*self*). Also, the position of *international aid* moves along the expected vector and becomes the closest to donors' selves. The amount of attitude change is determined by the length of the resultant vector.

The message optimizing procedure for attitude change is based on the information learning processing. Adaptive information learning could induce structural changes of attitudes. At this point, although persuasive messages did not directly affect attitude change toward a focal concept (*international aid*) itself, they could indirectly facilitate the attitude change by provoking associated concept attitudes (*education, health,* and *human rights*) with the focal concept.

Based on the principle of attitude change through the information learning processing, the theoretical limitation of current aid campaigns could be revealed. The preliminary examination of 59 developmental NGOs surmised that international aid campaigns mainly focused on *poverty* and *health*. The concept of *poverty* was the farthest from donors' selves in the Galileo space. On the contrary, the concept of *health* was relatively close position. These contrary concepts might affect the location of international aid in the respondents' conceptual space. Through the message optimizing procedure, although full effects of the message strategy using the two concepts were obtained, *international aid* would move to a point 65.29 units away from the

donors' selves. The percentage of improvement would be 10.15%. The expected message effect would be very weak. Also, the predicted position would be almost same with the origin (72.67 units). Likewise, the strategic problem of the existing aid campaigns could be raised through the Galileo analysis.

Additionally, the relationships between the attitude toward international aid and explicit intentions were not significant. Fazio and Olson (2003) emphasized the necessity of implicit attitude measure to solve the social-desirability biases of explicit measures on racial prejudice. The discordance might note that the explicit measures on international aid behaviors have a social-desirability bias, and that the Galileo model would be more adequate to measure implicit attitude.

Further, international relations could validate the Galileo measurement. In September 2000, the United Nations adopted the Millennium Declaration, and in the Monterrey Consensus, developed countries pledged to give 0.7% of their GNP to international aid (UN, 2002). However, the developed countries seem to avoid their commitments. Recently, the richest countries provided an average of only 0.25% of their GNP in official development assistance (ODA) and the United States provided a mere 0.15% (Sachs, 2005). The agreements of the developed countries could be regarded as explicit intention, and their actual behavior could be considered the reflection of implicit attitude. Although it is macro phenomena, this study could reveal the validity of the Galileo measurement because international policy of a nation state is commonly based on public opinion.

This study was an exploratory research on attitudes toward international aid. For this reason, this study did not sufficiently describe the actual processes of attitude formation and change. Future study should examine the effects of the recommended message strategy and the

structural change of attitudes over time in the Galileo space. This will provide a more detailed understanding of donors' attitudes toward international aid.

Also, this study mainly focused on the qualitative side of campaign messages. The structure of attitudes toward international aid was weakly associated with each other. According to Fazio (1990, 1995), such attitude is not automatically available in memory so that it should be constructed by more deliberate process. That is, the attitudinal structure would be dynamic as the attitude formation process. The process might depend on the amount of information as well as the quality of messages, on which this study mainly focused. Lim and Barnett (2007, May) indicated the importance of the amount of information to commit international aid by examining the impact of global news coverage on international aid. Thus, future study needs to consider how to effectively transfer campaign messages to potential donors.

In conclusion, this study shed light on the structure of potential donors' attitudes toward international aid. It also tried to overcome the theoretical limitations of traditional research on aid campaigns by using Galileo model, which is consistent with connectionist perspective. Moreover, by considering information learning process, an effective message strategy was suggested for aid promotion. That is, a compound campaign message focusing on *education*, *health*, and *human rights*, which are relatively close issues to donors, would support attitude change to participate in international aid projects.

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Footnotes

[1]The 59 developmental NGOs are The ONE Campaign, Bread for the World Institute, CARE USA, DATA (Debt, AIDS, Trade, and Africa), International Medical Corps, International Rescue Committee, Mercy Corps, Oxfam America, Plan USA, Save the Children, World Concern, World Vision, A Glimmer of Hope, Action Against Hunger, American Baptist Churches, American Jewish World Service, Americans for Informed Democracy, AERDO (Association of Evangelical Relief and Development organization), Blood: Water Mission, The Child Health Site, Christian Children's Fund, Christian Reformed World Relief Committee, Church World Service, Citizens for Global Solutions, Concern Worldwide USA, CrossRoads, Emergent Village, Engineers Without Borders USA, The Episcopal Church, Episcopal Relief and Development, FORGE, Global Health Council, Grameen Foundation USA, Habitat For Humanity, Heartland Alliance, Heifer, The Hunger Project, The Hunger Site, InterAction, Jubilee USA, Keep A Child Alive, Living Water International, Millennium Campaign, National Association of Social Workers, Nazarene Compassionate Ministries, Net Aid, Operation Blessing International, Opportunity International, Our Voice Together, RESULTS Educational Fund, Save Africa's Children, Sojourners, The United Nations Association USA, The United Methodist Church, US Fund for UNICEF, The United Nations Foundation, World Hope International, World Hunger Year, and World Relief.

[2]The first minor grouping of words contains community, development, and international. The second minor grouping includes poor, children, need, support, foundation, hope, and mission. Final minor grouping words are human, hunger, resources, local, and relief.

[3]The number of pair comparisons is based on the following formula: $n(n-1)/2$ (n = the number of concepts).

[4]The reported magnitude judgments in excess of 399 were removed as outlier entries from the data.

[5]The statistical tests are a temporary expedient to provide better understanding of the differences of the mean distances. The statistical results do not have any inferential implications except the dissimilarities between the distances.

[6] The results of Levene's test indicated that the assumption of the homogeneity of variance was violated in this data, $F(10, 2349) = 9.78$; $p < .01$. However, *F* test is generally considered a robust test. Also, in this study, the sample size of each concept pair was almost same. Thus, the results of *F* test for this study could be statistically meaningful.

Table 1

List of the most frequently mentioned words in the mission statements of 59 NGOs

Descending Frequency List				Alphabetically Sorted List			
Word	Frequency	Case	Case(%)	Word	Frequency	Case	Case(%)
WORLD	121	40	67.8	AFRICA	34	12	20.3
PEOPLE	116	40	67.8	AIDS	35	12	20.3
CHILDREN	89	19	32.2	CHILDREN	89	19	32.2
POVERTY	82	31	52.5	COMMUNITY	72	34	57.6
COMMUNITY	72	34	57.6	DEVELOPMENT	48	25	42.4
ORGANIZATION	61	40	67.8	FOUNDATION	36	8	13.6
HELP	59	27	45.8	GLOBAL	51	25	42.4
HUNGER	56	13	22.0	HEALTH	36	15	25.4
GLOBAL	51	25	42.4	HELP	59	27	45.8
DEVELOPMENT	48	25	42.4	HOPE	37	19	32.2
HOPE	37	19	32.2	HUMAN	26	16	27.1
FOUNDATION	36	8	13.6	HUNGER	56	13	22.0
HEALTH	36	15	25.4	INTERNATIONAL	34	25	42.4
AIDS	35	12	20.3	LOCAL	28	17	28.8
AFRICA	34	12	20.3	MISSION	28	20	33.9
INTERNATIONAL	34	25	42.4	NEED	26	20	33.9
SUPPORT	34	20	33.9	ORGANIZATION	61	40	67.8
POOR	33	17	28.8	PEOPLE	116	40	67.8
RELIEF	31	15	25.4	POOR	33	17	28.8
RESOURCES	30	18	30.5	POVERTY	82	31	52.5
LOCAL	28	17	28.8	RELIEF	31	15	25.4
MISSION	28	20	33.9	RESOURCES	30	18	30.5
TOGETHER	28	16	27.1	SUPPORT	34	20	33.9
HUMAN	26	16	27.1	TOGETHER	28	16	27.1
NEED	26	20	33.9	WORLD	121	40	67.8

Table 2

Mean distance matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. Poverty	-											
2. Education	65.95	-										
3. Health	64.42	46.36	-									
4. Human Rights	62.73	40.38	43.49	-								
5. Human Resources	62.52	43.00	43.07	46.83	-							
6. Natural Resources	58.33	53.99	47.38	52.59	48.97	-						
7. Social Safety	67.77	43.45	43.92	39.60	47.00	52.89	-					
8. Gov’tal Leadership	71.41	40.38	53.96	44.11	48.01	48.19	43.70	-				
9. Global Cooperation	78.59	45.26	55.42	43.20	53.22	48.35	46.50	42.15	-			
10. Global Conflict	60.41	62.27	61.72	50.42	58.21	43.27	53.24	41.96	71.98	-		
11. International Aid	53.52	54.61	48.68	47.36	48.51	51.98	48.02	44.28	44.73	58.01	-	
12. Self	98.21	23.20	30.92	31.92	42.86	63.77	43.50	62.17	58.47	69.55	72.67	-

Table 3

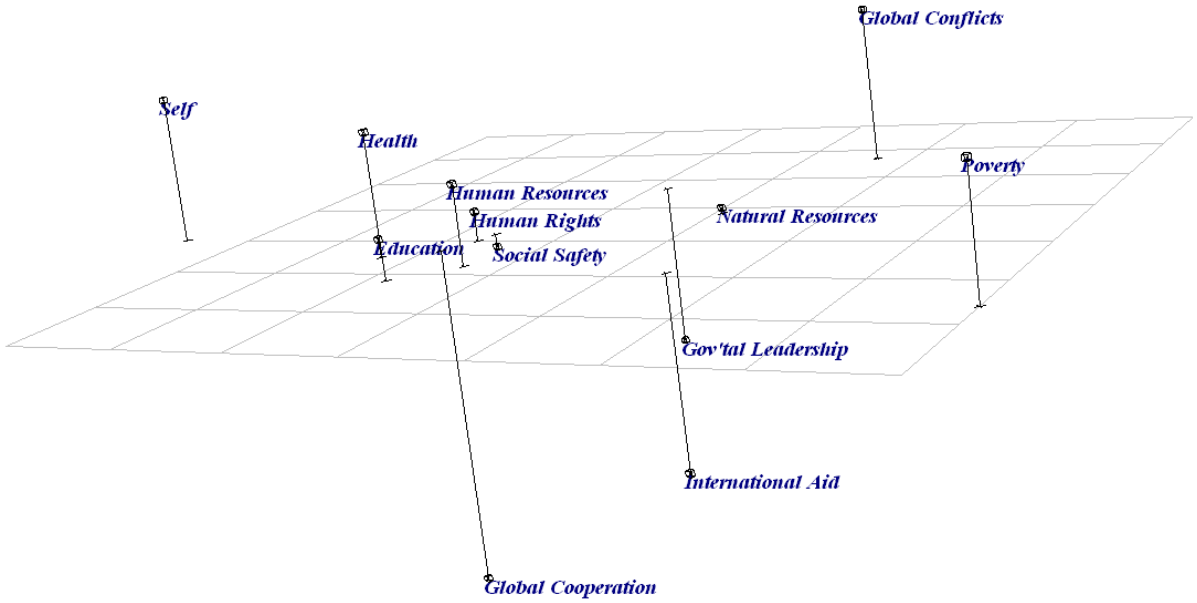
Spatial coordinate matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. Poverty	49.87	-12.03	-20.00	-6.95	5.96	-7.39	2.59	-0.51	-2.73	0.02	-0.77	-13.33
2. Education	-16.15	-1.85	-6.53	-9.89	20.95	-6.19	4.61	9.14	5.24	0.06	-0.58	12.94
3. Health	-10.13	-14.33	-14.77	11.62	-13.81	2.41	-1.10	13.58	-5.12	-0.04	-2.54	9.66
4. Human Rights	-8.72	-2.97	-0.09	-13.24	-6.55	-13.28	-15.01	-8.17	-2.56	-0.02	4.15	10.13
5. Human Resources	-4.57	-8.07	-9.66	6.47	11.73	21.04	-2.30	-13.55	-1.95	0.04	-0.32	6.48
6. Natural Resources	13.42	-0.61	10.16	28.45	2.97	-9.49	3.04	-1.57	2.63	0.01	5.63	1.58
7. Social Safety	-8.03	1.22	2.23	-10.67	-13.87	0.61	21.45	-6.74	-0.19	-0.04	1.81	3.84
8. Gov'tal Leadership	2.10	16.53	20.78	-6.90	7.24	9.16	-0.56	9.83	-7.10	0.02	4.14	-6.43
9. Global Cooperation	-10.64	34.46	-4.09	7.26	1.40	-8.94	-0.31	-5.24	-2.25	0.00	-6.93	-2.46
10. Global Conflicts	20.79	-15.85	33.30	-3.12	-3.43	1.50	-3.13	-0.84	2.83	-0.01	-6.45	2.95
11. International Aid	17.81	18.91	-11.32	-3.63	-11.94	11.69	-6.89	4.28	8.58	-0.04	1.79	-2.12
12. Self	-45.74	-15.42	-0.03	0.60	-0.66	-1.13	-2.40	-0.20	2.62	0.00	0.07	-23.24
Eigenvalues	6150.35	2736.77	2547.44	1545.75	1255.96	1112.14	792.46	709.60	222.35	-0.01	-169.60	-1200.75
Variance (%)	36.02	16.03	14.92	9.05	7.36	6.51	4.64	4.16	1.30	0.00	12.38	87.62

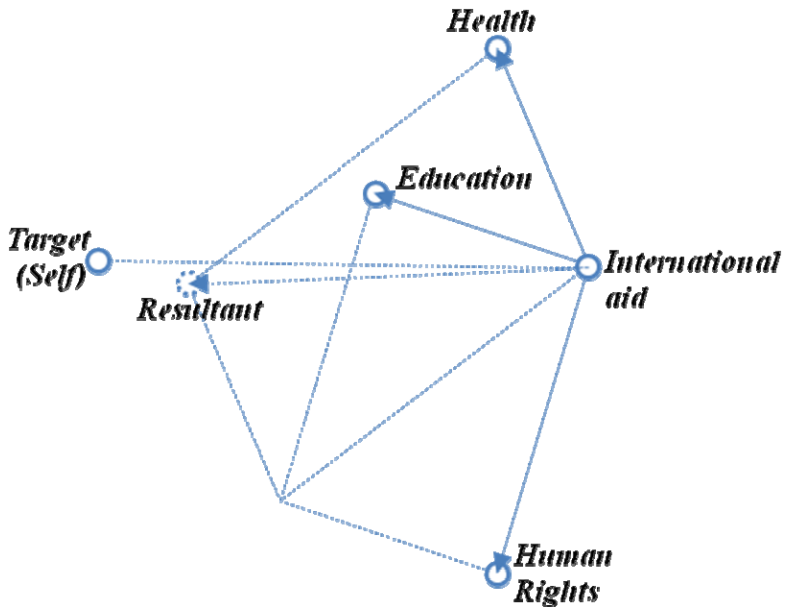
Figure Captions

Figure 1 Visualized configuration of a set of concepts in three dimensional space

Figure 2 Illustration of the message optimizing procedure



1



2

The Structure of Attitudes toward International Aid:

Exploring an Effective Communication Campaign Strategy for International Aid