

USING COMMUNITY READINESS KEY INFORMANT ASSESSMENTS IN A RANDOMIZED GROUP PREVENTION TRIAL: IMPACT OF A PARTICIPATORY COMMUNITY-MEDIA INTERVENTION

Michael D. Slater, PhD; Ruth W. Edwards, PhD;
Barbara A. Plested, PhD; Pamela J. Thurman, PhD;
Kathleen J. Kelly, PhD; Maria Leonora G. Comello, MS;
Thomas J. Keefe, PhD

ABSTRACT: This study examines the role of key informant community readiness assessments in a randomized group trial testing the impact of a participatory community-media intervention (which was also complemented by in-school efforts). These assessments were used to help match communities in random assignment, as a source of formative data about the community, as the basis for a coalition-building workshop, and as an evaluation tool, with a follow-up set of surveys approximately 2 years after the baseline survey. Results of the nested, random effects analysis indicated that the intervention influenced community knowledge of efforts and (at marginally significant levels) improved prevention leadership quality and community climate supportive of prevention efforts. There was evidence that the professional affiliation of informants in some cases had an effect on their assessments, which could be controlled in the analysis. The authors conclude that key informant community readiness assessments can usefully serve to supplement aggregated measures of individual attitudes and behavior (reported elsewhere for this study) in evaluating community-based interventions.

KEY WORDS: community readiness; substance use; methods; media.

Michael D. Slater, PhD, Professor of Journalism and Technical Communication; Ruth W. Edwards, PhD, Director of Tri-ethnic Center of Prevention Research; Barbara A. Plested, PhD, Research Scientist of Tri-Ethnic Center of Prevention Research; Pamela J. Thurman, PhD, Research Scientist of Tri-Ethnic Center of Prevention Research; Kathleen J. Kelly, PhD, Professor of Marketing; Maria Leonora G. Comello, MS, Research Associate of Marketing; Thomas J. Keefe, PhD, Professor of Environmental Health, all at Colorado State University, Fort Collins, CO, 80523.

Requests for reprints should be addressed to Michael D. Slater, Journalism and Technical Communication Colorado State University, Fort Collins, CO 80523-1785; e-mail: michael.slater@colorado-state.edu.

INTRODUCTION

Although community-based interventions have become increasingly common in substance-abuse prevention, the evaluation of such projects has presented a host of challenges to researchers.^{1,2} Examining individual behavior change is essential but clearly insufficient given the community-level objectives of many projects. A basic issue is that community-level outcomes other than aggregated individual outcomes (such as community involvement, increases in social capital, shifts in community norms, and readiness for change) are complex and difficult to operationalize. Therefore, what is needed is a comprehensive model that enables a rigorous examination of community-level factors in order to triangulate individual-level data and to test hypotheses about the community change that the project seeks to bring about.

A recent national field study to prevent youth substance use through community and in-school media has tested the Community Readiness Model³ for its ability to address these issues. The theory-based model offers a broad framework for understanding key community-level factors and for developing appropriate strategies to mobilize greater community support. It asserts that a community's preparedness to address an issue can be analyzed by both dimension and developmental stage, and in addition to characterizing and operationalizing these factors, it enables quantification for ease of use in evaluation. We provide background on the Community Readiness Model and its multifaceted role in our project, and we assess the method's viability as an evaluation tool, in the context of assessing the impact of participatory, community-based media efforts on community readiness to support prevention efforts.

Background: The Community Readiness Model

Researchers and practitioners alike have found that communities vary greatly in their interest and willingness to try new prevention strategies—perhaps one of the primary reasons for the mixed success of community-based interventions.³⁻⁶ While some communities may reject public recognition of a local problem, other communities show considerable interest in an identified problem but have little knowledge about what to do about it, and still other communities may have highly developed and sophisticated prevention programs.

Prior to work conducted by investigators at the Tri-Ethnic Center for Prevention Research, no standard method for describing community readiness or for assessing community readiness existed. Community

readiness is inspired by two research traditions: individual psychological readiness for treatment and community development. Prochaska and DiClemente⁷ described personal stages of readiness for health behavior change (precontemplation, contemplation, preparation, action, and maintenance) that served as an initial model for community readiness. However, because these stages do not account for community-level processes, models from the field of community development were also tapped, including Rogers'⁸ stages for diffusion of innovation that include knowledge, persuasion, decision, implementation, and confirmation. Another model relevant to community readiness is Warren's⁹ social action process, which identifies stages at the community level that lay the groundwork for collective action: stimulation of interest, initiation, legitimization, decision to act, and action. In contrast to individual stages, these stages recognize group characteristics and the complex interactions necessary for group action.

Combining elements from these models and drawing on field experience, Tri-Ethnic Center researchers developed the Community Readiness Model to provide an efficient means of characterizing and assessing a community's readiness to take action on an issue. Using interviews with a broad range of key informants in the community (described in Methods), the model assesses six dimensions of readiness: *existing efforts* (programs, activities, policies, etc.); *community knowledge of efforts*; *leadership* (including appointed leaders and influential community members); *community climate* (prevailing attitudes in community about the issue); *knowledge about the issue*; and *resources* (e.g., funding, staff) related to the issue.

Based on scores by dimension, the model classifies a community into one of nine stages of readiness. *No awareness* is characterized by a lack of awareness that the issue is a problem in the community. At the stage of *denial/resistance*, at least some community members recognize that it is a problem, but there is little or no recognition that it is a local problem. *Vague awareness* is marked by a general acceptance that there is a local problem, but no immediate motivation to do anything about it. At *preplanning*, there is clear recognition that something must be done, but efforts are not focused or detailed. *Preparation* includes focused planning and modest community support of efforts, while *initiation* is distinguished by the launch of new programs and activities. *Stabilization* is characterized by experienced project staff and firm support from administrators and community leaders. At *confirmation/expansion*, programs are marked by ongoing evaluation and public support to expand existing efforts. At the stage of *community ownership*, the community is fully vested in the issue: detailed, sophisticated, and accessible knowledge exists;

program staff members are highly trained; and often communities find it necessary to begin addressing related issues.

The validation of both the dimensions and stages was accomplished through an extensive process involving expert raters and anchored rating scales, a well-established psychometric technique borrowed from industrial psychology with a long history of successful use,^{10,11} including use in creating a multidimensional and developmental model used for assessing psychotherapist traits.¹² Other conceptualizations of community readiness have been offered since by various researchers, including Goodman et al.¹³ stages of readiness (initial mobilization, building capacity for action, and refinement and institutionalization); and Beebe et al.¹⁴ dimensions of readiness (perception of community commitment, support for prevention, permissive attitudes toward teen use, perception of ATOD problems, and perception of adolescent access) as assessed via brief mail surveys of population attitudes. Further, other methods of community analysis exist.¹⁵ However, it is our view that the Community Readiness Model is unique in providing a comprehensive framework that takes into account both dimensions and stages, and that combines the richness of qualitative data with the ability to quantify that data through rigorous coding procedures.

Community Readiness Assessments in a Randomized Group Trial

Community readiness assessment can serve a variety of functions. First, it can aid in the pairing of treatment and control communities. Because communities can differ widely in terms of readiness even if they are comparable demographically, matching by readiness can help minimize a potential confounding factor. This was an important function of community readiness assessment in the present study. Researchers can also use readiness scores to ensure that participating communities are at a certain threshold of readiness for an intervention. For example, if the goal is to implement a project that demands extensive school and community support, it would be pointless to recruit communities that were at very low levels of readiness to address the issue. On the other hand, recruiting communities with very high levels of readiness could also be counterproductive, since communities with extensive programming already in place may not view an introduced research project as additionally beneficial and may even believe that the project would detract from existing efforts. The results of the extended open-ended interviews also provide substantial formative insight into community dynamics that can inform program coordination in an assessed community.

Further, the Community Readiness Model provides a tool not only for community analysis but also community mobilization. Following the assessment phase, a workshop may be held for community leaders and issue stakeholders that introduces them to the model and facilitates strategizing based on dimension- and stage-specific needs. In the context of our project, workshops were conducted in treatment communities and were combined with a media workshop that introduced the media component of our project. Participants were encouraged to use the media (posters, public service announcements for newspapers, radio, and TV; news releases and columns) and promotional items provided by the project in ways consistent with stage- or dimension-related needs. Given the important role of the media as gatekeepers and potential partners in community health promotion,¹⁶ local media representatives were invited to the workshops and encouraged to partner with issue leaders to bring greater public attention to youth substance use issues.

The potential of media to increase issue awareness through agenda-setting has been well established.^{17,18} Further, media has the potential to reinforce individual behavior change through its effects on local policy and public attitudes.^{19,20} Therefore, it was our belief that community-level media efforts would reinforce in-school media and other social marketing efforts aimed at influencing individual attitudes and behavior. Moreover, we expected that these community-sponsored media efforts would impact awareness and support in the wider public, as well as stimulate a more active and engaged leadership with respect to the issue.

The focus of our paper, then, is twofold. The first objective is substantive: whether involving community prevention leadership in community media efforts will increase relevant community readiness dimensions relative to change in those dimensions in a control community. Specifically, we would expect:

Hypothesis 1: Communities receiving the community readiness/media training intervention will show greater increases in community readiness scores on the community knowledge of issue dimension.

Hypothesis 2: Communities receiving the community readiness/media training intervention will show greater increases in community readiness scores on the community climate dimension.

Hypothesis 3: Communities receiving the community readiness/media training intervention will show greater increases in community readiness scores on the community leadership dimension.

No effects are predicted on the other dimensions, as they are unlikely to be directly influenced by this media-based intervention.

The second objective of this analysis is to assess the potential contribution of the Community Readiness Model as an evaluation tool in projects that feature specific interventions. Does it provide the necessary specificity as suggested by the above hypotheses? Can one cope effectively with the particular methodological challenges inherent in using pre-post surveys of community prevention leaders?

Effects of the overall intervention on youth behavior are assessed and reported elsewhere.²¹

METHODS

Sample and Design

Key informant interviews were conducted with community members in 16 U.S. communities (8 treatment, 8 control), in a group-randomized trial of a community and school media intervention, prior to and following the intervention effort. Baseline and follow-up interviews were approximately two years apart.

Using the reputational method of recruitment,²² project staff asked community members to identify people in their community who were the most knowledgeable or influential relative to the issue of substance use. Recruitment was stratified such that interviewees represented a broad spectrum of society, with at least one person in each community representing the perspectives of schools, law enforcement, human services, and the general community.

It also should be noted that participants in the community/media intervention described earlier were recruited separately, and in most cases post-test interviewees did not participate in the intervention itself. Of the 55 workshop participants, only two (0.03%) were interviewed for the post community readiness survey. The media efforts arising from the efforts of the community media coalition supplemented a turn-key in-school media and social marketing effort.²¹

In the baseline assessment, 112 interviews were conducted (approximately six in each community). When post-project assessments were conducted 2 years later, 92 interviews were conducted. Efforts were made to contact the same people; however, due to job turnover and other reasons for ineligibility, only 36% of informants interviewed at baseline were re-interviewed, and the others were replaced by informants

from the same professional affiliation category. Informant mean age was 50.4 years; 109 were male and 95 were female and 92.5% were non-Hispanic Caucasian.

Instrument

The Community Readiness Assessment is a semi-structured interview based on open-ended questions relative to each of six dimensions of readiness. Examples of questions used to assess the dimensions include, "How much do the leaders, groups or committees in your community know about these efforts?" (for community knowledge of the issue), "Is there ever a time when or circumstance in which members of your community might think that adolescent drug use should be tolerated? Prompt: for example, due to age, religion, ethnicity, gender, or socioeconomic status." (for community climate), "Are the 'leaders' in your community involved in prevention efforts? Please list." (for the leadership dimension, after ascertaining relevant leadership), see Plested, Edwards, and Thurman²³ for details.

Procedure

Key informants participated in a 20–40 min telephone interview conducted by Tri-Ethnic Center project staff using the Community Readiness Assessment interview. Interviewees were advised that their responses would remain confidential. Responses were simultaneously transcribed in full by the interviewer.

Transcribed interviews were independently coded by two trained coders. Coders do not participate in community readiness ratings until their coding reliabilities reach a standard criterion kappa of 0.90. In validation efforts using data from 500 communities and 7 projects, independent coders achieved reliability kappas of 0.92, well above the 0.5 criterion usually used for publishable research.²⁴ In the present study and consistent with standard practice for community readiness assessments, the results were completely coded by both coders who then met to reconcile any discrepancies, to minimize possible coding error. For more detailed descriptions of interview and scoring techniques, see Plested et al.²³

Data Analysis

The group randomized trial results were analyzed using Proc Mixed in SAS version 8.2. Interviewees were nested within communities,

which were treated as a random effect. Main effects were assessed for treatment, round (pretest or post-test), and (in two separate models) for one of two relevant design factors, see the data analysis section below for explanation.

The primary model included a five-level fixed effect capturing variation due to the professional affiliation of the interviewee (school district, law enforcement, health and human services, city official, or other professional affiliation such as clergy or business leader). This variable was included since the snowball sampling was stratified to insure at least one representative from each category, but there was no assurance that the exact number of interviewees was perfectly counterbalanced across treatment and control conditions. Moreover, since assessment interviews are also used for formative and diagnostic purposes, it was important to learn whether any category of respondent tends to rate readiness optimistically or pessimistically as compared to other community prevention leaders.

A major methodological concern was the necessity of combining repeat interviewees with new interviewees in the post-test. The difficulty of consistently relocating baseline interviewees (due to job turnover or other causes of unavailability) precluded use of a repeated-measures design. Moreover, such a sample would have been problematic, as positive results might be deemed attributable to sensitization of interviewees by the original interview. The nature of the questions asked in the interview protocol, in any case, were designed to obtain assessments of community readiness based, insofar as possible, on informant reports of objective criteria, which should minimize subjective elements and variation due to selection of interview subject.

Nonetheless, the possibility of sensitization making repeat interviewees more (or possibly less) likely to report positive change remained a concern, and one that we wished to test. Therefore, we ran a second set of models replacing the professional affiliation fixed effect with a fixed effect for whether a case was a repeat interview or not in post-test. (Because interviewee professional affiliation and repeat status was not crossed in all communities, we could not run these together in the same model). If that repeat interview effect was significant, then we would clearly have a problem with potential artifacts and at the very least would have to adjust treatment and control samples to be identical with respect to the number of repeat interviewees.

RESULTS

Hypothesis Tests

Hypothesis 1, that the community media effort would increase community knowledge of the issue as perceived by community leaders relative to change in control communities, was supported in a test of the time by treatment interaction, $F(1,13) = 5.65$, $p = 0.03$. Hypothesis 2, regarding treatment impact on perceived community climate, was marginally supported, $F(1,13) = 4.45$, $p = 0.06$. Similarly, Hypothesis 3, which proposed treatment effects on perceived prevention leadership quality, was also marginally supported, $F(1,13) = 3.52$, $p = 0.08$. As expected, effects on non-relevant community readiness dimensions such as resource commitment and community knowledge of other prevention efforts did not approach significance. Means for treatment versus control pre-post comparisons are provided in Table 1. It is noteworthy that the direction of relative increase favored the treatment communities for each dimension, with the increase in readiness stage for treatment communities exceeding that of control communities by about $\frac{1}{2}$ to 1 stage for the three dimensions of primary interest.

It should also be noted that these community-level effects were also paralleled by nested random coefficient (or hierarchical linear modeling) analyses indicating significant treatment effects on youth substance uptake, as reported elsewhere.²¹

Effects of Professional Affiliation of Informant and of Repeat Interviewing

These analyses also found some evidence for the effect of professional affiliation of the informants. There were differences by affiliation for assessment of community efforts ($F(4,18) = 5.01$, $p < 0.01$) and for assessment of resources applied to substance prevention issues in the community ($F(4,18) = 3.86$, $p < 0.05$). The professional affiliation variable did not approach significance for the other community readiness dimensions. Means by affiliation for each dimension are summarized in Table 2. Overall, it appears that readiness assessments were quite consistent across most professional categories (human services, law enforcement, city officials, general community) except that informants from the school system scored the community highest in five of the six dimensions, including the two for which differences were statistically significant.

TABLE 1
 Treatment versus Control Differences in Community Readiness Scores at Baseline and 2-year Post-test:
 by Community Readiness Dimension

Community, Readiness Dimension	Control Pre-post Results			Treatment Pre-post Results			Treatment vs Control Change
	Baseline Control	Post-test Control	Change in Control	Baseline Treatment	Post-test Treatment	Change in Treatment	
Community efforts	5.88 0.15	6.46 0.16	0.58	6.18 0.15	6.89 0.15	0.71	0.13
Knowledge of efforts	3.95 0.17	4.42 0.17	0.47	4.47 0.17	5.26 0.17	0.79	0.32
Leadership	4.58 0.21	4.48 0.21	-0.1	4.83 0.21	5.20 0.21	0.37	0.47†
Community climate	4.21 0.22	4.49 0.22	0.28	4.08 0.22	5.13 0.22	1.05	0.77†
Knowledge of issue	4.49 0.21	4.41 0.21	-0.08	4.77 0.21	5.25 0.21	0.48	0.56*
Resources to issue	5.30 0.18	5.74 0.18	0.44	5.67 0.18	6.33 0.18	0.66	0.22

Note: Significance is indicated in the last column for the overall treatment by time effect, see text for details. Standard errors appear below mean stage rating for each dimension. As explained in text, community readiness scores are coded from open-ended interview responses for each dimension and range from a low of 1 to a high of 9.
 * $p < 0.05$; † $p < 0.10$.

TABLE 2

Mean Community Readiness Assessment by Dimension for Each Category of Professional Affiliation of Key Informants

<i>Community Readiness Dimension</i>	<i>Informant affiliation</i>				
	<i>At-large</i>	<i>City Official</i>	<i>Human Services</i>	<i>Law Enforcement</i>	<i>School District</i>
Community efforts	6.06	6.21	6.44	6.25	6.82**
	0.14	0.18	0.16	0.14	0.14
Knowledge of efforts	4.56	4.44	4.33	4.48	4.82
	0.16	0.2	0.18	0.17	0.17
Leadership	4.61	4.74	4.78	4.67	5.04
	0.2	0.23	0.22	0.1	0.21
Community climate	4.41	4.49	4.64	4.48	4.37
	0.16	0.18	0.17	0.16	0.16
Knowledge of issue	4.46	4.51	4.79	4.70	5.20
	0.18	0.22	0.2	0.19	0.19
Resources to issue	5.74	5.54	5.69	5.72	6.11*
	0.16	0.2	0.18	0.17	0.17

Note: Significance is indicated in the last column for the overall category effect, see text for details. Standard errors appear below mean stage rating for each dimension. As explained in text, community readiness scores are coded from open-ended interview responses for each dimension and range from a low of 1 to a high of 9.

* $p < 0.05$, ** $p < 0.01$

As noted earlier, we also tested a fixed effect assessing the impact of post-test interviewees being either repeat interviewees (i.e., also interviewed at baseline), or not. Fortunately, the effects of the repeat/non-repeat interview variable were non-significant for each community readiness dimension analyzed. The factor reached marginal significance for only one of the six dimensions, leadership quality ($p = 0.098$). For the other dimensions, the highest F value was 0.51, $p = 0.49$; $F < 0.15$, $p > 0.70$ was the highest among the other four dimensions.

DISCUSSION

Results of these analyses were encouraging in several respects. Methodologically, the use of pre-post community assessment interviews appeared to pick up significant or marginally significant effects where we

believe they should have appeared, and did not find evidence for effects on dimensions where one would not expect impact given the intervention under study. The latter finding is encouraging, in that it reduces the likelihood that effects were due to some kind of perceived social demand to report positive results on the part of community informants, a criticism raised by Beebe et al.¹⁴ with respect to using key informant interviews to assess community readiness.

The lack of effect of the repeat interview factor on readiness estimates also provides support for the community readiness assessment model. The assessment protocol purports to measure objective perceptions that should be reasonably interchangeable regardless of what person from a given professional category is interviewed. The evidence showing that interviewing different people at post-test than at baseline produced no statistically significant differences from interviewing the same people at both occasions is, in our view, supportive of that assertion.

The consistent pattern of differences between school district personnel and other informants is also noteworthy. First, it does indicate that inclusion of a fixed effect for the interview categories used in sampling stratification is a necessary feature of analyses of community readiness informant interview data. Second, it suggests that when these assessments are used formatively, input from school personnel might need to be slightly discounted relative to input from other community members. Third, and more speculatively, the more optimistic perspective of educators suggests that they often may be more willing to take a leadership role in community initiatives, or at least to encourage other influential community members to do so.

The fact that two of the three hypotheses were only supported at marginally significant levels, despite *F* values typically associated with significant findings, highlights the power issues that impact use of this assessment model for intervention evaluation. Since this assessment tool is specifically intended to capture community-level effects, one can expect that it will be typically used in the context of group randomized trials. It is of course desirable to maximize the number of communities insofar as possible. It also appears desirable, given the findings of this study, to increase power less expensively by expanding the number of community informants interviewed, even if this only produces redundant information from the point of view of formative research assessment.

Substantively, these results are supportive of the conclusion that the participatory community-media intervention did impact community-level characteristics. In particular, the intervention appeared to impact those

dimensions most amenable to impact through a media-based intervention, namely community knowledge of issue and (marginally) community climate and leadership quality. The latter is of particular substantive interest. It appears that simply bringing community prevention leaders together on media efforts, which tended to be relatively enjoyable, non-threatening in terms of competition for resources for different organizations, and with potential benefits for all participants, may have improved communication and thus overall leadership quality around the prevention issue in these communities.

We recognize, of course, that this assessment measures community knowledge of the issue, community climate, and prevention leadership as assessed by knowledgeable community informants, and does not directly measure these factors based on surveying representative samples of community members.¹⁴ In the best of possible worlds, evaluation assessments would include measurement of community-level indicators both objectively through review of community expenditure data, meeting minutes, informant interviews, and through surveys of community members¹⁴ as well as through measurement of behavior change and behavior mediators in a target population. Typically, however, the expenses involved in measuring outcomes in the target population in a randomized community trial are high enough to push the outer limits of what can reasonably be funded, and would preclude conducting probability-sample surveys in the community general population as well. In such cases, assessing community-level effects through interviews with knowledgeable community informants is sensible and efficient, especially since the baseline interviews also, as qualitative data, have important formative research value and may as well be used as part of a community coalition-building process.

Given that these dimensions are assessed indirectly through knowledgeable community informants, we believe that community readiness pre-post assessments of interventions should be considered a supplementary and not a primary evaluation criterion. In the case of the present research, this supplementary data plays an important role. This intervention included in-school media/social marketing efforts as well as reinforcing media efforts and events at the community level. Nested random-effect coefficient analyses evidence the effectiveness of the combined intervention on the younger adolescents who were the focus of the intervention.²¹ However, it may well have been that effects were due only to the in-school intervention, and that the community-level intervention had no effect whatsoever. The evidence for community-level impact as assessed by key informants does suggest that the community-level intervention had at least some potency, though measures of perception of

community climate among the adolescents studied would have to be modeled to permit stronger inferences about the actual impact of these interventions on youth outcomes.

We believe, based on our experience in the present study, that these key informant community readiness assessments have a valuable role to play in evaluating randomized community trials, by providing formative insights into community dynamics, by providing a basis for matching community assignment to condition, by offering a tool that can be used directly with community activists in coalition-building in a workshop setting, and by providing a means of assessing outcomes on the community level to supplement aggregated individual-level analyses.

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REFERENCES

1. Merzel C, D'Afflitti J. Reconsidering community-based health promotion: promise, performance, and potential. *Am J Public Health* 2003; 93:557-574.
2. Wandersman A. Community science: bridging the gap between science and practice with community-centered models. *Am J Community Psychol* 2003; 31:227-242.
3. Oetting ER, Donnermeyer JF, Plested BA, Edwards RW, Kelly K, Beauvais F. Assessing community readiness for prevention. *Int J Addict* 1995; 30:659-683.
4. Edwards RW, Jumper-Thurman P, Plested BA, Oetting ER, Swanson L. Community readiness: research to practice. *J Community Psychol* 2000; 28:291-307.
5. Oetting ER, Jumper-Thurman P, Plested BA, Edwards RW. Community readiness and health services. *Subst Use Misuse* 2001; 36:825.
6. Thurman PJ, Plested BA, Edwards RW, Foley R, Burnside M. Community readiness: the journey to community healing. *J Psychoactive Drugs* 2003; 35:27-31.
7. Prochaska JO, Diclemente CC. Stages and processes of self-change of smoking - toward an integrative model of change. *J Consult Clin Psychol* 1983; 51:390-395.
8. Rogers EM. *Diffusion of Innovations*, 3rd ed. New York: Free Press, 1983.
9. Warren R. *The Community in America*, 3rd ed. Chicago: Rand-McNally, 1978.
10. Ivancevich JM. A longitudinal study of BES: Attitudes and performance. *J Appl Psychol* 1980; 65:149-146.

11. Jacobs R, Kafrey D, Zedeck S. Expectations of BARS. *Pers Psychol* 1980; 33:595-640.
12. Michaels LF. *The Development of an Anchored Rating Scale for Evaluating Psychotherapy Skills*. Fort Collins, CO: Colorado State University, 1982.
13. Goodman RM, Wandersman A, Chinman M, Imm P, Morrissey E. An ecological assessment of community-based interventions for prevention and health promotion: Approaches to measuring community coalitions. *Am J Community Psychol* 1996; 24:33-61.
14. Beebe TJJ, Harrison PA, Sharma A, Hedger S. The community readiness survey - development and initial validation. *Evaluation Rev* 2001; 25:55-71.
15. Haglund B, Weisbrod RR, Bracht NF. Assessing the community: its services, needs, leadership, and readiness. in NF Bracht (ed). *Health Promotion at the Community Level*. Newbury Park, CA: Sage, 1990, pp. 91-108.
16. Flora JA, Cassady D. Roles of media in community-based health promotion. In NF Bracht (ed). *Health Promotion at the Community Level*. Newbury Park, CA: Sage, 1990, pp. 143-155.
17. McCombs ME, Shaw DL. The agenda-setting function of mass media. *Public Opin Quart*, 1972; 36:176-187.
18. McCombs ME, Shaw DL. The evolution of agenda-setting research: twenty-five years in the marketplace of ideas. *J Commun* 1993; 43:58-67.
19. Yanovitzky I, Bennett C. Media attention, institutional response, and health behavior change: the case of drunk driving, 1978-1996. *Commun Res* 1999; 26:429-453.
20. Yanovitzky I, Stryker J. Mass media, social norms, and health promotion efforts: a longitudinal study of media effects on youth binge drinking. *Commun Res* 2001; 28:208-239.
21. Slater MD, Kelly KJ, Edwards RW, Plested BA, Thurman PJ, Keefe TJ, Lawrence F. Combining in-school social marketing and participatory, community-based media efforts: Reducing marijuana and alcohol uptake among younger adolescents. Ms. under review.
22. Finnegan JR, Bracht NF, Viswanath K. Community power and leadership analysis in lifestyle campaigns. In CT Salmon (ed). *Information Campaigns: Balancing Social Values and Social Change*. Newbury Park, CA: Sage, 1989, pp. 54-84.
23. Plested BA, Edwards RW, Jumper-Thurman P. *The Community Readiness Handbook*. Fort Collins, CO: Tri-Ethnic Center for Prevention Research, 2003.
24. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics* 1977; 33:159-174.