# An HIV/AIDS Prevention Project for Mexican Homosexual Men: An Empowerment Approach

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In this intervention, participants design and implement an HIV/AIDS prevention project for Mexican homosexual men. The intervention is consistent with, and contributes to, empowerment theory because it enhances collective action, provides opportunities to develop knowledge and skills, creates needed resources, and includes shared control with professionals and among participants. The intervention described provides an illustration of an empowering process and distinguishes itself from empowerment outcomes. An evaluation of the project is also described, but the outcomes were HIV/AIDS-related behaviors rather than psychological empowerment of the participants. The results suggest that the participants' HIV/AIDS knowledge and preventive behavior improved when compared to individuals who did not participate in the intervention. In addition, the intervention generated community change initiated by participants. Implications for designing interventions using an empowerment approach are discussed.

A sense of control, skill development, and supportive social networks are associated with health behavior and outcomes.<sup>1-5</sup> Strategies to achieve these goals are typically based on a professional-client relationship. Such relationships, however, may encourage dependence on the professional, assume clients need professional help, and preserve the notion that help is unidirectional.<sup>6,7</sup> An alternative approach is an empowerment strategy.

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Empowering health education strategies have been applied in several contexts such as adolescent substance use prevention, prevention of toxic waste pollution, lead poisoning prevention, 10 nutrition education, 11 and health promotion. 12 Such strategies have also been applied to diverse populations including senior citizens, 13,14,15 homeless pregnant women, 16 public school teachers, 17 and people with disabilities. 18,19 Empowerment education<sup>20</sup> suggests that professionals work collaboratively with participants to increase participants' capacity to exert control over their lives and enhance critical consciousness about their sociopolitical environment.

Empowerment theory is not fully conceptualized and not well defined in many instances. In fact, Rappaport<sup>21</sup> suggests that we know it when we see it and best define it in its absence (e.g., powerlessness, alienation), but we lack a clear theoretical framework for the construct. One reason for this ambiguity is that the empowerment literature does not emerge from a common definition or theoretical framework. The term empowerment, however, has become so ubiquitous in the United States today that it is actually difficult to avoid.<sup>22</sup> Development of empowerment theory will provide a framework for researching the construct and principles for implementing preventive interventions.

Zimmerman<sup>23</sup> delineates three dimensions of empowerment theory: values, processes, and outcomes. The value dimension refers to a belief system that leads us to identify strengths instead of cataloging risk factors, enhance wellness instead of fixing problems, and search for what is right in people's lives instead of focusing on what is wrong. <sup>7,23</sup> The outcome dimension concerns assessment issues for developing valid and reliable measures. Empowering processes are collective learning efforts in which individuals gain a critical understanding of the relevant social environment, access to resources, and work with others to achieve common goals and take action to exert control in their lives. 21,24-27 One way to create empowering interventions is to include members of the community in their design and implementation, and provide control over the issues that concern them and opportunities to develop and practice leadership. 27,28,29

An empowering intervention is expected to have several distinct characteristics. First, the intervention would be designed to involve those for whom it is intended (i.e., participants) in its development, implementation, and evaluation. <sup>7,12,23,27</sup> The intervention would begin by identifying and developing leaders that come from, and work with, the community to help plan and execute the program. Second, the intervention would help people develop skills so they can become less dependent on professionals.<sup>7,12,27</sup> These might include decision making, problem solving, data collection and analysis, or leadership skills. Third, the intervention would create a context for people to work together to solve problems and make decisions about issues of concern to them. <sup>26</sup> This may also help participants enhance their social support system and develop a sense of community.

The focus of this article is to further elaborate on empowering processes by examining a community-based intervention to promote HIV/AIDS preventive behaviors among Mexican homosexual men. The study provides an example of how several components of an empowering process can be used to influence individual- and community-level change. However, we did not examine empowered outcomes. Rather, we are testing the hypothesis that an intervention that gives control over the content and process of its design and implementation (i.e., empowering process) will be an effective means by which HIV/AIDS-related knowledge and preventive behavior can be enhanced. This hypothesis is tested by comparing individuals involved in the intervention with a group not receiving the intervention.

## HIV/AIDS in Latino Gay and Bisexual Men

Latino gay and bisexual men appear to be the group with the highest risk of HIV infection in the Americas. 30-33 This group also has the highest prevalence of AIDS in the United States. 34 Information about gay and bisexual men related to HIV/AIDS is, however, limited in Latin American countries. The Latin American countries with the highest number of AIDS cases—Brazil, Mexico, and Colombia—have reported that gay males are the group most affected by the epidemic. 30 In Mexico, 80% of AIDS cases are due to sexual transmission with homosexual and bisexual males. 35

Several researchers have documented that Latino men who have sex with men tend to practice more anal intercourse than other forms of sex and that they expect to obtain sexual satisfaction with anal intercourse rather than fellatio. Studies of Mexican homosexual men have found that a history of receptive anal sex and multiple sexual partners are associated with HIV infection. These researchers also report that less than 30% of the gay and bisexual men they studied used condoms in their last sexual encounter. Prevention activities addressing these high-risk sexual behaviors are needed for gay and bisexual males living in the Americas. Prevention programs targeting the male homosexual population have been implemented in Mexico and other Latin American countries, but few go beyond informing participants about the mechanics of HIV/AIDS prevention. Several researchers have suggested that multiple strategies provided on an ongoing basis is a more effective prevention approach for encouraging HIV/AIDS preventive behaviors than simply providing information at one point in time. Several researchers

## **METHOD**

## Intervention

As the first step of the intervention, staff from a local community-based organization (CBO) in a Mexican city chose two gay men from the community to be coordinators of the program. These two individuals had limited experience as health educators. They were recruited for the program because they showed interest in preventing HIV/AIDS in their community and leadership potential. Both coordinators received training from the CBO on HIV/AIDS, community assessment, participant recruitment, and group facilitation. The intervention and evaluation was developed collaboratively between the CBO staff and the two members of the community.

The second step of the intervention was to obtain information about HIV/AIDS attitudes, knowledge, and behaviors from members of the gay community. Several members of the community were recruited by the two coordinators to help with this community assessment. A total of 15 individuals agreed to be interviewers and work with the coordinators to develop the interview protocol and sampling strategy. They were recruited by the coordinators from their own friendship networks and from individuals who attended one of their HIV/AIDS presentations. The assessment included face-to-face interviews with 205 respondents from the community<sup>44</sup> and focus group discussions with 30 of these individuals. The information collected was used to assist program development. These data were used as a pretest for the evaluation described in this report. The interviewers were involved in the intervention activities but they were not included in the analysis of program effects.

Figure 1 provides a diagram of the steps involved in the development of the intervention and evaluation design. Interview respondents were invited to attend regular meetings to learn about HIV/AIDS prevention and to begin to plan a community intervention. They were informed that the objectives of the sessions were to enhance safer sex practices and to prepare a cadre of volunteer health workers to provide HIV/AIDS education in the community. A total of 37 individuals, in addition to the 15 interviewers, agreed to participate in these regular meetings. These 37 individuals were considered to be intervention participants for the purpose of evaluating intervention effects. Individuals who did not want to participate in the group discussions constituted the comparison group (n = 55).

## Group Discussion Sessions

The 37 individuals who agreed to attend regular meetings obtained basic AIDS prevention information and worked together to develop plans to further enhance their ability to be lay health educators and to promote AIDS education in the community. Their involvement in this process was considered the intervention. The main aspect of their planning activities included regular group discussion sessions. The sessions were planned for 2 hours, but most meetings lasted over 3 hours. The weekly meetings were originally structured as group discussions, led by a regular member of the CBO staff or one of the coordinators. They were designed to transfer facilitation of the groups to participants after approximately 4 months. The meetings took place over an 8-month period.

Results from the HIV/AIDS attitude, knowledge, and behavior survey conducted for the community assessment were presented and discussed during two sessions. This information was used by the group to help plan activities for its community AIDS prevention program. The weekly sessions included one or two discussion topics that can be described as (1) health education, (2) outreach, and (3) group initiatives. A brief description of these three topics follows.

Health Education. The first 4 months of meetings included basic information about HIV and AIDS. Although the information provided was followed by a group discussion, the topics and agenda were set by staff. As the group developed, the sessions changed to mostly group discussion facilitated by one of the participants. Participants discussed and voted on topics to be covered as well as ideas for the role of the group in providing HIV/AIDS education in the community. Topics covered included HIV testing issues, self-esteem, substance abuse, HIV/AIDS treatment alternatives, other sexually transmitted diseases, and safer sex. Group discussions also provided participants with an opportunity to share their concerns, experiences, and emotional issues.

Several strategies were employed to encourage active participation. Role playing was used to improve communication with partners about safer sex practices. Problem posing was employed by the staff to help participants work together to solve a problem. An example of problem posing occurred during one meeting when HIV/AIDS risks related to alcohol use were discussed and linked to strategies for reducing risk (e.g., condom use). Videos were used to facilitate some group discussions of specific topics (e.g., drug use). Participants were also given various educational materials (e.g., comic books) that provided basic HIV/AIDS information and could serve as reference material for later use.

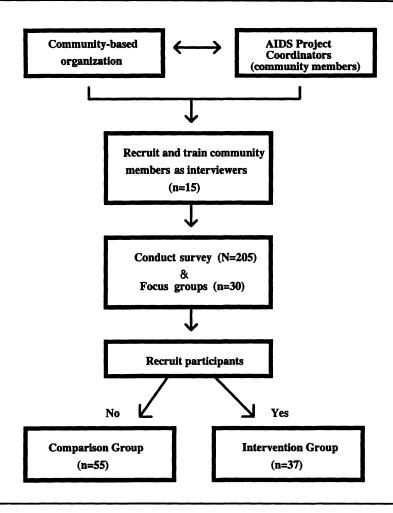


Figure 1. Development of the Intervention and Experimental Design

The sessions sometimes involved special workshops conducted by outside experts on topics such as sexuality, providing support to people with AIDS, and safer sex practices.

Outreach. The second phase of the weekly meetings focused on developing strategies for community outreach and education, and condom distribution. The CBO staff trained the participants to be community health promoters to do community organizing, outreach, and refer people to counseling, testing, treatment, and other medical and social service assistance. The training consisted of role playing for approaching people in bars and the street, shadowing CBO staff during their outreach activities, and learning about local organizations for referral purposes. Participants distributed educational materials and condoms in bars, on the street, and in workplaces; referred individuals to social service and medical organizations; distributed information about HIV/AIDS; and invited participants to attend their weekly discussion sessions. Five participants became coordinators

for groups of the remaining health promoters. These coordinators were responsible for arranging community presentations and ensuring that health promoters were equipped with condoms and educational materials to distribute.

Group Initiatives. As the group developed over time, several discussions focused on community activities the group could organize to further their goal of HIV/AIDS prevention. The activities discussed were solely the result of initiatives taken by the participants. The activities were focused on community change, resource mobilization, and community consciousness raising about HIV/AIDS and related issues. These activities are described below.

## **Evaluation Design**

#### Procedure

Information was collected by face-to-face interviews. Posttest data were collected 12 months after the pretest. Interviewers obtained respondents' names at pretest and tracked the same respondents for their posttest interview. In most cases, interviewers returned to the same location to reinterview respondents. Both pretest and posttest interviews were conducted by the 15 interviewers described above.

Random sampling of the target community was not feasible given the characteristics of the population of interest. Consequently, staff and interviewers developed a list of settings (e.g., homes, workplaces, streets, parks, and bars) in which potential respondents for the community assessment could be found. Respondents for the interviews were selected based on a positive response to an initial question of whether they have had sex with another man. Each interviewer selected some respondents from each setting in order to cast as wide a net as possible and to improve chances that the final sample would at least be representative of locations. Of the respondents, 27% (n = 25) were selected from bars or restaurants, 30% (n = 27) were recruited from their homes, and 43% (n = 39) were recruited from the street, parks, or workplace (we did not distinguish this category further). One individual had missing data on this variable.

Respondents in the pretest assessment were interviewed for 20 to 25 minutes. In addition to sociodemographic information, the interview protocol included four sections: (1) HIV/AIDS knowledge, (2) sexual behavior, (3) condom use, and (4) sources where HIV/AIDS information was received. No data were obtained regarding the number of people who refused to be interviewed, but anecdotal information from the interviewers suggests that they were few.

## Sample

The study included 92 individuals who had complete information on both pre- and posttest assessments. Their mean age was 25 years (SD = 4.60). Seventy-eight percent identified themselves as homosexual; 22% identified themselves as bisexual. Of the sample, 41% had completed ninth grade or less and 59% had completed high school or obtained education beyond high school. Of the sample, 38% worked in service areas (e.g., banks, stores), 28% worked in factories, 16% were professionals (e.g., lawyers, nurses,

physicians), and 18% reported being self-employed or students. Individuals who attended at least half of the group discussions during the 8-month period of the intervention were in the experimental group. Nonparticipants were considered to be those individuals who did not participate in the weekly meetings and did not help to implement the HIV/AIDS prevention program. Both groups, however, may have received HIV/AIDS information through other sources such as mass media, posters, pamphlets, or health care providers.

## Measures

# Individual Level: HIV/AIDS Knowledge, Sexual Behavior, and Condom Use

HIV/AIDS knowledge was measured with two open-ended questions: (1) How is the HIV virus transmitted? and (2) What are the common symptoms of a person with AIDS? Individuals received one point for each correct response for each question. A total score of 14 was possible. The pretest (i.e., Time 1) sample mean was 11.96 (SD = 2.43). A more detailed description of this measure is provided by Ramirez et al.<sup>44</sup>

Respondents were asked to indicate the number of sexual partners they had the previous month. The mean number of sexual partners for the total sample at Time 1 was  $4.08 \ (SD = 4.87)$ . Two condom use measures were included. The first measure was a single item assessing the number of times condoms were used in the last 10 sexual encounters. The mean number of times condoms were used in the last 10 encounters at Time 1 for the total sample was  $6.73 \ (SD = 3.75)$ . The second condom use measure was a composite index of frequency of condoms used during anal insertive intercourse, anal receptive intercourse, and oral sex. Each of these behaviors was rated on a 3-point scale (0 = never, 1 = occasionally, 2 = frequently). The scores for the condom use behavior measure at Time 1 for the total sample ranged from 0 to 6 with a mean of  $3.60 \ (SD = 1.27)$ . Eighteen (18%) respondents reported never using condoms during anal or oral sex, and nine (10%) reported using condoms frequently (i.e., scored 6 on this variable).

Respondents were also asked whether they attended a presentation about HIV/AIDS before the intervention started (i.e., Time 1). This item used a simple yes/no format. The Time 2 measure for presentation attendance was the same, but if respondents said yes, they were asked to indicate the organization that sponsored the presentation (e.g., health department). In addition, at Time 2, nonparticipants were asked if they had received information from, or spoken with, individuals who were part of the intervention.

## Community-Level Outcomes

Qualitative information about participants' activities in the community was also gathered. This information was collected through informal conversations with participants and staff, visits to intervention target sites in the community (e.g., bars, street hangouts, annual city health fair), and participant observation. In addition, 10 of the weekly discussion group meetings were attended by the second author on a regular basis. Observations of ongoing activities were also made during a visit to the community a year after the project ended.

#### RESULTS

## **Attrition Analysis**

Analyses comparing the 109 respondents who did not complete posttest interviews to those who completed pre- and posttest interviews revealed no differences on age, t(181) =.91, education, t(181) = .42, sexual identity (i.e., homosexual or bisexual),  $\chi^2(1) = 3.9$ , or occupation,  $\chi^2(3) = 3.9$ . Comparisons for Time 1 AIDS knowledge, t(178) = .43, condom use in the last 10 sexual encounters, t(180) = .06, condom use behavior, t(180) = -.83, and number of sexual partners, t(180) = .91, also revealed no differences between respondents who remained in the study and those who dropped out. Analyses exploring differences between only comparison group respondents (n = 55) and the 109 respondents who left the study revealed no differences on the demographic and dependent variables. Analyses comparing only intervention participants with the 109 individuals who left the study revealed no demographic differences. Individuals who left the study reported more sex partners in the previous month (M = 4.77, SD = 4.70) than intervention participants (M = 2.78, SD = 3.56), t(144) = -2.02, p < .05, but no other differences were found.

# **Individual Level of Analysis**

Comparisons of participants and nonparticipants indicated no differences for age, t(90) =-.62, n.s., or education, t(90) = -.42, n.s. Occupational status,  $\chi^2(3) = 4.60$ , n.s., and sexual identity,  $\chi^2(1) = .35$ , n.s., also did not differ for the two groups.

Group comparisons indicated no differences for HIV/AIDS knowledge, t(90) = .44, n.s., condom use in the last 10 sexual encounters, t(90) = .04, n.s., and condom use behavior, t(82) = .16, n.s., at Time 1. Participants reported fewer sexual partners (M =2.87, SD = 3.08) in the previous month at Time 1 than nonparticipants (M = 5.05, SD =5.65), t(89) = 2.16, p < .05.

Sexual partners at Time 1 was entered as a covariate in the analysis comparing groups on this variable at Time 2, but no other analysis included covariates because the groups were equivalent on their Time 1 dependent measures. In addition, age, occupation, education, and sexual identity were not controlled for in subsequent analyses because the groups did not differ on these background characteristics. Only one nonparticipant reported attending a presentation about HIV/AIDS during the intervention, and no participant reported attending an HIV/AIDS presentation other than the ones provided as part of the intervention. All nonparticipants reported receiving some information about HIV/AIDS prevention and obtaining educational materials or condoms from the participants.

Table 1 presents the one-tailed t-test results for outcomes one year after the intervention began. One-tailed t tests were used because we were interested in only testing the hypothesis that participants would score higher than nonparticipants (one end of the distribution). It also does not seem logical, given our outcomes, that the intervention would have a negative effect on participants. No differences were found between the groups in the reported number of sexual partners in the previous month when Time 1 score on this variable was covaried. Paired t tests comparing Time 1 and Time 2 number of sexual partners for participants, t(36) = 1.79, n.s., and nonparticipants, t(82) = -.66, n.s., also indicate no differences within groups over time. Participants reported higher

Outcome	Participants $(n = 37)$		Nonparticipants $(n = 55)$		
	М	SD	М	SD	t-Test
AIDS knowledge <sup>a</sup>	13.10	(1.94)	12.24	(1.89)	-2.13*
Number of sexual partners in					
the previous month	4.24	(4.06)	4.35	(4.06)	$0.03^{c}$
Use of condoms in the last 10					
encounters	7.75	(3.44)	6.55	(3.92)	-1.51*
Condom use behavior <sup>b</sup>	4.20	(1.37)	3.45	(1.09)	-2.89*

Table 1. Means, Standard Deviations, and One-Tailed *t*-Test Results for AIDS Knowledge, Number of Sexual Partners in the Previous Month, Condoms Used in the Last 10 Sexual Encounters, and Condom Use Behavior

levels of HIV/AIDS knowledge than nonparticipants, more condoms used in the last 10 sexual encounters, and more condom use behavior during particularly high-risk sexual encounters (i.e., anal and oral sex).

# **Community-Level Outcomes**

During the intervention period, participants carried out several additional community activities that were not part of the original intervention (i.e., HIV/AIDS education and condom distribution). The group mobilized community support for their initiatives. Many of their activities were supported by the CBO and other agencies by the provision of small amounts of money and other resources (e.g., medicines, educational materials). Participants initiated and conducted fund-raising activities to help people with AIDS (PWAs). Money was raised through donation jars in bars and other businesses. Participants also organized a fashion show and talent contest to help raise funds to support their community initiatives. They leased a reception hall, printed invitations, and elicited the cooperation of a clothing store and a modeling agency. Some of the participants not only assisted in the arrangements for this event but also organized their own drag queen shows.

Participants also developed a buddy system to provide assistance to PWAs. They helped the PWAs obtain financial assistance, food, and medicines. Participants joined other area agencies in two vigils during AIDS World Day. This event involved groups from two cities marching together through the city for a rally and vigil. In addition, participants organized a community library. Most of the literature was about gay topics, and its circulation was controlled by a selected coordinator. The library was located in a local beauty salon.

Participants organized drug- and alcohol-free weekly social groups. The groups met in participants' homes on a rotating basis. The social gatherings encouraged the sharing of personal concerns and substantive issues. They often turned into conversations about safer sex and emotional problems, and included an occasional movie related to HIV/AIDS

a. Scores could range from 0 to 14.

b. Scores could range from 0 to 6.

c. This is an F-test result because it includes Time 1 number of sexual partners as a covariate.

<sup>\*</sup>p < 0.05.

or gay issues. Several participants also noted that the meetings helped strengthen their collective support.

Most of the community activities described have continued after the funding for the original intervention ended. In fact, during site visits to the community a year later, some of the intervention participants were continuing their work on HIV/AIDS prevention by distributing condoms, referring individuals to health and social services, and organizing HIV/AIDS educational presentations for the community.

#### DISCUSSION

This study provides an example of how participant involvement in program design and collective action may be an effective strategy for promoting HIV/AIDS knowledge, preventive behavior, and community mobilization. The intervention had the hypothesized effects on three of four reported behavioral outcomes. Participants reported greater knowledge about HIV/AIDS and reported using condoms more frequently than nonparticipants. Only the reported number of sexual partners did not differ between groups after the intervention. Interestingly, the number of sexual partners for participants increased over time, although this was not statistically significant at the 0.05 level. One explanation for this increase may be that the intervention encouraged reporting as a result of greater knowledge and sensitivity to what constitutes risky sexual relations.

The intervention design was consistent with characteristics of an empowering setting described by others. 20,23,26 Researchers suggest that empowering settings help create group identity and shared beliefs, encourage knowledge and skill development, generate individual and group resources, and include target audience members in their development and implementation. Although empowerment outcomes were not measured, the processes used in the intervention are consistent with empowerment theory. 24,25,26 The HIV/AIDS prevention program described in this study could be defined as empowering because it (1) provided participants with opportunities to participate in making decisions about and taking ownership of the intervention; (2) helped participants develop the knowledge and skills necessary to provide HIV/AIDS education information, collect data, and conduct community outreach activities; (3) helped participants learn how to identify and secure community resources needed to conduct their educational activities; and (4) helped participants to develop a cohesive group with a common goal. These four points are supported by the fact that participants were involved in designing, implementing, and evaluating intervention activities; sharing leadership for chairing meetings; mobilizing resources; and continuing to work as a group after funding ended.

This evaluation demonstrates how an intervention can incorporate an empowering approach with the intention to enhance healthy behaviors, regardless of the effects they may have on the level of empowerment achieved for participants. This is a useful distinction to make because empowering processes are different from empowered outcomes. 27,45 Yet empowerment outcomes were not measured, so we do not know if the intervention empowered participants. An implicit assumption is that the empowering intervention leads to empowerment outcomes, which in turn lead to healthy behaviors. Although we did not specifically test this hypothesis, future research needs to explicitly investigate how empowering processes and outcomes operate to influence health-related behaviors. This research could examine both the direct effects of empowering processes on health behavior change and the indirect effects empowering processes may have on health behavior change that occurs through empowerment outcomes.

Another contribution of this study is that it provides an example of how empowering processes may have both individual-level and community-level effects. Participants developed safer sexual practices, and the intervention helped increase community-level HIV/AIDS prevention and support activities. A beneficial consequence of an empowering intervention is that it is designed to help people organize to influence social and individual-level change. It explicitly incorporates sociopolitical dimensions such as mutual help, community involvement, and social change. <sup>28,46,47,48</sup>

#### Limitations

Although the study demonstrates the application of some useful concepts, it does have several limitations. The results should be interpreted cautiously because participants were not randomly assigned to groups. A feasible alternative explanation for the behavioral change effects could be that those who chose to participate in the intervention may have been predisposed to change their HIV/AIDS risk behaviors regardless of the intervention. The fact that the groups did not differ on most of the pretest measures, and that exposure to HIV/AIDS-related information other than that provided in the intervention did not differ between participants and nonparticipants, somewhat reduces the concerns raised about group assignment and voluntary participation. The attrition analysis also suggests that individuals who remained in the study were not different from individuals who dropped out of the study. Future efforts could improve the evaluation design by using similar processes for recruiting more volunteers to participate than are needed, then randomly assigning half of the volunteers to the intervention group. Generalizability of the results to other Mexican homosexual males is also somewhat limited because participants were not randomly selected from the population. Nevertheless, the sampling approach used in this study did include a diverse group in terms of educational backgrounds and occupations.

Measurement of outcomes poses another limitation of the study. We depended solely on self-reported outcomes in a face-to-face interview format. In addition, the fact that interviewers also participated in the intervention could adversely affect experimental validity because interviewers were not blind to the experimental conditions. The advantage of using such interviewers is that they can develop rapport with respondents and help with tracking individuals over time. Future research could include reports of significant others or a more anonymous approach such as a survey. Respondents may be more likely to report socially desirable responses when answering questions in person, especially sensitive questions concerning sexual behavior. Another problematic outcome measure was AIDS knowledge. The open-ended nature of this measure may be assessing memory and not AIDS knowledge. An improvement of this measure would be to include every option with a true/false response format. While this measure may be problematic, the study did include other outcome measures that assessed specific behaviors.

Future research may also benefit from a design which includes a third group receiving an HIV/AIDS prevention intervention not involving empowering processes. This would enable researchers to tease apart the empowering component of the intervention and its effects. It is entirely possible, for example, that some mechanism other than empowering processes explains why the participants' HIV/AIDS preventive knowledge and behavior was improved as a result of the intervention. The additional group would also enable assessment of whether an empowering intervention improves a program that does not give control to the participants.

# **Implications for Practice**

This study has several implications for health education practice. First, the study provides an example of an empowering intervention that may be a useful model for other individual and community change efforts. It helps to redefine the role of the health educator from one of expert to collaborator, and the role of the community from a passive client to an active participant. Second, the study helps to further elucidate empowering processes and distinguish them from empowered outcomes. Health educators may benefit from the notion that one need not necessarily measure empowerment outcomes simply because empowering strategies are being employed. Efforts need to be made, however, to ensure that the intervention is theoretically consistent with an empowerment approach. Finally, the study provides an example of how an intervention can be designed and evaluated to both change individual behavior and enhance collective action.

#### References

- 1. Strecher VJ, DeVellis BM, Becker MH, Rosenstock IM: The role of self-efficacy in achieving health behavior change. Health Educ Q 13:73-92, 1986.
- 2. Hibbard JH: Social ties and health status: An examination of moderating factors. Health Educ Q 12:23-34, 1985.
- 3. Seeman M, Seeman T, Sayles M: Social networks and health status: A longitudinal analysis. Soc Psychol Q 48:237-248, 1985.
- 4. Seeman M, Seeman T: Health behavior and personal autonomy: A longitudinal study of the sense of control in illness. J Health Soc Behav 24:144-160, 1983.
- 5. Rakowski W: Personal health practices, health status, and expected control over future health. J Community Health 11:189-203, 1986.
- 6. Zimmerman MA, Janz NK, Wren P: Factors influencing the success of AIDS prevention efforts. in Freudenberg N, Zimmerman MA (eds.): AIDS Prevention in the Community: Lessons From the First Decade. Washington, DC, American Public Health Association, 1995.
- 7. Rappaport J: The power of empowerment language. Soc Policy 16:15-21, 1985.
- 8. Wallerstein N, Bernstein E: Empowerment education: Freire's ideas adapted to health education. Health Educ Q 15:379-394, 1988.
- 9. Levine AG: Love Canal: Science, Politics, and People. Lexington, MA, Lexington Books,
- 10. Freudenberg N, Golub M: Health education, public policy, and disease prevention: A case history of the New York City Coalition to End Lead Poisoning. Health Educ Q 14:387-401, 1987.
- 11. Rody N: Empowerment as organizational policy in nutrition intervention programs: A case study from the Pacific Islands. J Nutr Educ 20:133-141, 1988.
- 12. Wallerstein N: Powerlessness, empowerment, and health: Implications for health promotion programs. Am J Health Promotion 6:197-205, 1992.
- 13. Checkoway B: The empire strikes back: More lessons for health care consumers. J Health Polit Policy Law 7:111-124, 1982.
- 14. Gallant RV, Cohen C, Wolff T: Change of older persons' image, impact on public policy result from Highland Valley Empowerment Plan. Perspect Aging 14:9-13, 1985.
- 15. Minkler M: Building supportive ties and sense of community among inner-city elderly: The Tenderloin Senior Outreach Project. Health Educ Q 12:303-314, 1985.
- 16. Ovrebo B, Ryan M, Jackson K, Hutchinson K: The homeless prenatal program: A model for empowering homeless pregnant women. Health Educ Q 21:187-198, 1994.

- 17. Gruber J, Trickett EJ: Can we empower others? The paradox of empowerment in the governing of an alternative public school. *Am J Community Psychol* 15:353-371, 1987.
- 18. Balcazar FE, Seekins T, Fawcett SB, Hopkins BL: Empowering people with physical disabilities through advocacy skills training. *Am J Community Psychol* 18:281-296, 1990.
- 19. Fawcett SB, White GW, Balcazar FE, Suarez-Balcazar Y, Mathews RM, Paine AL, Seekins T, Smith JF: A contextual-behavioral model of empowerment: Case studies involving people with physical disabilities. *Am J Community Psychol*, in press.
- 20. Freire P: Pedagogy of the Oppressed. New York, Seabury, 1970.
- 21. Rappaport J: Studies in empowerment: Introduction to the issue. Prev Hum Servs 3:1-7, 1984.
- 22. Zimmerman MA: *Empowerment Theory: Where Do We Go From Here?* Invited address at the Midwest Psychological Association annual meeting, Chicago, April 1993.
- 23. Zimmerman MA: Empowerment theory: Psychological, organizational, and community levels of analysis, in Rappaport J, Seidman E (eds.): *The Handbook of Community Psychology*. New York, Plenum, in press.
- 24. Cornell Empowerment Group: Empowerment and family support. *Networking Bull* 1:1-23, 1989.
- 25. Mechanic D: *Adolescents at Risk: New Directions*. Paper presented at the Seventh Annual Conference on Health Policy, Cornell University Medical College, February 1991.
- Maton KI, Salem DA: Organizational characteristics of empowering community settings: A
  multiple case study approach. Am J Community Psychol, in press.
- 27. Zimmerman MA: Psychological empowerment: Issues and illustrations. Am J Community Psychol, 23:581-599, 1995.
- 28. Robertson A, Minkler M: New health promotion movement: A critical examination. *Health Educ Q* 21:293-312, 1994.
- 29. Airhihenbuwa CO: Health promotion and the discourse on culture: Implications for empowerment. *Health Educ Q* 21:345-353, 1994.
- PAHO: Las condiciones de salud en las Americas, Vol. 1. Washington, DC, Oficina Panamericana de la Salud, 1992.
- 31. Doll L, Byers R, Bolan G, Douglas J, Moss P, Weller P, Joy D, Barthlow B, Harrison J: Homosexual men who engage in high risk sexual behavior. *J Sexually Transmitted Dis* 18:170-175, 1991.
- 32. Linn LS, Spiegel SS, Mathews WC, Leake B, Lien R, Brook S: Recent sexual behaviors among homosexual men seeking primary medical care. *Arch Intern Med* 142:2685-2690, 1989.
- 33. Jimenez D, Mckirnan DJ, LaBoy F: Social settings and AIDS-risk sexual behavior among inner-city minority [Abstract]. VII International Conference on AIDS 6:258, 1990.
- 34. Singer M, Flores C, Davison L, Burke G, Castillo Z, Scalon K, Rivera M: SIDA: The economic, social, and cultural context of AIDS among Latinos. *Med Anthropol Q* 4:72-114, 1990.
- EPI-CONASIDA: SIDA/ETS Boletin Mensual. Mexico City, Sistema Nacional de Salud, May 1992.
- 36. Magana JR, Carrier JM: Mexican and Mexican American male sexual behavior and spread of AIDS in California. *J Sexual Res* 28:425-441, 1991.
- 37. Caceres C, Gotuzzo E, Wignall S, Campos M: Sexual behavior and frequency of antibodies to Type 1 human immunodeficiency virus (HIV-1) in a group of Peruvian male homosexuals. *Bull Panamerican Health* 25:306-311, 1991.
- 38. Guerena-Burgueno F, Benenson A, Sepulveda J: HIV-1 prevalence in selected Tijuana subpopulations. *Am J Public Health* 81:623-625, 1991.
- 39. Izazola-Licea J, Valdespino-Gomez J, Gortmaker S, Townsend J, Becker J, Palacios-Martinez M, Mueller N, Sepulveda J: HIV-1 seropositivity and behavioral sociological risks among homosexual and bisexual men in six Mexican cities. *J Acquir Immune Defic Syndr* 4:614-622, 1991.
- Mott L, Moreira E, Ribeiro T, Badaro R, Johnson W: Impact of condom use to prevent HIV transmission among male homosexuals in Bahia, Brazil (Abstract No. 3075). AIDS Int Conf Abstracts 6, June 1990.

- 41. Lumsden I: *Homosexualidad, sociedad, y Estado en Mexico* (Zapata L, trans.). Mexico, D.F., Soledicionas colectivo sol, 1991.
- 42. Fineberg HV: Education to prevent AIDS: Prospects and obstacles. Science 239:592-596, 1988.
- 43. Levine C: AIDS prevention and education: Reframing the message. *AIDS Educ Prev* 3:147-163, 1991.
- 44. Ramirez J, Suarez E, de la Rosa G, Castro MA, Zimmerman MA: AIDS knowledge and sexual behavior among Mexican gay and bisexual men. *AIDS Educ Prev* 6:163-174, 1994.
- 45. Swift C, Levine G: Empowerment: An emerging mental health technology. *J Primary Prev* 8:71-94, 1987.
- 46. Zimmerman MA: Taking aim on empowerment research: On the distinction between psychological and individual conceptions. *Am J Community Psychol* 18:169-177, 1990.
- 47. Zimmerman MA, Israel BA, Schulz A, Checkoway B: Further explorations in empowerment theory: An empirical analysis of psychological empowerment. *Am J Community Psychol* 20:707-727, 1992.
- 48. Zimmerman MA, Rappaport J: Citizen participation, perceived control, and psychological empowerment. *Am J Community Psychol* 16:725-750, 1988.