Factors Affecting Member Perceptions of Coalition Impact

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The purpose of this study was to identify attributes of community-based coalitions associated with member perceptions of greater impact. Based on Hackman's model of work group effectiveness, we hypothesized that member effort, knowledge and skill, and performance strategies would affect their perceptions of coalition impact. Findings from a lagged regression on a sample of forty-five youth-oriented coalitions indicated that two aspects of member effort were associated with subsequent perceived impact, as were performance strategies for both coalition governance and community interventions. There were no associations, however, between member knowledge and skill and perceived impact. These results suggest that leaders may improve perceived coalition impact by encouraging member participation in discussions and interventions and by developing effective strategies for both governance and implementation.

OVER THE PAST FEW DECADES, policymakers and advocates have embraced community-based coalitions as a mechanism for improving population well-being (Butterfoss and Kegler, 2002; Kumpfer, Turner, Hopkins, and Librett, 1993). These organizations may include nonprofits, businesses, and government agencies as well as private citizens, who typically work together for common health promotion goals (Butterfoss and Kegler, 2002). Originally developed to address cardiovascular disease, this approach has been extended to address problems as diverse as cancer, HIV infection, lead poisoning, violence, substance abuse, and teenage pregnancy (Mayer et al., 1998). Coalition activities include needs assessment, interagency coordination, efforts to secure external funding, educational outreach to both local citizens and legislators, and evaluation (Butterfoss, Webster, Morrow, and Rosenthal, 1998). Synonymous terms include *partnership*, *consortium*, and *alliance* (Mitchell and

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Shortell, 2000), although here we focus specifically on community-based coalitions.

A substantial literature exists on coalition effectiveness (Wolff, 2001; Ellis and Lenczner, 2000; Casswell, 2000; Florin and Wandersman, 1990). However, there are still few empirical data on what enables coalitions to achieve member goals (Zakocs and Edwards, 2006). Community coalitions are fragile: they take a long time to cohere and more time to produce community change (Chervin and others, 2005). Maintaining momentum long enough to see such change requires demonstrating to members that their actions are achieving results that merit continued investment (Roussos and Fawcett, 2000; Rogers and others, 1993). Thus, because of their role in ensuring coalition sustainability, member perceptions of coalition impact are important regardless of their correspondence with actual results.

A range of conceptual frameworks has been proposed to explain coalition processes and outcomes (Lasker, Weiss, and Miller, 2001; Wandersman, Goodman, and Butterfoss, 1997). To examine how internal process dynamics affect perceived impact, we identified Hackman's (1987, 1990) model of work group effectiveness as particularly useful. Although based on traditional groups in organizations, this model's comprehensiveness and its emphasis on social dynamics have proved relevant in such diverse settings as interdisciplinary and virtual teams (Maznevski and Chudoba, 2000; Furst, Blackburn, and Rosen, 1999; Cross and others, 2004; Vinokur-Kaplan, 1995).

In this current investigation, we used the part of Hackman's model that examines how processes affect group performance (1987, 1990). Hackman proposed that three process factors contribute to group effectiveness. The first is the sufficiency of effort expended by group members: "Is the group working hard enough to get the task done well and on time?" (1987, p. 324). The second is whether members are applying appropriate knowledge and skill to the task. The third is the adequacy of the performance strategies used to guide their work: Are members working effectively together, or wasting their effort and expertise in ineffectual processes?

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Hypotheses About What Affects Member Perceptions of Coalition Impact

In Hackman's model, one indicator of group effectiveness is the acceptability of group output to those who receive or review it. For coalitions, arguably the most important evaluators of coalition success are their members, who are better informed about coalition activities than are any external stakeholders. This study therefore focused on coalition members' perspectives on coalition impact.

Member perceptions of impact are important in part because they affect their decisions about continuing investments, which may affect actual coalition outcomes over time. When people believe their previous activities have succeeded (for example, they have increased

community awareness of prevention-related activities), they tend to expect that future activities will also succeed, justifying additional investments of their time (Audia, Locke, and Smith, 2000). This applies to how people engage in organizations as well as to individual pursuits (Bandura, 1996). Findings from communal commercial enterprises and human service agencies in Israel, as well as neighborhood associations in the United States, indicate that more positive appraisals of organizational performance are associated with higher levels of member contribution (Perkins, Brown, and Taylor, 1996; Ohmer and Beck, 2006). In turn, such contributions may lead to stronger actual performance (Carmeli and Tishler, 2005; Mano-Negrin, 2002).

Coalition leaders tend to see members' participation as vital to generating activities they will view as successful (Goodman and others, 1998; Parker and others, 1998). Despite some evidence to the contrary (Florin, Mitchell, Stevenson, and Klein, 2000), research generally supports this expectation. For instance, a survey of coalitions in Illinois found that members' participation was significantly associated with their perceptions of coalition impact on several aspects of community life (Hays, Hays, DeVille, and Mulhall, 2000). Similarly, in a subset of the youth-focused coalitions examined in this study, a combined measure of researcher and coalition member perceptions of board activity was highly correlated with member and researcher perceptions of coalition impact as well as with member turnover. Board activity was also highly correlated with member perceptions of effectiveness (Feinberg, Greenberg, and Osgood, 2004). Finally, authors of a comparative study of four health promotion coalitions concluded that the two judged more successful by both researchers and coalition members had paid more attention to sharing leadership functions among members (Alexander and others, 2003).

On the basis of both Hackman's framework (1987, 1990) and prior evidence, we therefore predicted that:

Hypothesis 1: *Coalitions whose members devote more effort to coalition activities would have more positive member perceptions of community impact.*

Another critical precondition to group performance is the presence of sufficient knowledge and skill to address complex problems successfully (Hackman, 1987, 1990). In coalitions, these assets may be viewed along two dimensions. The first, given coalitions' intended roles as mechanisms for community integration, is the diversity of perspectives represented in the membership. Ideally, diversity should both provide a range of perspectives on complex public health issues and prompt more reflective coalition discussions by exposing members to new ways of thinking about problems and solutions (van Knippenberg and Schippers, 2007). Such reflections should in turn yield more positive perceptions of coalition outcomes. The coalitions literature tends to emphasize this dimension of knowledge and skill.

As the Community Anti-Drug Coalitions of America put it, "The greater the diversity among a coalition's partners, the greater its ability to think and act in creative ways" (Ellis and Lenczner, 2000, p. 24). Similarly, in a sample of social change coalition leaders, 75 percent agreed that "having a broad-based constituency" was important to coalition success (Mizrahi and Rosenthal, 2001). The second dimension is the level of expertise, either generally, as indicated by members' university education, or more specifically, as indicated by coalition-related training and technical assistance.

Previous research provides only limited evidence that diversity affects member perceptions of coalition impact. In a sample of California tobacco control coalitions, staff perceptions that coalitions represented the people in their community were significantly associated with their own evaluations of coalition capacity for impact, but members' perceptions of coalition representativeness were not associated with their evaluations of such capacity (Rogers and others, 1993). In another sample of tobacco control coalitions, the number of sectors in each coalition was correlated with member perceptions that their coalitions had strengthened prevention-related policies in their communities (at alpha = 0.10), but not with member perceptions of enhanced system capacity through heightened awareness, funding, and intersectoral cooperation (Hays, Hays, DeVille, and Mulhall, 2000).

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There is somewhat stronger evidence that overall levels of member expertise affect perceived coalition performance. The study that had found sectoral representation to be associated with the number of activities implemented did not find either this outcome or overall plan implementation to be associated with member skills and strengths, including experience in prevention programs and connections to influential people (Kegler, Steckler, McLeroy, and Malek, 1998). However, in a larger study of California tobacco control coalitions, member perceptions of expertise were significantly associated with both member and staff appraisals of anticipated impact on the community (Rogers and others, 1993). Also, in another sample of substance abuse prevention coalitions, there was a significant association between members' perceptions of how much they had developed knowledge and skills through their coalition and subsequent community leader perceptions of coalition impact on community life (Florin, Mitchell, Stevenson, and Klein, 2000). Cumulatively, these studies suggest that the level of expertise in coalitions may support greater perception of coalition impact by both members and other stakeholders, although the one study that used a more objective measure of impact (Kegler, Steckler, McLeroy, and Malek, 1998) did not find an association.

Overall, despite mixed empirical evidence, on the basis of Hackman's conceptual model (1987, 1990), we posited:

Hypothesis 2: *Coalitions with more member knowledge and skill would have more positive member perceptions of community impact.*

The final group process attribute proposed by Hackman (1987, 1990) to affect collective performance is the quality of the strategies used to accomplish goals. For coalitions, two dimensions are salient: their own governance and how they implement interventions in the community. In terms of governance, leaders may or may not agree what their goals are, what community strengths they can build, how they will make decisions together in the absence of any overriding authority, and how they will support coalition activities over time. In terms of programmatic implementation, choice and evaluation may be grounded in empirical evidence (Hawkins, Catalano, and Arthur, 2002) or in the absence of such information based on member preferences. Greater fidelity (that is, closer adherence) to more proven implementation processes should enhance member perceptions of coalition impact.

The clarity and realism of performance strategies are arguably central aspects of coalition leader competence, which was noted by 92.5 percent of the coalition leaders in a survey as key to coalition success (Mizrahi and Rosenthal, 2001). The Community Anti-Drug Coalitions of America's practitioner guide asserts that "staff members and volunteers respond positively to concrete expectations" (Ellis and Lenczner, 2000, p. 24). However, here again there have been conflicting findings. For instance, at the individual level, coalition participants' perceptions of process clarity were not related to how much impact they saw as a result of coalition activities (Weiner, Alexander, and Shortell, 2002).

No previous studies examined how performance strategies affected member perceptions of coalition impact. However, two rigorous studies conducted at the coalition level found links between performance strategies and nonmember perceptions of coalition impact. In Florin, Mitchell, Stevenson, and Klein's study (2000), members' perceptions of task-focused (that is, well-organized) social climates were significantly associated with other community leaders' subsequent perceptions of coalition impact. Similarly, comparing the health promotion coalitions they judged to be most and least successful in a sample of twenty-five, Shortell and others (2002) concluded that success was achieved in part through superior focus. To the extent to which members share other stakeholders' perceptions of coalition performance, these findings would also imply that effective performance strategies would lead to enhanced member perceptions of impact.

Thus, based on both Hackman's conceptual framework (1987, 1990) and the indirect evidence available, we hypothesized:

Hypothesis 3: *Coalitions with better performance strategies would have more positive member perceptions of community impact.*

Study Methods

Communities That Care is a coalition model that focuses on at-risk adolescents using a set of normative processes based on both

Communities That Care is a coalition model that focuses on at-risk adolescents using a set of normative processes based on both community empowerment and prevention science.

community empowerment and prevention science (Coie and others, 1993). Community boards include grassroots leaders and local agency and government representatives who determine their own governance procedures and link to other community organizations and sectors as needed. After initial training, the community board systematically assesses risk factors, selects evidence-based programs to address the top priorities identified, and uses survey and archival data to monitor outcomes, including trends in risk factors (Bownes and Ingersoll, 1997; Toumbourou, 1999; Hawkins, Arthur, and Olson, 1997; Feinberg and others, 2002). As with most other public health coalitions (Lengerich and others, 2004), the focus is largely on promoting behavioral change intended to enhance the health of the focal population. In the case of Communities That Care, the behaviors in question may include substance use, as well as bullying, sex, criminal activity, and dropping out of school.

The Communities That Care model's attention to both community dynamics and evidence-based prevention has attracted policymakers and funders in the United States and other countries (Fairnington, 2004). In addition to coalitions sponsored by the U.S. Office of Juvenile Justice Delinquency Prevention and the Substance Abuse and Mental Health Services Agency, Communities That Care initiatives are under way throughout New York State and in the Seattle public schools. In the United Kingdom, the Rowntree Foundation currently funds more than thirty Communities That Care coalitions, with a focus on underserved youth. There are also initiatives in Australia, Canada, and the Netherlands.

The sample used for the analyses for this study was composed of Communities That Care coalitions in Pennsylvania. Following Hackman's (1987) recommendation for group effectiveness research, the unit of analysis was the coalition. Data for predictors were taken from a 2003 survey of coalition technical assistants, a 2003 Web-based questionnaire of members, and Penn State Prevention Research Center records indicating coalition age. Data for the outcome of perceived coalition effectiveness were taken from the 2004 Web-based questionnaire of members. This allowed a lagged design.

In each year the Web-based questionnaire was administered, participation occurred in two stages. First, coalitions decided whether to participate. For participating coalitions, e-mail invitations to participate in the Web-based survey went to all active members of smaller coalitions and to the most active twenty-five members of larger coalitions, as identified by coalition leaders. Members received two- and six-week e-mail reminders and also had the option of completing pen-and-paper surveys (Feinberg, Gomez, Puddy, and Greenberg, 2008). In 2003, 570 of 1,081 individuals approached from sixty-eight coalitions participated, for a response rate of 53 percent. In 2004, 867 of the 1,502 individuals approached in seventy-nine coalitions responded, for a response rate of 58 percent (Feinberg, Gomez, Puddy, and Greenberg, 2008).

Eighty-eight coalitions participated in 2003 or 2004, or both years. Including only coalitions with information from both technical assistants and coalition members in the lagged model resulted in the loss of almost half of those cases, with a final sample size of forty-five. T-tests indicated that coalitions that were retained in the final model had significantly higher technical assistant perceptions of board effort and fidelity than did excluded coalitions (a mean of 5.23 versus 4.60 on a 1 to 7 scale for effort, $p < 0.05$, and 5.54 versus 4.78 on a 1 to 7 scale for fidelity, $p < 0.01$). There were no differences between included and excluded coalitions in the percentage of members reporting that they talked in meetings; the mean number of hours per month members spent in or beyond meetings; the percentage of members who had college degrees; or member perceptions of board strategic orientation, meeting effectiveness, or perceived coalition impact.

The Institutional Review Board at Penn State approved the data collection process, and coalition members indicated acknowledgment of and agreement with the content of the informed-consent form (by clicking on "I agree") before beginning the questionnaire.

Measures

Hackman's model was conceptually rather than empirically derived. Studies testing this model have operationalized constructs in a variety of ways, sometimes drawing on perceptual scales Hackman developed (Hackman, 1983; Karnasuta, 2004) and sometimes using measures developed by other researchers (for example, Vinokur-Kaplan, 1995). In this investigation, we took the latter approach, selecting measures developed by the Penn State Prevention Research Center based on their fit with Hackman's constructs, that is, using logical structural analysis (Pedhazur and Schmelkin, 1991).

Table 1 provides complete information on all study measures. Each perceptual item included a seven-point Likert-like response scale. The dependent variable, perceived coalition impact, was calculated as the mean of eight items addressing perceptions of how much change had occurred in the previous year in community awareness of youth prevention issues, collaboration in support of community-based programs, the quality of such programs, and the well-being of people in the community. Thus, this set of items indicated member perceptions of how well people were working together and securing resources as well as perceptions of programmatic implementation and population welfare. Internal scale reliability was very high (alpha = 0.90), indicating that the eight items were measuring a single construct. The rho-within-group (RWG) index demonstrated that within-coalition agreement (RWG index = 0.90 on a 0 to 1 scale) was also very high, providing justification for aggregating member perceptions to the coalition level (James, Demare, and Wolf, 1993), which we did by taking the mean across member responses in each coalition.

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Table 1. Study Measures

Measure	Description	Source/Notes
Dependent variables (2004)		
Member perceptions of coalition impact	Eight-item scale addressing how much each of the following had changed in the past year: community awareness of youth prevention programs; how systematic and comprehensive community prevention programming was; how well-equipped people were to work together on community issues; ability to make a difference together; level of funding; quality of services and programs; well-being of people in the community; and extent to which school and community partners worked together on collaborative projects	$\alpha = 0.90$ Mean RWG index = 0.90 Scale items from *Community Group Member Survey: Using the Results* (1998); see Vinokur-Kaplan (1995) for similar previous use.
Hypothesis 1: Independent variables: Sufficiency of effort applied to the group task (2003)		
Board effort	Three-item scale: "Attendance at training and board meetings"; "This is a highly efficient, work-oriented CTC board"; and "Board members are engaged and participate at meetings by offering comments and ideas"	Technical assistant survey $\alpha = 0.90$ One respondent per coalition
Talking in meetings	Percentage of members who indicated that they had talked at meetings in the prior twelve months (1/0 measure for "make comments, express ideas, etc.")	Member survey Vinokur-Kaplan (1995) used how often members were at meetings as an indicator of effort in psychiatric treatment teams
Time in meetings	Mean hours per month in prior year members reported spending in coalition meetings	
Time beyond meetings	Mean hours per month in prior year members reported spending on coalition business beyond meetings	
Hypothesis 2: Independent variables: Knowledge and skill (2003)		
Sectoral diversity	Diversity of occupational sectors represented in the coalition: business, education, local government, health services, public human services, private human services, judicial system, law enforcement, faith community, "concerned citizen" (not affiliated with any of the above)	$$H = -\sum_{i=1}^{s} p_i \ln p_i$$ where p_i is the proportion of each coalition's members from any one sector and s is the number of sectors
Percentage of members with college degrees	Percentage of members with bachelor's degree or higher	Member survey

Hypothesis 3: Independent variables: Performance strategies (2003)

Board governance	Four-item scale. The CTC Prevention Board has: agreed on how it will govern itself, make decisions, and clarify the roles of members; developed clear goals and objectives; identified, and is building on, individual and community strengths; explored financing and resource development strategies to support new efforts	Member survey $\alpha = 0.78$ Mean RWG index = 0.82 Feinberg, Gomez, Puddy, and Greenberg (2008)
Implementation fidelity	Six-item scale. Risk factor assessment completed with a high degree of quality; prioritization of risk factors based on the data from the assessment results; program selection based on risk factor priorities; board members are aware of and/or refer to the prioritized factors to guide decisions and plans generally; the programs chosen for implementation are evidence-based programs; board has a concern for and monitors fidelity of program implementation	Technical assistant survey 2003 $\alpha = 0.95$ Feinberg, Gomez, Puddy, and Greenberg (2008)
Control for coalition maturity		
Coalition age	Number of years since the beginning of the coalition's planning assessment began	Penn State Prevention Research Center archival records

Note: All measures at the coalition level; when there were multiple respondents, we took the mean.

Viewing member effort in coalitions as having distinct dimensions, we used four measures to test hypothesis 1—that greater effort would be associated with greater perceived coalition impact: technical assistant assessment of board effort (alpha of 0.90 for a three-item scale indicated excellent internal reliability; there was only one respondent for each so the RWG index was inapplicable), member reports of whether they talked in meetings, the average number of hours per month they spent in coalition meetings, and the number of hours they devoted to coalition business outside meetings (such as participating in health fairs).

We used two measures to test hypothesis 2—that more knowledge and skill would be associated with greater perceived coalition impact. To measure the diversity of community sectors represented in each coalition, we calculated an index of diversity (Taagepera and Ray, 1977). Our logic was that individuals from different sectors would have different types of relevant knowledge about at-risk youth and potential programmatic interventions to help them. For instance, educators would understand how youth might disengage from school and get into progressively more serious trouble, while mental health and substance abuse treatment unit staff might help them intervene proactively with those youth. People from the judicial system might not understand what community programs were available as diversion options for youth, but they would share other members' perceptions of success if more such diversions became possible. To measure the overall level of members' general expertise, we used the percentage of members with college degrees, because formal education should develop both skills and inclinations toward systematic evaluations and prioritizations based on complex data. Individuals with more formal education may also have more interpersonal networking skills that can facilitate coalition activities.

We used two complementary scales to test hypothesis 3—that better performance strategies would be associated with greater perceived coalition performance. The first was a four-item scale measuring member perceptions of board governance. This scale had acceptable internal reliability of alpha $= 0.78$ and a mean RWG index of within-coalition agreement of 0.82. The second scale consisted of six items measuring technical assistant perceptions of the fidelity with which each coalition had implemented the Communities That Care evidence-based model. This indicated how rigorously technical assistants perceived coalitions to follow proven strategies for community interventions. Thus, this scale addressed how effective coalition strategies were for tactical processes, complementing the governance scale's assessment of strategic process competence. Internal reliability of this latter scale was very high (alpha $= 0.95$).

Finally, we included coalition age as a control variable, based on the possibility that coalitions might have different perceived effectiveness at different stages of maturity (Tuckman and Jensen, 1977).

Analyses

Initial descriptive analyses included examining bivariate correlations for multicollinearity (considered potentially problematic for Pearson correlations over 0.40) and tolerance and using independent sample t-tests to compare the coalitions retained in the final model to those excluded because of missing data.

Using predictors from 2003 and the outcome from 2004, we ran a preliminary stepwise lagged ordinary least squares regression model. We then retained in the final model only predictors that had p-values under 0.10 in the initial stepwise regression. This strategy enabled us to control for all relevant potential confounders without losing the statistical power necessary to test for theorized effects. In additional post hoc analyses, we tested the interactions of member sectoral diversity and education with amount of talk and effort.

Results

Table 2 gives descriptive statistics for study measures. The mean member perception of coalition impact was relatively high, at 5.23 on a scale of 1 to 7. However, there was substantial variability across coalitions, with a range of means from 2.75 to 6.29 and a standard deviation of 0.74. The average technical assistant perception of coalition board effort was 5.23 as well, also on a scale of 1 to 7. On average, 98 percent of members reported having spoken in meetings in the previous year. They reported having spent an average of 3.68 hours per month in coalition meetings and over one full workday per month (9.98 hours) on coalition business outside meetings. Such time may have been devoted to following up on interagency coordination facilitated by the coalitions or planning and implementing coalition interventions. The mean index of heterogeneity for sectoral diversity (Taagepera and Ray, 1977) of 1.26 represented an average of four sectors. The most common sectors represented among members were education, in 89 percent of the coalitions, and public sector human services, in 87 percent of coalitions (not shown). The least common sectors represented were the judicial system, in only 13 percent of coalitions, the faith community, in 24 percent, and law enforcement, in 31 percent. These figures probably understate the overall diversity of coalitions because of the policy of sampling only the most active members in larger coalitions; however, they do indicate what sectors were actively represented. A third of the coalitions included members who characterized themselves as private citizens rather than agency representatives.

On average, over four-fifths (82 percent) of coalition members were college educated. Member perceptions of board strategic orientation (mean of 5.81 on a 1 to 7 scale) were fairly close to technical assistant perceptions of fidelity to the Communities That Care model (mean of 5.54, also on a 1 to 7 scale). Finally, the coalitions were fairly young

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Table 2. Descriptive Statistics

Variable	Mean	Standard Deviation	Range	Bivariate Correlations (n = 45)								
				Change	Effort	Talking	Within Meetings	Beyond Meetings	Diversity	College	Strategy	Fidel
Coalition impact	5.23	0.73	2.75–6.29									
Board effort	5.23	1.14	2.33–7.00	0.39***								
Talking in meetings	0.98	0.04	0.85–1.00	0.16	−0.13							
Time in meetings	3.68	1.46	0.75–7.75	−0.04	0.08	−0.02						
Time beyond meetings	9.98	12.21	0.00–72.00	0.33**	−0.03	0.06	−0.10					
Sectoral diversity	1.26	0.34	0.51–2.03	0.12	0.28*	−0.14	0.00	−0.26*				
Percentage of members with college degrees	0.82	0.12	0.50–1.00	0.23	0.14	0.16	0.23	−0.21	0.23			
Board governance	5.81	0.80	2.25–6.80	0.48****	0.26	−0.07	0.28*	0.15	0.11	0.19		
Implementation fidelity	5.54	0.94	3.00–7.00	0.33**	0.47***	−0.20	−0.18	0.05	0.10	0.10	0.12	
Coalition age	3.49	1.15	2.50–8.50	−0.14	−0.10	0.02	0.20	0.09	0.13	−0.12	0.08	−0.03

*$p < 0.10$. **$p < 0.05$. ***$p < 0.01$. ****$p < 0.001$.

Table 3. Lagged Model of Factors Associated with Perceived Coalition Impact

Intercept	Coefficient	Standard Error
	−2.339	2.257
Hypothesis 1: Sufficiency of effort		
Board effort (2002–2003 technical assistant survey)	[a]	
Percentage of members who talked in meetings (2003 member survey)	3.894*	2.022
Average member time in meetings (2003 member survey)	[a]	
Average member time beyond meetings (2003 member survey)	0.014*	0.007
Hypothesis 2: Knowledge and skill		
Sectoral diversity of coalition members (2003 member survey)	[a]	
Percentage of members with college degrees (2003 member survey)	[a]	
Hypothesis 3: Performance strategies		
Board governance (2003 member survey)	0.387***	0.111
Implementation fidelity (2002–2003 technical assistant survey)	0.244**	0.096
Control: Coalition maturity		
Coalition age in years (archival records)	[a]	

Note: Results of stepwise regression models retaining factors with $p < 0.10$. $N = 45$ coalitions (all measures at coalition level). Adjusted r squared $= 0.37$.
[a]Covariate eliminated in stepwise regression.
*$p < 0.10$. **$p < 0.05$. ***$p < 0.01$.

during the study period, averaging three and a half years at the beginning of 2004 from the start of their planning grants (3.49).

Table 2 shows one bivariate correlation between independent variables above 0.40: that between technical assistant perceptions of board effort and fidelity to the Communities That Care organizing model ($\sigma = 0.47$, $p < 0.01$). However, a tolerance statistic of 0.60 indicated that collinearity was not problematic (Hamilton, 1992).

Table 3 lists the results of the final multiple regression model testing the extent to which member effort, knowledge and skill, and performance strategies were associated with subsequent member perceptions of coalition impact. Because of the small sample size, we set the threshold for identifying statistically significant results at alpha $= 0.10$. There was partial support for hypothesis 1, that greater effort would be associated with greater perceived coalition impact, with significant coefficients for the percentage of members who reported talking in meetings ($p < 0.10$) and the average number of hours per month members reported spending on coalition activities beyond meetings ($p < 0.10$). However, technical assistant perceptions of board effort and the time members spent in meetings were unrelated to perceived coalition impact.

Hypothesis 2, that greater coalition knowledge and skill would be related to greater perceived impact, was not supported. Neither sectoral diversity nor the percentage of members with college degrees was significantly associated with subsequent perceived coalition impact.

There was strong support for hypothesis 3, that better performance strategies would be associated with greater perceived community impact. Both governance strategies ($p < 0.01$) and fidelity to the Communities That Care model for implementation ($p < 0.05$) were significantly associated with subsequent member perceptions of community impact. Coalition age, included as a control, was not associated with perceived community impact.

Implications for Coalition Leaders

To explore the types of factors that might improve perceived coalition impact, we examined associations with member effort, knowledge and skill, and performance strategies in a sample of forty-five youth-oriented coalitions. We found partial support for the importance of effort, no evidence of the importance of knowledge and skills, but strong evidence that performance strategies were related to perceived coalition impact.

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It appears that the proportion of members who participate in coalition discussions, not the duration of the meetings, may enhance perceived impact. Meetings may serve as opportunities for members to agree on what they are doing and what it means (Schwartzman, 1989). As Brison (1989, p. 18) put it, "The purpose of meetings is not so much to decide on action as to shape a particular interpretation of events and situations." Full participation in meetings may thus generate more fully shared constructions of coalition activities and more positive appraisals of their impact. This may be particularly applicable to organizations such as coalitions that typically have no buildings or full-time staff of their own. In these contexts, talking may be necessary to make coalitions feel real enough for participants to credit them with community impact (Schwartzman, 1989).

Given how few staff coalitions have, member participation in meetings is not enough to implement plans. Here, we found that member time devoted to coalition activities beyond meetings was positively associated with subsequent perception of coalition impact. Neither this nor the percentage of members who spoke, however, explained a large proportion of perceived coalition impact. Thus, we do not want to exaggerate the effect of either. Nonetheless, broadly inclusive coalition meetings and greater member effort outside meetings may increase perceived impact.

Even a lagged regression, of course, does not capture the temporal complexities of real organizations. For instance, when there are stronger histories of civic engagement, people may participate more actively in coalitions because they know and trust each other and know how to interact. In turn, this may foster more positive perceptions of their impact, more commitment to coalition activities, and the sustained efforts necessary to effect community change. This implies that coalitions may contribute to "virtuous cycles" (Weick, 1979),

strengthening cooperation among health and social service agencies through ongoing cooperative endeavors.

There are a number of possible reasons that these data did not support the hypothesis that member knowledge and skill would be associated with greater perceived impact. It may be that the perspectives and skills of members from different sectors and more formal education did not translate into more satisfying coalition outcomes unless leaders were adept at tapping them. Comparing successful and unsuccessful coalitions, Shortell and others (2002) identified the ability to manage membership size and diversity as a major difference. Active inclusion of all members may be especially important in coalitions because they are generally relatively large for work groups, which tends to undermine participation (Mullen, Symons, Hu, and Salas, 1989; Thomas and Fink, 1963); members spend only modest amounts of time together; and they identify primarily with other groups and organizations (Alderfer and Smith, 1982). Thus, coalitions may need integrative leaders to translate members' diverse perspectives into actionable forms of consensus that members will see as successful. However, post hoc analyses in the sample showed that interactions of talking and effort with member sectoral diversity and education were not significantly associated with subsequent perceived coalition impact.

Another possible reason for the nonsignificant coefficients for sectoral diversity and member education is that coalition members have enough sectors and education so that variations around those means will not affect perceived outcomes. In this sample, an average of four sectors were represented in each coalition, and four-fifths of the members had at least a college degree. It is possible that the membership composition factor that affects performance in such coalitions is the presence of a specific sector or type of member skill, such as experience with evidence-based practices.

Another possible reason for this study's nonfindings concerning knowledge and skill may relate to the perceptual nature of the outcome measure. Reviewers of the recent literature on group diversity have attributed inconclusive findings in part to the greater interpersonal challenges of diverse groups (van Knippenberg and Schippers, 2007). In the context of community coalitions, representatives of different sectors often begin from a vantage point of mutual distrust (Wells and others, 2004). This may mean that even, or perhaps especially, when leaders actively solicit the conflicting perspectives of different sectors, members perceive the resulting outcomes ambivalently.

Findings did indicate that both the quality of governance and fidelity of implementation may affect perceived impact. Coalition leaders often find that it takes much more time than they had anticipated to clarify goals, member roles, and strategies. The findings suggest that such investments are worthwhile, as they may lay the foundation for continuing agreement among representatives despite different perspectives and goals. Lagged correlational analyses of the initial cohort of Communities That Care coalitions found that

board governance, called "board internal functioning" in that article, was associated with continuing board activity at alpha = 0.10 (Gomez, Greenberg, and Feinberg, 2005). In the study examined here, perceived governance strength explained far more variance in subsequent perceived impact than did any other predictor, almost doubling the adjusted *r*-squared relative to a model including all other predictors, from 19 percent to 37 percent.

Coalition members are often ambivalent about evidence-based practices (Wells and others, 2004), which may appear to be an imposition from funders or even a fad. However, the study's finding about fidelity to the Communities That Care model suggests that making decisions based on data and implementing evidence-based programs may improve coalition members' perceptions of their impact on the community. Board member training is integral to the Communities That Care model. Such training, and self-selection of coalition leaders who are willing to undergo it, may help to account for the positive role that evidence-based practices played in this study. Leaders might strengthen capacity to improve community health by recruiting participants who share an interest in evidence-based practices and by building relevant skills through carefully designed training. The evidence from this study helps them justify these efforts.

This study had some limitations worth noting. We cannot rule out the possibility that both the posited predictors and perceived impact reflected a common factor, such as persisting social capital. In other words, rather than contributing to a virtuous cycle, including increasing perceived impact, and thus potentially greater sustainability and other positive outcomes, perceived impact may simply reflect the same capacity the predictors reflect. There were some factors mitigating this concern, however. First, predictors were measured a year before perceived coalition impact. Second, many of the people whose 2004 perceptions of coalition impact were used to measure this outcome were different from those whose perceptions in 2003 were used to measure predictors; in our final analytical sample of forty-five coalitions, of the 463 members who responded to the survey in 2004, only 194 (42 percent) had participated in 2003. Third, the nonsignificant results for two of the four measures of effort provide some evidence that the associations found were not simply artifacts of member commitment. Ideally, future studies should include multiple measures of coalition impact that will demonstrate how closely related these measures are, as well as how they may be differentially affected by various coalition and contextual conditions.

There were also some potential limits to this study's generality. The fact that coalitions retained in the final sample had relatively high technical assistant ratings for effort and fidelity indicates that we studied coalitions that were more diligent than average. Our findings may therefore not apply to coalitions that are below some threshold of functioning. In addition, the sample was entirely composed of

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youth-focused coalitions in Pennsylvania. Findings may not generalize to coalitions with other foci or locations.

Implications for Coalition Theory

Previous studies have tended to support Hackman's intuitive proposal that higher levels of member effort facilitate collective performance (Hays et al., 2000; Feinberg, Greenberg, and Osgood, 2004). The mixed support for this hypothesis in the study examined here may indicate that different types of effort facilitate different outcomes. Technical assistant ratings of coalition board effort were unrelated to members' subsequent perceptions of impact. Time in meetings was also unrelated to perceived impact, even though coalitions have relatively little time to discuss complex agendas and thus we had expected that more time for discussion would lead to more satisfying results. Instead, what appeared to facilitate more positive member perceptions of impact were the breadth of participation in conversations and time spent outside meetings on coalition activities. Future research should examine how each facet of participation affects perceived impact in additional samples, as well as associations with other coalition outcomes, such as benefits for members, population outcomes, and coalition sustainability.

The study was also consistent with previous research in its failure to support the hypothesis that coalition knowledge and skills enhance impact (Rogers and others, 1993; Hays, Hays, DeVille, and Mulhall, 2000). Additional factors may moderate the effects of such potential member contributions on performance. For instance, it may take longer for coalitions to see the benefits of diversity than the relatively young coalitions in the current sample had: some research has indicated that the negative effects of visible forms of group diversity diminish over time (Harrison, Price, and Bell, 1998). Diversity may also have more positive effects when group members value it (van Knippenberg and Schippers, 2007). The relevance of these moderators applies to any other potential source of membership knowledge and skill. For instance, education and training may facilitate member support for evidence-based practices, but leaders may need to foster a supportive climate for such skills to affect coalition performance.

Finally, this is the first study to our knowledge to provide direct evidence that more effective performance strategies are associated with greater perceived impact. Previous studies had found that effective performance strategies were associated with external evaluations of impact (Florin, Mitchell, Stevenson, and Klein, 2000; Shortell and others, 2002). In this study, both member perceptions of the strength of coalition governance and technical assistant ratings of implementation strategies were associated with subsequent member assessments of community impact. Again, as in the multiple facets of participation measured in this study, we believe there was utility to measuring performance strategies in more than one way. Coalitions differ from the

work groups for which Hackman's framework was developed in that members both establish and execute their own strategies. Thus, we believe it will be useful for future research on coalition effectiveness to consider performance strategies for both coalition governance and implementation.

As collaborative organizations, coalitions offer great promise in marshaling the combined resources of member agencies, businesses, and private citizens toward sustainable health promotion in culturally and locally specific ways. In this study, we explored associations among three types of coalition processes and subsequent perceived coalition impact. The results suggest that leaders may enhance member perceptions of coalition impact by including all members in meeting discussions, clarifying the coalition's strategic orientation, and pursuing a deep, shared commitment to evidence-based models in program implementation. Ideally, leaders should combine inclusivity with strategic clarity and discerning applications of relevant data, and thus translate their members' shared goals into enhanced actual as well as perceived public health for their communities.

This is the first study to our knowledge to provide direct evidence that more effective performance strategies are associated with greater perceived impact.

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