



The Influence of Organizational Characteristics and Campaign Design Elements on Communication Campaign Quality: Evidence from 91 Ugandan AIDS Campaigns

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This research proposes and tests a model of the relationship between organizational factors, campaign design elements, and campaign quality of communication campaigns. It is the first quantitative study to test these relationships across many organizations. The context for the study was AIDS education and outreach campaigns in Uganda, during a time of successful decrease in the spread of HIV infection. Ninety-one organizations were surveyed. Since only 14% of the organizations collected exposure or outcome data, the study focused on the factors affecting campaign quality. Quality was examined by measuring goal specificity, execution quality, and message quality. The results show that financial resources, professional training, participation of outreach workers in planning the campaign, and audience participation in planning and executing the campaign were key organizational variables affecting the quality of the campaigns. The important campaign design elements affecting campaign quality were conducting research, using multiple channels, targeting only a few groups, and pretesting messages. The results have import for campaign planners, managers of organizations conducting campaigns, and funders. In addition, it is vital that organizations collect exposure and outcome data in the future to provide feedback on each campaign.

Communication campaigns remain the best way to prevent the spread of AIDS in the absence of an inoculation against HIV infection (Brown, 1991; Domeyer, Marguard, Gibson, & Taylor, 1989; Lee & Davie, 1997; Snyder, 1991). There are certain design elements of communication campaigns that are consistently related to success, including audience research, targeting an appropriate audience, using relevant messages, and choosing appropriate channels (Backer, Rogers, Sopory, 1992; Backer & Rogers, 1994; Hornik, 1988, 1989; Woods, Davis, Westover, 1991). However, little is known about the organizational factors that influence campaign design elements (Backer et al., 1992; Backer & Rogers, 1994). The plethora of organizations conducting communication campaigns raises many theoretical and practical questions for research, such as, Which organizations are more likely to succeed in running what type of campaign?

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What organizational factors influence the running of communication campaigns most? Finally, what works among the campaign elements and what does not?

The present research quantitatively tested a model of how organizational factors directly affected AIDS campaign design in Uganda. We propose an organizational theory of health communication campaigns that specifies the ways in which organizational variables such as financial resources, participation, and training impinge on campaign design variables. The research was the first quantitative study of its kind, building on case studies of health communication campaigns (Backer & Rogers, 1994) and theory. Such an approach has been completely lacking in communication research (Salmon, 1992; Salmon & Kroger, 1992). Dearing and colleagues (1996) studied surveys, content analysis, and qualitative methods to investigate the approaches organizations used in AIDS campaigns in San Francisco, but they did not model the relationships between organizational and campaign variables and campaign approaches or effectiveness.

Other countries struggling with AIDS/HIV infection can benefit from analyses of Ugandan campaigns. Because Uganda has a very high HIV incidence, there are a large number of organizations participating in AIDS communication, and it already serves as a model for AIDS prevention for the rest of Africa. According to AIDS Analysis Africa (1997), the rates of infection of AIDS cases have been going down in the country, probably due in part to successful campaigns. Thus, Uganda offered an excellent context in which to study a large number of organizations conducting campaigns, at least some of which have been successful.

The design elements associated with successful campaigns include reach (Hornik, 1988, 1989; Shimp, 1993; Snyder & Hamilton, in press), message quality (Manoff, 1985; Shimp, 1993), goal specificity, and execution quality (Hornik, 1988; Manoff, 1985). We propose a model of campaign organization in which these elements depend on other campaign design features and certain characteristics of organizations. We review each element separately.

Reach

Reach ensures exposure of the target audience to the message (Flay & Sobel, 1983). In our study, reach was the percentage of people exposed to the messages in the target groups. The more members of the audience exposed to the message, the better the quality of the campaign. A metaanalysis of the impact of reach on campaign success found that the percentage of people in campaign communities exposed to the campaign correlates highly with the percentage who change their behavior (Snyder & Hamilton, in press). The proposed model of the relationships of the variables leading to campaign reach is summarized in Figure 1.

Two factors that may ensure greater reach are the number of channels used and the number of target groups at which the campaign is aimed. A campaign that uses a larger number of channels has a greater chance of reaching a larger percentage of the target group (Backer et al., 1992; Flay & Sobel, 1983; Hornik, 1988, 1989; Shimp, 1993). In addition, concentrating efforts on fewer target groups may increase the chances of reaching a larger percentage of people in the target groups.

H1: (a) More channels and (b) fewer number of target groups increase the percentage in the target group reached by the organization.

Number of Channels

Since using many channels costs organizations more than using fewer channels (Hornik, 1988; Popham et al., 1993), we expected that organizations with a lot of

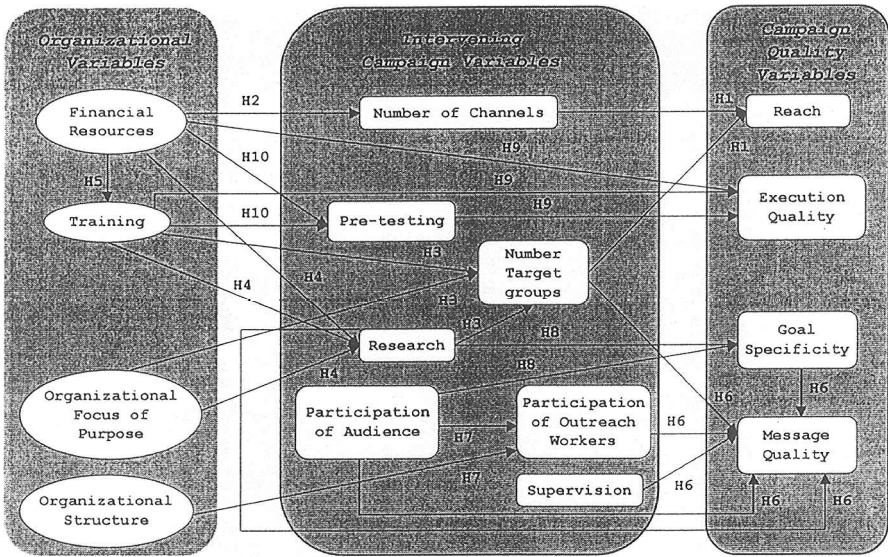


FIGURE 1 Model of the hypotheses predicting relationships between the organizational and campaign variables.

financial resources were likely to pay for more channels for their campaigns than those with less financial resources.

H2: The greater the financial resources, the larger the number of channels used by the organization.

Number of Target Groups

In turn, we expected a number of factors to influence the number of target groups. First, choosing fewer target groups is more likely to be done by organizations that have a more focused purpose. We defined focused purpose as the extent to which the organization was started with a specific overall goal of addressing AIDS-related activities. Lack of focus leads to unclear goals and poor design and implementation (Holtgrave et al., 1995). Organizations with multiple purposes can be forced to include a wider range of targets.

Second, many authors suggest that doing research before the campaign (Atkin & Freimuth, 1989; Backer et al., 1992; Flay & Sobel, 1983; Hornik, 1988; Kotler & Andreasen, 1991; Manoff, 1985; Rice & Foote, 1989; Woods et al., 1991) helps ensure targeting. We define research as the analysis of audience characteristics, problems, knowledge, attitudes, practices, and communication patterns before, during, and after the campaign. It may be qualitative or quantitative or original or secondary (using extant data collected by others). Research helps to establish who and how big the target audience is, what their characteristics are, and how to break the audience into target groups (Woods et al., 1991). Research is also critical in identifying how many target groups that a particular campaign can aim at a time.

Third, it is logical that organizations with trained professional staff will know the conventional wisdom and will be more likely to target fewer groups. We defined training as the extent to which the professional staff members have been educated in the skills of designing campaigns and planning and implementing campaigns.

H3: Organizations that (a) do more research, (b) have a greater focused purpose, and (c) employ more professional staff with training are likely to aim at fewer target groups.

Research

There are a number of organizational factors that may influence research. First, in order to conduct research, organizations need financial resources (Passick & Wallack, 1989). Second, for the research to be valid and reliable, they need trained staff, for untrained staff may use biased techniques or misinterpret results. Third, research requires a focused purpose (Hornik, 1988). Organizations with many purposes are likely to spread resources thinly, perhaps omitting research activities on the false premise that they are more expendable than campaign implementation activities. We expected that those with the single goal of conducting AIDS campaigns would be more likely to spend some resources on research in order to better meet their goal.

H4: Organizations with (a) more financial resources, (b) greater focused purpose, and (c) more professional staff members with training are likely to do more research.

Trained Staff

Finally, organizations need financial resources to hire staff who are well trained and have experience in conducting campaigns. We expected that wealthier organizations have a larger percentage of trained staff.

H5: The greater the financial resources, the greater the percentage of professional staff members with training in campaigns.

Message Quality

Message quality can enhance the success of the campaign (Rice & Foote, 1989). Higher-quality messages indicate clearly what the target audience should do during the campaign and communicate the ideas clearly and effectively. We expected that message quality would be influenced by seven factors: participation of the outreach workers, audience participation, organizational structure, supervision of outreach workers, research, goal specificity, and the number of target groups.

Outreach Worker Participation, Audience Participation, and Organizational Structure

Participation of outreach workers in the campaign may enhance message quality (Hornik, 1988) because outreach workers are closer to the target audience and know them better. Outreach workers may participate in making decisions about the campaign, design of the campaign and its messages, and the monitoring of the campaign.

In turn, we expected two factors to affect outreach worker participation—audience participation and organizational structure. Many campaign designers advocate audience participation in creating campaigns (Carroll, 1992; Korten, 1980; Marthur, 1989; Ralston, Anderson, & Colson, 1983). Organizations that allow audience participation will probably be much more inclined to have their outreach workers participate in campaign design, and may even use outreach workers to solicit audience input. Thus, audience members should have an indirect effect on message quality through the informed input by outreach workers. In addition, we expected that organizations with a less formal or hierarchical organizational structure (Burns & Stalker, 1972; Hage, 1972; Morgan, 1992;

Ralston et al., 1983) would be more likely to permit outreach workers a voice in campaign design. Formal organizations tend to be top-down and thus are less interested in feedback from lower levels in the organization's hierarchy, such as outreach workers.

Supervision

Supervision may be vital in ensuring message quality by providing an opportunity for outreach workers to share with their supervisors problems discovered with campaign messages and design. In their direct contact with the audience, outreach workers may uncover difficulties due to cultural barriers, misunderstandings, and poor persuasive strategies, and the more often they are in contact with the supervisors, the quicker the feedback can be shared. Furthermore, supervisor contact increases the likelihood that outreach workers are doing their job properly.

Research

Research prior to the campaign (Backer et al., 1992; Hornik, 1988; Kotler & Andreasen, 1991; Manoff, 1985; Rice & Foote, 1989; Tones, Tilford, & Robinson, 1990; Woods, Davis, & Westover, 1991) may enhance message quality. Research can establish the presence of resistance points such as cultural myths, misconceptions, inhibiting attitudes, and preferred behaviors that need to be addressed in campaign messages (Atkin & Freimuth, 1989; Fisher & Fisher, 1992; Manoff, 1985).

Goal Specificity

The setting of specific, measurable, and attainable goals (Backer et al., 1992; Mendelsohn, 1973; Passick & Wallack, 1989; Rice & Foote, 1989) may also increase message quality. We have defined goal specificity as the degree to which the goals of the AIDS campaign include details about the types of behaviors to be changed (such as "promote condom use"), rather than general goals (such as "stop AIDS"). We expected that when the campaign goals include behavior change, the messages would also be more likely to address behavior change.

Number of Target Groups

Last, concentrating resources on a few target groups may be associated with enhanced message quality. The fewer groups targeted, the more staff time and resources available for message design for each target group.

H6: (a) The greater participation of outreach workers, (b) greater audience participation, (c) greater the supervision of the outreach workers, (d) more research, (e) greater goal specificity, and (f) fewer target groups, the higher the message quality.

H7: (a) The greater the audience participation and (b) the less formal the organizational structure, the greater the participation of outreach workers.

Goal Specificity

Organizations may be able to pinpoint more specific goals when they involve the audience in the decision making, designing, planning, and implementation of the campaign. Conducting research prior to the campaign may also help to highlight priority problems and thereby establish detailed campaign goals (Puska et al., 1985; Woods, Davis, & Westover, 1991).

H8: Organizations (a) with greater audience participation and (b) that do more research are more likely to have greater goal specificity.

Execution Quality

Execution quality influences the success of the campaign (Mendelsohn, 1973; Newhagen & Reeves, 1992; Tones et al., 1990). We defined execution quality as the extent to which the organizations use devices to help the target audience remember and comprehend messages. Execution quality is influenced by financial resources, expertise, and pretesting. Organizations with greater financial resources can afford greater use of memory enhancing devices. Organizations with more staff trained in designing and implementing campaigns should appreciate the need for greater execution quality. In addition, pretesting should uncover which messages have poor execution quality so that they can be improved. Pretesting is a form of research in which a version of a message is shown to some members of the intended target audience to assess the effectiveness of the messages, note ways to improve the messages to increase acceptance, and refine them before they are finalized (Holtgrave et al., 1995; Tones et al., 1990; Woods et al., 1991).

H9: Organizations (a) with greater financial resources, (b) with more professional staff with training, and (c) that do more pretesting are more likely to have better execution quality.

However, pretesting requires funds (Hornik, 1988) as well as research expertise (Manoff, 1985). Therefore, we expected that organizations with a lot of financial resources and those employing trained staff would be more likely to insist on pretesting.

H10: Organizations (a) with more financial resources and (b) more professional staff members with training are likely to do more pretesting.

In sum, we expected that financial resources, trained staff, focused purpose, supervision, and the formality of the organizational structure would affect reach, message quality, and execution quality both directly and indirectly through other campaign characteristics. The other important campaign characteristics included pretesting, audience participation, participation of outreach workers, goal specificity, number of target groups, and research.

Methodology

To test our hypotheses about organizational characteristics and campaign designs, we conducted interviews with representatives of organizations conducting AIDS campaigns in Uganda. The interviews were conducted orally, in local languages, by trained local interviewers. The Ugandan field supervisor followed up by telephone and fax to fill in missing data. The interviewers and supervisor were respected medical personnel, and the quality of the data collection was high.

Sample

The field staff attempted to contact all 135 organizations listed by the Uganda AIDS Commission, which coordinates all AIDS activities in the country. Ninety-one (67%) participated in the survey. The sample reflected the diverse types and geographical distribution of organizations involved in the AIDS campaigns in Uganda, including local or grassroots, national, religious, government, private, and international organizations. Nearly 50% were local or grassroots organizations, located all over the country. Most of

their campaigns were funded by international organizations such as United States International Aid (USAID), Overseas Development Agency (ODA), International Christian Outreach, World Council of Churches, European Community, Irish Aid, Swedish International Development Agency (SIDA), Danish Development (DINIDA), Australian Aid (AUSAID), Swedish Red Cross, and Canadian Red Cross. The contributions of these international organizations toward the AIDS campaigns ranged from Ugandan dollars (US\$) 2,000 to as much as US\$ 1,500,000. Government agencies, such as the Ministry of Health, funded a sizable number of AIDS campaigns with contributions ranging from US\$ 1,000 to US\$ 4,000. Local organizations, such as Uganda Women Efforts to Save the Orphans, funded a few campaigns with up to US\$ 2,000. Religious groups funded the least number of organizations, contributing up to US\$ 2,000.

The organizations targeted a wide variety of people. Numerous organizations ran campaigns targeted toward youth and school dropouts. Some private and government organizations ran campaigns aimed at their employees, while religious organizations tended to target their religious communities. Other campaigns targeted farmers, orphans, bar attendants, and truck drivers.

Specific examples illustrate the variety of funding and targets. The campaign with the largest budget (US\$ 1.5 million) was run by The AIDS Support Organization with funding from international donors (USAID, SIDA, ODA, and AUSAID) and targeted youth, people living with AIDS, and the general public throughout the nation. An example of a medium-sized budget campaign was run by the local organization Philly Lutaaya Initiative, targeting mostly youth and women. The US\$ 251,000 spent on its AIDS campaign was received from the United Nations Development Program (US\$ 150,000), the United Nations Children Emergency Fund (US\$ 100,000), and the local community (US\$ 1,000). The Christian Fellowship Outreach, a religious organization targeting mostly its Christian members and youth, received US\$ 2,000 for its small-budget campaign from the International Christian Outreach Fund.

Measures

Respondents answered questions about their most recent, successful, and finished AIDS prevention campaign among the typical prevention campaigns conducted by their organization. Data were collected between May and October 1997. We advised the respondents to make estimates if exact figures were not available.

Since there were no established scales, original measures were created, pretested in Uganda, and revised prior to the current study. Care was taken to use terms that were appropriate to the country. The operational definitions and measures are in Table 1.

Results

Of the 91 organizations, 24.2% had no financial resources available to them, despite the fact that communication campaigns normally require some money. Most of the organizations (61.5%) had at least one staff member trained in running or designing communication campaigns, while only 16.5% had no staff with training. In addition, 63.8% of the organizations conducted at least some research, while 23.2% did not (13.2% did not provide any data on research activities). It was also interesting that 85.7% of the organizations allowed audience and outreach worker participation in the various phases of the campaign. Finally, 67% of the organizations pretested their messages.

One of the more unfortunate findings was that most of the organizations did not have data on the number of people in the target audience, an estimate of the number of people

TABLE 1 Measures

Variable	Operational definition	Items	Descriptive statistics
Message quality	Number of crucial points for AIDS prevention in the messages	“How many of the communications stated what behaviors reduce the risk of contracting the AIDS virus?” “... indicated the danger of not doing what was recommended?” “... stated the benefits of doing what was recommended?” and “... addressed the objections that people might have to doing the things you want them to do?”	Alpha = .85, M = 2.87, SD = 0.6, range = 0–4
Execution quality	Degree to which attention-getting devices were used	17 items added up, including background music, sudden loud voices, children’s voices, themes, proverbs, alliteration, color illustrations, songs, slogans, and repetition.	M = 5.33, SD = 2.68, range = 0–14
Reach	% people in the target group exposed to any campaign messages	Number of people reached divided by number of people intended to be reached.	Insufficient data
Number of channels	Number of channels used in campaign	Summative index, including radio & TV talk shows, features, ads, & other programs; posters; flyers; brochures; booklets; comic books; videos; plays, concerts, debates, & other performing arts; fairs, festivals, marches, telethons, contests, & other events.	M = 9.05, SD = 8.92, range = 0–37
Financial resources	Total amount of money, in Uganda shillings, spent on the AIDS campaign?	How much money was spent on by the organization on this AIDS campaign?	M = 111,890.3, SD = 325,563.0, range = 0–1,500,000

Conducting research	Whether different research was conducted at different times during the campaign.	Whether or not research was done: (1) by the organization before the campaign, (2) by other people outside the organization before the campaign, (3) to monitor the campaign, and (4) to evaluate the campaign.	$M = 0.48$, $SD = 0.42$, range = 0–1.25
Focused purpose	The overarching organizational goal was focused on AIDS/HIV.	Single item asking whether the organization was started with the overall goal of addressing AIDS-related issues or problems.	Yes = 62.6%, N = 28.6%
Number of target groups	Number of groups targeted by organization for this AIDS campaign.	Additive index of open-ended list of target groups.	$M = 1.52$, $SD = 0.97$
Goal specificity	The degree to which campaign goals addressed behavior change.	Open-ended question “What were the goals of the campaign?” coded “3” for behavioral change, “2” to create awareness of the problem, & “1” for general goals, such as to reduce the spread of AIDS.	$M = 1.7$, $SD = 1.2$
Organizational structure	Formality of the organization.	Summative index of items asking whether the organization had (1) written down rules and regulations; (2) published an organizational chart.	$M = 1.9$, $SD = 0.57$
Audience participation	Extent to which members of the target audience participated in campaign design & implementation.	Summative index of items about audience participation in: (1) designing & conducting research before the campaign, (2) monitoring campaign progress, (3) evaluating the campaign, & (4) designing messages.	$M = 2.2$, $SD = 0.54$, alpha = .85, range = 1–4.5

TABLE 1 (Continued)

Variable	Operational definition	Items	Descriptive statistics
Outreach workers participation	Extent to which outreach workers participated in campaign design & implementation.	Summative index of items about outreach workers parallel to audience participation above.	$M = 2.26$, $SD = 0.57$, alpha = .79, range = 1–4.5
Pretesting	Proportion of programs & messages pretested with the target audience.	Number of versions and programs of messages pretested (“How many were pretested?”) divided by number of programs and versions of messages used.	$M = 0.184$, $SD = 0.308$, range 0–1
Supervision of outreach workers	Days of contact between outreach workers & supervisors.	Number of working days in a year that the outreach workers had contact with their supervisors.	$M = 242.923$, $SD = 64.631$
Training	% professional staff with campaign training.	Number of professional staff with training in designing campaigns about AIDS, family planning, or health divided by total number of staff.	$M = 17.8$, $SD = 21.9$

actually exposed to their campaign messages, or an estimate of campaign impact. Only 13% of the organizations assessed the reach of their campaign, even though 71% of organizations conducted some form of evaluation and 64% did some monitoring.

Hypothesis Tests

The hypotheses were tested using multiple regression. Because there was too much missing data on reach, the first hypothesis could not be tested. As predicted by H2, greater financial resources was associated with a greater number of channels, $R = .25$, $F(1, 75) = 5.20$, $p < .05$.

The third hypothesis predicted that organizations that (a) conducted more research, (b) had a greater focused purpose, and (c) employed more professional staff with training would be likely to target more narrowly. The results of a regression analysis showed that none of the variables was a significant predictor of number of target groups, $R = .14$, $F(3, 69) = 0.466$, $p > .05$.

H4 predicted that organizations with (a) more financial resources, (b) greater focused purpose, and (c) more professional staff with training would be more likely to conduct research. However, training was the only significant predictor of conducting research, such that organizations employing more professional staff were more likely to conduct research (Table 2).

The fifth hypothesis, which predicted that the greater the financial resources, the greater the proportion of trained staff, was not supported, $R = .15$, $F(1, 72) = 1.66$, $p > .10$.

H6 predicted that (a) greater outreach worker participation, (b) greater audience participation, (c) greater supervision of outreach workers, (d) more research, (e) greater goal specificity, and (f) fewer target groups would increase message quality. Outreach worker participation and supervision were the only significant predictors of message quality (Table 3).

As predicted by H7a, the greater the audience participation, the greater the participation of the outreach workers ($\beta = .68$, $p < .001$, $R = .69$, $F(2, 75) = 33.175$, $p < .001$, $N = 79$). However, formal organizational structure did not relate to the level of participation of outreach workers ($\beta = .003$, $p > .05$).

H8, which predicted that organizations (a) with greater audience participation and (b) that conduct more research would be more likely to have greater goal specificity, was not supported by the results of the regression analysis, $R = .19$, $F(2, 73) = 1.344$, $p > .10$.

H9 predicted that (a) organizations with more financial resources, (b) more professional staff with training, and (c) that conduct more pretesting would be likely to have higher execution quality. Financial resources were the only significant predictor of execution quality (Table 4).

TABLE 2 Regression of Conducting Research on Training, Focused Purpose, and Financial Resources ($N = 78$)

Independent variables	B	SE B	β
Training	.020	.008	.26*
Focused purpose	-.647	.409	-.18
Financial resources	2.297	5.925	.00

Note. $R = .34$ *; * $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 3 Regression of Message Quality on Participation of Outreach Workers, Audience Participation, Supervision of Outreach Workers, Conducting Research, Specificity of Goals, and Number of Target Groups ($N = 78$)

Independent variables	<i>B</i>	<i>SE B</i>	β
Outreach workers' participation	.347	.174	.30*
Audience participation	– .047	.185	– .04
Outreach workers' supervision	.002	.001	.25*
Conducting research	.052	.176	.03
Goal specificity	.046	.060	.09
Number of target groups	.060	.064	.11

Note. $R = .30$; * $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 4 Regression of Execution Quality on Training, Financial Resources, and Pretesting Messages ($N = 50$)

Independent variable	<i>B</i>	<i>SE B</i>	<i>B</i>
Training	.019	0.018	.16
Financial resources	2.234	1.206	.27*
Pretesting	– 0.228	1.262	– .03

Note. $R = .33$; * $p < .05$; ** $p < .01$; *** $p < .001$. (Significant at one-tailed t test since the hypothesis is unidirectional).

Contrary to the prediction in H10, neither greater financial resources nor more professional staff with training were significantly related to more pretesting, $R = .12$, $F(2, 44) = 0.323$, $p > .05$.

Overall Model

The model was tested using a path-modeling computer package developed by Hunter and Hamilton (1998). Building on the regression analysis, we dropped nonsignificant paths, and an examination of the correlations suggested some unhypothesized relationships to test. The final model, presented in Figure 2, fit the data very well, yielding a chi-square ($62, N = 47$) = 4.54, $p < .10$, and an average error of .059. For the most part the results were consistent with the regression analyses above. Although the model is discussed in the next section, some of the most interesting unhypothesized paths deserve to be mentioned here. Organizations that had a more focused purpose and had a greater proportion of trained staff were more likely to allow audience participation in the various phases of the campaign. We had hypothesized that pretesting would lead to execution quality; instead, pretesting led to supervision of outreach workers. Likewise, organizational structure led to goal specificity instead of audience participation. Finally, organizations with greater financial resources were likely to have better goal specificity for their campaigns and to allow more audience participation.

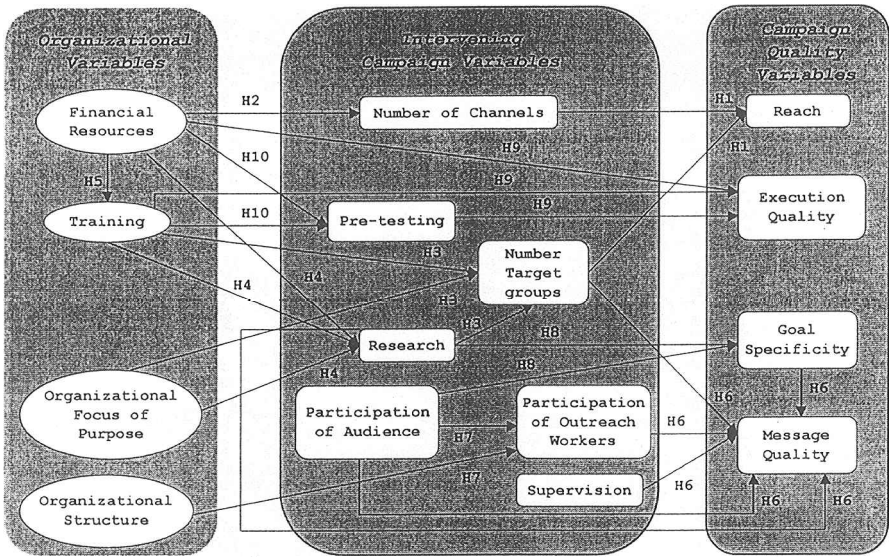


FIGURE 2 Model of the relationships between organizational and campaign variables. (Note. Root-mean squared error = .0592. Chi-square (62, $N = 47$) = 4.54, $p = 1.00$.)

Discussion

This study posited and empirically tested a model of the relationships between organizational characteristics, campaign design elements, and campaign quality variables. Its strength was in finding a relatively large sample of campaigns, creating measures, and quantitatively testing what previously has been examined qualitatively using case studies. Since reach and impact were not measured by the organizations, we focused on the quality of the execution, messages, and goals. Thus, the current research can be seen as a first test of the front end of a comprehensive model that should ultimately include reach and impact. By directly querying organizations about campaigns to assess trends and examine relationships among design factors, the approach taken here also complements empirical studies based on the published record (e.g., Snyder, 2000; Snyder et al., in press; Snyder & Hamilton, 2001; Stanton, Kim, Galbraith, & Parrott, 1996). While the present study was unable to address impact but could assess organizational and design factors, the published record containing impact data is often negligent in reporting information about organizations and campaign design factors. Indeed, the metaanalysis by Snyder and Hamilton (in press), based on U.S. health campaigns reporting behavioral impact, shows that the published record is still weak on information about reach.

By establishing the relationship between organizational and communication campaign variables, the results have important theoretical and practical implications. Managers can use the information about which organizational factors were crucial for running quality health communication campaigns. External funders of campaigns can use the results to help select the types of organizations more likely to follow recommended design procedures and principles, stress which campaign design practices they wish to see used, and justify funding impact and reach studies. Campaign planners could benefit from knowing how the elements of campaign design combine to influence message and execution quality.

In this study we tested some hypotheses derived from prior case studies (e.g., Backer, Rogers, & Sopory, 1992; Backer & Rogers, 1994), including the use of multiple channels, targeting or segmenting the audience into small groups, and pretesting messages to increase campaign effectiveness. Some of our hypotheses were supported by the empirical evidence, while others were not (specific results are discussed below). We also examined the relationship *between* campaign design elements and organizational factors, which are covered separately in the recommendations by Backer, Rogers, and Sopory (1992) and generalizations by Backer and Rogers (1994). In addition, our research suggested empirical relationships unanticipated by the case study literature. The overall model shows the four most important organizational variables that affect campaign quality: financial resources, training of its staff in conducting campaigns, a clear and focused purpose to deal with the campaign topic, and a less formal organizational structure.

Financial Resources

It is surprising that financial resources are only mentioned in the communication campaign literature by Hornik (1988) and Popham and colleagues (1993) in the context of being able to afford to use more channels. Perhaps it was assumed as common sense that money contributes to making a better campaign. Our findings show that financial resources were not just related to the number of channels used but also to other crucial campaign variables—execution quality, goal specificity, and audience participation. It makes sense that financial resources were key to execution quality because using many execution elements is expensive. The unexpected relationship between financial resources and goal specificity may be due to funding agencies insisting on behavioral campaign goals before giving money. Unfortunately, the results suggest that small, poor organizations were more likely to have vague goals, which may ultimately hinder their ability to prevent the spread of AIDS.

Unexpectedly, organizations with more financial resources were also more likely to encourage audience participation. Apparently, financial resources enabled them to organize and pay for meetings with audience members to discuss the campaign planning, design, implementation, and/or evaluation. Or organizations that relied on audience participation received more funding in the past. It is also likely that many small, poor organizations felt so well integrated into their communities that they believed they did not need audience participation in their campaigns.

Training

Although the communication campaign literature is almost silent about staff training, perhaps assuming that its value is obvious, our findings reveal that it is important because it leads directly to research, multiple channels, audience participation, and greater supervision of outreach workers. It is somewhat reassuring for educational programs on campaign design, which often include research methods in the curriculum, that training increased the capability to conduct research and knowledge of the value of conducting research. In turn, conducting research led to pretesting of messages. It is conceivable that organizations that knew the value of research were more likely to know the value of pretesting the messages.

Another impact of training was an increased likelihood of using more channels, which in turn led to execution quality. Staff education probably included either “how to” information that enabled staff to comfortably use more diverse channels, or the imperative to use multiple media, or both. When the staff were knowledgeable enough to use multiple channels, they also paid attention to production elements that we associated

with execution quality. In addition, training led to concentrating resources on a limited number of target groups. Campaign courses often stress the importance of segmenting into homogeneous groups and then targeting a limited number of segments.

Organizations with more trained staff were more likely to insist on supervising their outreach workers more frequently, perhaps to know what they were doing in the field and to find out what problems they faced. It makes sense that the more contact the outreach workers have with their supervisors, the more information they are likely to exchange about the audience characteristics, enhancing the quality of the campaign messages. Although the campaign literature is also silent about the supervision of outreach workers, our results suggest that it has a crucial impact on message quality.

By indirectly leading to execution quality and message quality, training greatly contributes to the overall quality of health communication campaigns. All organizations, poor and rich alike, should insist on training their staff in running health communication campaigns.

Focused Purpose

Organizations founded to work on AIDS/HIV education had a slight edge in message quality, by allowing greater participation and conducting more research. Perhaps having an AIDS focus led to greater audience participation because more AIDS focused organizations knew what they needed to know from the audience and were willing to engage the audience to further their goals. Apparently, organizations with multiple missions were likely to pay more attention to their other primary goals (such as religious organizations ministering to elderly congregants or health organizations running clinics), and pay less attention to crucial campaign elements such as conducting research. The practical implication here is that funding agencies would do better to support organizations with a more specific mission because they are more likely to design quality campaigns than less focused organizations.

Organizational Structure

Organizations with a less formal structure had more specific campaign goals. This is inconsistent with conventional wisdom. However, it can be argued that organizations that were less formal allowed their professional staff more leverage to make professional decisions, which included setting behavioral (and not just general) goals for the campaigns. In turn, goal specificity led to execution quality. Thus, a less formal organizational structure indirectly improved the execution quality of AIDS campaigns. Organizations wishing to become less formal could reduce the number of rules and create a more lateral (less hierarchical) structure. More importantly, organizations should recognize the value of behavioral goals for their campaigns.

Audience and the Outreach Workers' Participation

We found evidence of the importance of participation in campaign design. While some schools of thought argue that participation is very important (e.g., Carroll, 1992; Holtgrave et al., 1995; Korten, 1980; Marthur, 1989; Ralston et al., 1983), the mechanism for how audience participation matters to communication campaigns was left unspecified. We found that having the target groups and outreach workers involved increased the quality of the campaign messages. Participation allowed organizations to benefit from the outreach workers' knowledge about how best to design the messages, increasing the chances of including crucial elements in the message. Apparently some organizations were oriented toward participation, since the relationship between audience and outreach

worker participation was strong. Future research could examine the nature of both audience and outreach worker participation to determine which types of activities (see Snyder, in press) lead to improved message design.

Note, too, that the extent of participation in Ugandan campaigns (87%) was greater than that found by other research: A review of 28 U.S.-based adolescent AIDS interventions found only 26% involved the audience (Stanton et al., 1996). It may be that the high participation rates were partly responsible for the decrease in HIV infection rates in Uganda, but we need impact data to test that hypothesis.

Multiple Channels

When organizations chose to use diverse channels for their campaigns, they also conducted more research, targeted fewer groups, allowed more participation by outreach workers, and had higher execution quality. Although the link to execution quality was unanticipated, it made sense because the more channels used by the organizations, the greater the chance of using a variety of execution elements. Furthermore, the more channels that the organization used the more likely they were to do research, possibly to find out which channels best fit with their various audiences.

Interestingly, Ugandan organizations relied on outreach workers more heavily than on mass media, perhaps because many of the organizations grew out of counseling or community organizing orientations; prior successes in interpersonal outreach; cost; lack of expertise or availability; or perceived relative effectiveness. A study of 100 AIDS campaigns in San Francisco run by community groups found a similar reliance on outreach workers (Dearing et al., 1996).

Number of Target Groups, Pretesting, and Conducting Research

Two-thirds of Ugandan organizations pretested their messages. Pretesting can be done on a shoestring budget, if need be, and our analysis shows that both wealthy and poor organizations conducted research to the same extent. Hornik (1988) argues that pretesting requires financial resources, but both the causal modeling and the regression analysis show that by 1997 in Uganda there was no relationship between them.

The literature includes arguments that pretesting leads to both message quality and execution quality (Atkin & Freimuth, 1989; Holtgrave et al., 1995; Hornik, 1988; Manoff, 1985; Tones et al., 1990; Woods et al., 1991), but we found that it is only indirectly related to message quality. In Uganda, execution quality was linked much more to financial resources. It may be that some of the pretesting was of poor quality or the information learned may not have been used to improve messages. Future research could try to assess the quality of the pretesting or determine whether messages were altered based on feedback from the pretesting.

Although the literature suggests that research can facilitate understanding audience members and identifying segments and target groups (Atkin & Freimuth, 1989; Fisher & Fisher, 1992; Manoff, 1985; Snyder & Rouse, 1992), it did not lead organizations to concentrate resources on fewer target groups at a time. Targeting a limited number of segments did not relate to our measure of campaign quality but still may be important for campaign reach and impact.

Implications for Future Research

This study has opened up a new area of communication campaign theory to empirical research and has shown that it is possible to conduct quantitative research comparing large numbers of campaigns. As a pioneering study, the study needs to be replicated

to test whether the results are generalizable. We suggest research in other geographic areas and other health domains, and we are currently analyzing AIDS campaigns in Connecticut.

Some of the measures can be improved, and new variables developed. For example, studies could include measures of the use of pretest results to change materials, rather than just the presence or absence of pretesting. Research could also develop variables related to specific participation activities, the presence of messages addressing interpersonal skills, the quality of formative and evaluative research, and issues related to the dose and timing of campaign messages.

It should be a priority for the discipline to examine factors leading to communication campaign success rather than just communication campaign quality. We have had to assume, based on the literature, that message and execution quality lead to campaign reach and impact. It may be that other factors assume greater importance when reach and impact are included in a model. Perhaps, in other contexts, researchers can find a large sample of campaigns measuring reach, knowledge gain, belief change, and behavior change. Testing a model of campaign impact would be a very important contribution to the field.

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