

# Advancing Environmental and Policy Change Through Active Living Collaboratives: Compositional and Stakeholder Engagement Correlates of Group Effectiveness

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**Objective:** This study aims to evaluate compositional factors, including collaborative age and size, and community, policy, and political engagement activities that may influence collaboratives' effectiveness in advancing environmental improvements and policies for active living. **Design/Participants/Setting:** Structured interviews were conducted with collaboratives' coordinators. Survey items included organizational composition, community, policy, and political engagement activities and reported environmental improvements and policy change. Descriptive statistics and multivariate models were used to investigate these relationships. **Main Outcome Measure(s):** Environmental improvement and policy change scores reflecting level of collaborative effectiveness across 8 strategy areas (eg, parks and recreation, transit, streetscaping, and land redevelopment). **Results:** Fifty-nine collaborative groups participated in the interview, representing 22 states. Groups have made progress in identifying areas for environmental improvements and in many instances have received funding to support these changes. Results from multivariate models indicate that engagement in media communication and advocacy was statistically correlated with higher levels of environmental improvement, after adjusting for age of group and area poverty levels ( $P < .01$ ). Groups that frequently solicited endorsements from community leaders and offered testimony in policy or legal hearings reported significantly more policy change, after adjusting for age of group and area poverty levels ( $P < .01$  for both). **Conclusions:** Active living collaboratives are translating the evidence on environmental and policy approaches

to promote active living from research to practice. Investing in community and policy engagement activities may represent important levers for achieving structural and policy changes to the built environment.

**KEY WORDS:** active living, community collaboratives, environmental change, policy, stakeholder engagement

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The increasing presence of community collaboratives (including coalitions, networks, and partnerships) during the past decade can be attributed in part to rising expectations for communities to address complex health issues that are unresponsive to top-down or single-solution programs.<sup>1</sup> Obesity and risk factors such as physical inactivity, which are rooted at many levels—households, institutions, communities, and beyond—require multilevel and multisectoral solutions.<sup>2</sup> Programs and initiatives designed to increase individual-level physical activity, for example, have had minimal impact in the absence of multilevel, multisectoral strategies designed to change the built environment and related policies that support and sustain these changes.<sup>3</sup> Collaborative groups are often better positioned than individuals, organizations, or sectors to translate national health guidelines and recommendations into action at the state and local levels.<sup>1,4</sup> These groups can influence broader systems-level change required to realize and maintain health improvements due to their diverse partnerships and strategic interests in identifying and implementing programs, policies, and structural improvements for a targeted issue.<sup>4-7</sup>

Research on collaborative group effectiveness spans multiple disciplines and has often focused on short-term outcomes.<sup>8,9</sup> Factors such as leadership, management, communication, and stakeholder participation have been associated with collaborative-specific outcomes, such as member participation,<sup>10</sup> member satisfaction,<sup>11,12</sup> and perceived effectiveness.<sup>13,14</sup> More recently, research efforts have considered collaborative effectiveness in achieving intermediate outcomes such as environmental and policy change and the factors that influence these changes.<sup>4,15-17</sup> For example, engagement and empowerment represent mechanisms for stakeholder participation, influence, and decision making, thus allowing a broader constituency to become change agents in their communities.<sup>1,4,6,8,18-21</sup> Basic processes, activities, and actions reflecting different types of community engagement and empowerment include problem definition (eg, needs assessments), agenda setting (eg, goals and objectives), community awareness (eg, media advocacy, social marketing), and policy development (eg, offering testimony, drafting legislation, engaging legislators).<sup>21</sup>

In response to the aforementioned challenges, national, regional, and local funding organizations together with research and government organizations are encouraging and sometimes requiring communities across the country to form collaboratives to improve the built environment and related policies.<sup>3</sup> In response, these groups are devising multifaceted solutions, including efforts to improve amenities and services related to parks, recreational facilities and

other public spaces, transit systems, and urban infrastructure as well as plans to reshape policies to facilitate, support, and/or sustain these changes. Although such efforts are well underway, only limited information is available about the effectiveness of active living collaboratives.<sup>22</sup> This study aims to evaluate compositional factors and community, policy, and political engagement activities that may influence collaboratives' effectiveness in advancing environmental improvements and policies for active living.

## ● Methods

We conducted this research as part of the Centers for Disease Control and Prevention–funded Physical Activity Policy Research Network (<http://paprn.wustl.edu>). The conceptual basis of this research is informed by the “community capitals” literature, which underscores the importance of involving people so that they can directly influence change from within a community.<sup>23,24</sup> It also builds upon past research on partnership synergy and community engagement which emphasizes the importance of strong social structures and authentic stakeholder participation to enhance capacity of collaboratives to solve problems and sustain change.<sup>1,21</sup>

Collaborative groups (herein referred to as “groups”) were identified through an online search and referrals from Physical Activity Policy Research Network members, the Physical Activity and Public Health Practitioners Course alumni, and the National Society for Physical Activity Practitioners in Public Health. Groups were initially contacted via e-mail and interviews were scheduled over the phone. Phone interviews were conducted with group coordinators between May and August 2011. These structured interviews collected information about group composition, stakeholder engagement activities, and efforts to achieve environmental and policy change. Details about the interview protocol are described elsewhere.<sup>22</sup>

## Dependent measures

*Environmental improvement* was defined as physical changes to the built environment in 8 strategy areas: (a) parks, open spaces, and recreation facilities; (b) transit and parking; (c) children's play areas; (d) public plazas; (e) streetscaping; (f) street improvements; (g) infill and redevelopment; and (h) Safe Routes to School. The strategy areas were adapted from the NY Active Design Guidelines<sup>25</sup> and themes developed by LiveWell Colorado and Kaiser Permanente.<sup>26</sup> Coordinators were asked to indicate the strategy areas on which they

worked and rate the level of change accomplished on a 5-point scale (1 = Identified, 2 = Discussed; 3 = Funded; 4 = In progress, and 5 = Completed). For every group, ratings for each strategy area were averaged and then normalized by the number of strategy areas identified by the collaborative coordinator to obtain a single score for environmental improvements. Higher scores represent greater success in achieving change.

*Policy change* measured the extent to which a group developed new or modified existing policy to support built environment improvements. For each of the 8 strategy areas identified, respondents were asked whether the improvement required changes to existing policy or the development of new policy. The status of working on a new or improved policy was rated on a 5-point scale (1 = No new policy, 2 = Policy gap identified, 3 = New policy discussed, 4 = Policy drafted, and 5 = Policy adopted). Ratings for each strategy area were averaged and then normalized by the number of strategy areas to obtain a single policy change score for each group, with higher scores representing greater progress in the policy-making process.

## Independent measures

### Compositional factors

*Tenure of coordinator* reflected the number of years the coordinator had been in his/her current position and was categorized into 3 groups: 1 year or less, more than 1 to 3 years, and more than 3 years. *Collaborative age* was calculated on the basis of the year in which a group was established. Age of collaborative is included as a covariate in all analyses given that groups with more experience may be more likely to achieve system-level change.<sup>13,27</sup> *Collaborative size* specified the number of partner organizations that actively participate in the collaborative and was categorized by size ( $\leq 10$ , 11-30, and  $> 30$ ). Strategic partnership with planning experts was assessed by asking the coordinator how frequently the group *partnered with planning and design practitioners* (1 = Never to 5 = Very frequently).

### Stakeholder engagement activities

*Community activities* included measures of needs assessment activities, community events, and the use of social marketing.<sup>16</sup> *Physical activity opportunity assessment* measured whether groups conducted walkability and bikeability audits or secondary data analysis (completed/not completed). *Community events* included events, such as hosting bike, safety, and awareness events and categorized them into 3 levels (Low = 1 event type; Medium = 2 event types; and High = All 3 event types). Social networking strategies measured

whether groups used *social media* (eg, Facebook, Twitter) and *social marketing* (eg, billboards, radio, or television announcements) techniques to increase awareness and connect with partners and constituents.

Political and policy activities were assessed using 4 items: engaging with elected or appointed officials to author policy, receiving endorsement or support from community leaders, offering testimony in policy or legal hearings, and engaging in media communication.<sup>21</sup> Respondents rated how frequently their group engaged in each activity for each of these variables (1 = Never to 5 = Very frequently).

### Community context

*Geographic scale* represents 2 levels in which the group worked: local level (including neighborhood, city, and county) and state level. *Area poverty* was defined as the percentage of families living below the poverty level<sup>28</sup> in the area served by the collaborative, as reported by the group coordinator. Area poverty has been shown to negatively impact the quality of coalition functioning and thus was included as a covariate in all models.<sup>27</sup>

## Data Analysis

We calculated mean environmental improvement and policy change scores by study covariates using the LSMEANS command within SAS MEANS procedure. A partial F test was used to determine whether there were differences in mean scores across variables.<sup>29</sup> We used general linear regression models to evaluate the bivariate and multivariate relationships between the covariates and the 2 dependent measures, environmental improvement, and policy change. We developed 3 domain-specific models for each outcome: compositional attributes (Model 1a and 1b), community engagement activities (Model 2a and 2b), and policy activities (Model 3a and 3b). Domain-specific models included those variables from the bivariate analyses with a *P* value of less than .10. The final models (Model 4a and 4b) included variables from the domain-specific models that were statistically significant ( $P < .05$ ).

## ● Results

Fifty-nine groups, representing 22 states, of 96 total groups invited participated in the survey (61%). Groups focused on various themes related to physical activity and active living including active transportation at the state level to community gardens and greening in urban settings to community-specific groups working to increase opportunities for healthy eating and active living.

Groups' environmental improvement scores ranged from 1.5 to 5.0, with an average of 3.5 (SD: 0.9). This average indicated that groups typically had funding to support their initiatives and had started but had not completed the planned improvements. Groups' policy change scores ranged from 1.0 to 4.5 with an average of 2.9 (SD: 1.0), suggesting that groups had generally identified a policy gap and had started discussions to develop new policies or changes to existing policy.

Groups using social marketing scored higher in environmental improvements and policy change (Table 1). Moreover, local groups, when compared with state-level groups, reported more success in advancing environmental and policy changes, although this trend was not statistically significant. Groups that organized more community events, using social media, and very frequently engaged in media communication and media advocacy reported more success in achieving environmental improvements. Regarding policy change, groups that had been together for longer periods of time or engaged in any of the 4 policy engagement activities had higher policy change scores (Table 1).

Results from our bivariate and multivariate models are presented in Table 2. Bivariate associations between compositional factors, such as age of collaborative, collaborative size, experience of coordinator, engagement of planning and design professionals, and environmental improvement scores were positive but not statistically significant. Bivariate associations between community engagement activities, including hosting more community events, using social marketing and social media, and higher environmental improvement scores, were positive and statistically significant ( $P < .05$ ). In the community context model (Model 2a), hosting community events yielded the only positive and statistically significant association with environmental improvement scores ( $\beta = .3, P < .05$ ). In the political and policy engagement model (Model 3a), engagement in media communication and advocacy was positively and significantly associated with environmental improvement scores ( $\beta = .4, P < .01$ ). In the final environmental improvement model (Model 4a), the statistically significant association between frequent engagement in media communication and advocacy and higher levels of environmental improvement scores remained, after adjusting for age of group and area poverty levels ( $\beta = .3, P < .01$ ).

Bivariate correlations between stakeholder engagement activities and policy change were positive and significant (Table 2). In our multivariate models, groups that frequently solicited endorsements from community leaders ( $\beta = .3, P < .05$ ) and frequently offered

testimony in policy or legal hearings ( $\beta = .4, P < .01$ ) reported significantly more policy change (Model 3b). These relationships from Model 3b remained significant after adjusting for age of group and area poverty levels in the final policy change model (Model 4b).

## ● Discussion

This analysis examines the capacity of active living collaborative groups to make changes to the built environment and to develop related policy. While all groups report progress in environment and policy change, their success varies within and across strategy areas. Allen and colleagues<sup>13,30</sup> report similar findings among councils working on domestic violence-related organizational policies, protocols, and practices. From their research, the authors emphasize the need to examine a dynamic set of internal and external factors that influence institutionalized change.

Active living collaborative groups examined in this study vary in the diversity and frequency of activities deployed to engage and empower community members. Such engagement and empowerment of the broader community may be critical to groups' abilities to pursue strategies to improve the built environment.<sup>1,31</sup> Groups that use a range of approaches to assess the needs of a particular community, such as participatory walkability and bikeability assessments, can engage residents while at the same time generate local knowledge about the built environment and unmet civic needs (eg, shade structures along walking trails and furniture such as park benches). Moving along the community engagement continuum, groups sponsoring community events, such as bike-to-work or walk-to-school days, report more success in achieving environmental improvements. These activities build on a fundamental recognition that social ties that expand a group's sphere of influence are key to achieving desired system-level changes.<sup>5,19,32</sup> Finally, investing in social media and social marketing is key to raising awareness, thus furthering social capital and mobilization of resources.<sup>33</sup> The visibility of these activities empowers individuals and organizations, elicits local knowledge, and strengthens relationships with partners and the broader community, thus influencing public support for environmental improvements.<sup>5,19,20,34,35</sup>

Frequent engagement in media communication and advocacy was associated with higher environmental improvement scores. Writing letters to the editor of a local or regional newspaper, releasing a press statement, or mounting a mass media campaign furthers community awareness and public support for proposed environmental changes.<sup>31</sup> Such advocacy may

**TABLE 1 ● Policy and Environmental Change by Compositional, Contextual, and Stakeholder Engagement Factors<sup>a</sup>**

	n	Environmental Change			Policy Change		
		Mean	95% CI	P	Mean	95% CI	P
Group composition							
Collaborative age				.39			.07
1-3 y	14	3.6	3.1-4.1		2.4	1.9-2.9	
4-6 y	26	3.4	3.0-3.7		3.0	2.6-3.3	
7+ y	19	3.7	3.3-4.1		3.2	2.8-3.6	
Experience of coordinator				.95			.15
≤1 y	17	3.6	3.1-4.0		2.8	2.3-3.3	
>1 to 3 y	23	3.6	3.2-4.0		2.7	2.3-3.1	
>3 y	19	3.5	3.1-3.9		3.3	2.8-3.7	
Number of partners				.18			.75
≤ 10	12	3.1	2.6-3.6		2.8	2.2-3.3	
11-30	26	3.7	3.3-4.0		3.0	2.6-3.4	
>30	21	3.6	3.3-4.0		2.9	2.5-3.3	
Partners with planners/designers				.12			.06
Sometimes/rarely/never (<5×)	20	3.4	3.0-3.8		2.6	2.2-3.1	
Often (most of the time)	13	3.3	2.8-3.8		2.7	2.2-3.2	
Very frequently (or ongoing)	26	3.8	3.5-4.2		3.2	2.9-3.6	
Stakeholder engagement: community activities							
Collected data on physical activity opportunities				.05			.69
Not completed/in-progress	18	3.2	2.8-3.6		2.8	2.4-3.3	
Completed	41	3.7	3.4-4.0		3.0	2.7-3.3	
Community events				.003			.46
Low	17	3.0	2.6-3.4		2.7	2.2-3.2	
Medium	17	3.4	3.0-3.8		2.9	2.4-3.4	
High	25	4.0	3.6-4.3		3.1	2.7-3.5	
Social marketing				.03			.02
No	26	3.3	2.9-3.6		2.6	2.2-3.0	
Yes	33	3.8	3.5-4.1		3.2	2.8-3.5	
Social media				.001			.06
No	19	3.0	2.6-3.4		2.6	2.2-3.0	
Yes	40	3.8	3.5-4.1		3.1	2.8-3.4	
Stakeholder engagement: political and policy activities							
Leaders participate/endorse group events				.19			<.0001
Sometimes/rarely/never (<5×)	20	3.3	2.8-3.7		2.4	2.1-2.8	
Often (most of the time)	21	3.6	3.2-4.0		2.7	2.4-3.1	
Very frequently (or ongoing)	18	3.8	3.4-4.2		3.7	3.3-4.0	
Partners with elected official to author policies				.73			.01
Rarely/never (<2×)	16	3.4	2.9-3.9		2.3	1.9-2.8	
Sometimes (2-5×)	22	3.6	3.2-4.0		3.1	2.7-3.5	
Frequently	21	3.6	3.2-4.0		3.2	2.8-3.6	
Offers testimony in policy or legal hearing				.37			.0003
Rarely/never (<2×)	24	3.6	3.2-4.0		2.4	2.0-2.7	
Sometimes (2-5×)	22	3.4	3.0-3.8		3.2	2.8-3.6	
Frequently	12	3.9	3.3-4.4		3.5	3.0-4.0	
Engages in media communication/ advocacy				.001			.01
Rarely/never (<2×)	8	2.5	1.9-3.1		2.4	1.8-3.0	
Sometimes (2-5×)	20	3.6	3.2-3.9		2.6	2.2-3.0	
Often (most of the time)	19	3.6	3.2-4.0		3.2	2.8-3.6	
Very frequently (or ongoing)	12	4.1	3.6-4.6		3.4	2.9-3.9	

(continues)

**TABLE 1 ● Policy and Environmental Change by Compositional, Contextual, and Stakeholder Engagement Factors<sup>a</sup> (Continued)**

	n	Environmental Change			Policy Change		
		Mean	95% CI	P	Mean	95% CI	P
Community context							
Geographic scale				.08			.07
Local	46	3.7	3.4-3.9		3.0	2.8-3.3	
State	13	3.2	2.7-3.7		2.5	2.0-3.0	
Area poverty				.06			.84
<10%	27	3.6	3.2-3.9		3.0	2.6-3.4	
10% to 15%	20	3.2	2.8-3.6		2.9	2.5-3.4	
>15%	12	4.0	3.5-4.5		2.8	2.2-3.3	

Abbreviation: CI, confidence interval.

<sup>a</sup>Total sample was 59 groups. *P* value is for test statistic (F test). Environmental change is the average amount of change to the built environment reported across 8 strategy areas. Range: 1 .5-5. Mean: 3.5. Policy change is the average amount of policy change reported across 8 strategies. Range: 1-4.5. Mean: 2.9. Scores are normalized by the number of strategy areas identified.

also influence change-making processes by feeding into the momentum of the initiative, influencing the perceptions of key leaders, and applying pressure for policy change.<sup>36,37</sup>

Groups vested in political and policy advocacy activities were also more likely to achieve policy change. Specifically, groups were most likely to be successful when they frequently offered testimony in public hearings and solicit community leader endorsements for collaborative-sponsored events. Engaging community leaders may be vital for extending the groups' influence in facilitating such changes.<sup>5,6</sup> Kingdon<sup>38</sup> has shown that such investment in frontline policy activities is crucial for advancing a policy agenda.

Convincing government entities and nonprofit organizations in collaborative group leadership roles to engage in policy advocacy may be challenging due to a perception that such advocacy activities will compromise funding. Blackwell et al, citing Homan (chapter 7), have found that this fear may be exaggerated and not in line with actual federal or foundation grantee guidelines.<sup>39,40</sup> If government or other funder restrictions prevail, then lead organizations may need to give allied partners without such conflicts more responsibility for testifying and advocating on behalf of the group.

Finally, groups in the implementation stage of collaborative development may have greater latitude in the way their groups are organized and managed. Consistent with previous research, compositional features of groups, such as collaborative size, were not significant in explaining groups' effectiveness.<sup>16</sup> Rather, groups can invest in activities that engage stakeholders across the spectrum of political, policy and community settings in order to generate the social and human

capital necessary to influence environmental improvements and policy change.

There are several limitations worth noting. First, the cross-sectional design limits the exploration of temporal aspects of group processes and related outcomes. Second, because the sample was constructed using a nomination process, results may reflect the work of groups with greater visibility and more successful initiatives and thus may not be generalizable to all active living collaborative groups. Third, collection of data from group coordinators may bias results in a positive direction given their investment in their respective groups. Fourth, the statistical power is limited given the small sample size.

## ● Conclusion

This research examines the changes active living collaborative groups are undertaking to improve physical activity levels in communities across America. Our research suggests that groups are translating the evidence on environmental and policy approaches to promote active living from research to practice. Community and policy engagement activities are widely used by groups but intensity of use varies across groups. Groups are most effective in making improvements to the built environment and changes to the policy landscape when they dedicate substantial resources to engage their members, the broader community, and decision makers in the work of the collaborative.<sup>18</sup> Technical assistance offered by funders and supporting organizations may strengthen collaborative groups' approach to engaging in the policy-making process by improving communication of information in policy-making settings.<sup>41</sup>

**TABLE 2 • Group Compositional and Stakeholder Engagement Correlates of Environmental and Policy Change<sup>a</sup>**

Intermediate Change	Bivariate Regression		Model 1: Group Composition		Model 2: Community Activities		Model 3: Policy Activities		Model 4: Final	
	Env	Policy	Env (1a)	Policy (1b)	Env (2a)	Policy (2b)	Env (3a)	Policy (3b)	Env (4a)	Policy (4b)
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Composition and community context										
Area poverty (% families)	2.3	-.1	2.4	1.0	1.7	.1	1.7	-1.1	1.4	-1.2
Collaborative age (y)	.0	.1 <sup>b</sup>	.0	.1	.0	.1	.0	.0	.0	.0
Experience of coordinator (y)	.0	.1 <sup>c</sup>	...	.1	...	...	...	...	...	...
Collaborative size (no. partners)	.1	.1	...	...	...	...	...	...	...	...
Partners with planning/design practitioners <sup>d</sup>	.2	.2 <sup>b</sup>	...	.2 <sup>c</sup>	...	...	...	...	...	...
Stakeholder engagement: community activities										
Collected information on opportunities for physical activity (ref = not completed/in-progress)	.5 <sup>c</sup>	.1	...	...	.4 <sup>c</sup>	...	...	...	...	...
Community events (no.)	.5 <sup>d</sup>	.2	...	...	.3 <sup>b</sup>	...	...	...	.3 <sup>b</sup>	...
Social marketing (ref = no)	.5 <sup>b</sup>	.6 <sup>b</sup>	...	...	.1	.3	...	...	...	...
Social media (ref = no)	.8 <sup>d</sup>	.5 <sup>c</sup>	...	...	.5	.3	...	...	...	...
Stakeholder engagement: political and policy activities										
Leaders participate/endorse a collaborative-sponsored event <sup>e</sup>	.2 <sup>c</sup>	.5 <sup>d</sup>	...	...	...	...	.0	.3 <sup>b</sup>	...	.3 <sup>d</sup>
Partners with elected official to author policy <sup>e</sup>	.1	.4 <sup>d</sup>	...	...	...	...	...	.1	...	...
Offers testimony in policy, legal or judicial hearing <sup>e</sup>	.1	.5 <sup>d</sup>	...	...	...	...	...	.4 <sup>d</sup>	...	.3 <sup>d</sup>
Engages in media communication/advocacy <sup>e</sup>	.4 <sup>d</sup>	.4 <sup>d</sup>	...	...	...	...	.4 <sup>d</sup>	.0	.3 <sup>d</sup>	...
Overall model fit										
F value	...	...	1.2	2.6	3.8	2.2	8.1	8.0	5.7	11.8
Pr > F	...	...	.31	.05	.003	.09	.001	<.0001	.001	<.0001
R <sup>2</sup>	...	...	.04	.16	.30	.14	.22	.49	.29	.47

<sup>a</sup>Environmental change is the average amount of change to the built environment reported across 8 strategy areas. Range: 1-5. Mean: 3.5. Policy change is the average amount of policy change reported across 8 strategies. Range: 1-5. Mean: 2.9. Scores are normalized by the number of strategy areas identified.

<sup>b</sup>p < .05.

<sup>c</sup>p < .10.

<sup>d</sup>p < .01.

<sup>e</sup>Scale: 1 = Never to 5 = Very frequently.

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