

Applied Research Brief: Culture Change

Community Capacity as an “Inside Job”: Evolution of Perceived Ownership Within a University-Aboriginal Community Partnership

Margaret D. Cargo, PhD; Treena Delormier, Pdt; Lucie Lévesque, PhD; Alex M. McComber, MEd;
Ann C. Macaulay, CM, MD, FCFP

Abstract

Purpose. To assess the evolution of perceived ownership of a university-Aboriginal community partnership across three project stages.

Design. Survey administration to project partners during project formalization (1996—T1), mobilization (1999—T2), and maintenance (2004—T3).

Setting. Aboriginal community of Kahnawake, outside Montreal, Quebec, Canada.

Participants. Partners involved in influencing decision making in the Kahnawake Schools Diabetes Prevention Project (KSDPP).

Measure and Analysis. A measure of perceived primary ownership subjected to linear trend analysis.

Results. KSDPP staff were perceived as primary owner at T1 and shared ownership with Community Advisory Board (CAB) members at T2 and T3. Trend tests indicated greater perceived ownership between T1 and T3 for CAB ($\chi^2_1 = 12.3, p < .0001$) and declining KSDPP staff ($\chi^2_1 = 10.5, p < .001$) ownership over time. Academic partners were never perceived as primary owners.

Conclusion. This project was community driven from the beginning. It was not dependent on an external academic change agent to activate the community and develop the community's capacity to plan and implement a solution. It still took several years for the grassroots CAB to take responsibility from KSDPP staff, thus indicating the need for sustained funding to build grassroots community capacity. (*Am J Health Promot* 2011;26[2]:96–100.)

Key Words: Indians, North American, Capacity Building, Community-Based Participatory Research, Self-Determination, Health Promotion, Prevention Research. Manuscript format: applied research brief; Research purpose: process evaluation; Study design: quantitative (trend analysis); Outcome measure: perceived ownership; Setting: community; Health focus: type 2 diabetes prevention; Strategy: culture change; Target population age: adults partnering in community-based participatory research; Target population circumstances: Aboriginal populations, academic researchers

Margaret D. Cargo, PhD, is with the School of Health Sciences, University of South Australia, Adelaide, South Australia. Margaret D. Cargo, PhD, is also with the Douglas Hospital Research Centre, McGill University, Verdun, Quebec, Canada. Ann C. Macaulay, CM, MD, FCFP, is with Participatory Research at McGill, Department of Family Medicine, McGill University, Verdun, Québec, Canada. Treena Delormier, Pdt, and Alex M. McComber, MEd, are with the Kahnawake Schools Diabetes Prevention Project, Kahnawake Territory, Kanien'keh (Mohawk Nation), Québec, Canada. Treena Delormier, Pdt, is with the Département de médecine sociale et préventive, Université de Montréal, Montréal, Québec, Canada. Lucie Lévesque, PhD, is with the School of Kinesiology and Health Studies, Queen's University, Kingston, Ontario, Canada.

Send reprint requests to Margaret D. Cargo, PhD, University of South Australia, School of Health Sciences, City East Campus, GPO Box 2471, Adelaide, SA 5019, Australia; margaret.cargo@unisa.edu.au.

This manuscript was submitted December 29, 2009; revisions were requested May 31, 2010; the manuscript was accepted for publication July 12, 2010.

Copyright © 2011 by American Journal of Health Promotion, Inc.
0890-1171/11/\$5.00 + 0
DOI: 10.4278/ajhp.091229-ARB-403

PURPOSE

Health promotion programs are implemented in complex systems and influenced by a range of factors related to the implementers, implementing organization, and community.¹ The dynamics of those engaged in decision making also influences program delivery, especially within the context of participatory approaches. Little quantitative research explores the decision-making dynamics of university-community partnerships in the evaluation of community-based health promotion programs. No quantitative longitudinal research has been reported on university-Aboriginal community partnerships. Available qualitative evidence tends to amplify the difficulty of this type of collaborative effort owing to political tensions, competing interests, and power imbalances between academic and Aboriginal partners.² In the absence of longitudinal studies, prevailing tenets of participatory research remain unchallenged. The Frieman³ emancipatory root of participatory research suggests that an external change agent raises the consciousness of the marginalized population on the underlying causes of their health problem and through a collaborative process facilitates their capacity development to address the problem.⁴ However, in Aboriginal communities, mistrust generated from externally driven research combined with the international Aboriginal self-determination movement⁵ suggests that these assumptions may not fit with the political realities of Aboriginal communities and the partnerships that

Table 1
Description of Each Partner in the Kahnawake Schools Diabetes Prevention Project and Response Rates by Partner Group for T1, T2, and T3

Partner	Description	T1 Response Rate, No.* (%)	T2 Response Rate, No.* (%)	T3 Response Rate, No.* (%)
a. KSDPP Staff	Represented primarily by community members that guide research and intervention. Staff were active at T1, T2, and T3 and completed surveys at all time points.	4/4 (100)	5/5 (100)	16/21 (76)
b. Community Advisory Board	Community members from health, social, political, spiritual, recreational, and private sectors and community at large to advise and participate in research and intervention activities. Active and completed surveys at T1, T2, and T3.	18/25 (72)	13/23 (57)	16/23 (70)
c. Academic Researchers	Defined by their primary affiliation with an academic or research institution. Academic researchers were a core partner and completed surveys at T1, T2, and T3.	3/3 (100)	5/5 (100)	14/16 (88)
d. Community Researchers	Professionals from health and education sectors with research responsibilities. Considered a partner at T1 and T2 and completed surveys only at these time points.	3/3 (100)	4/4 (100)	†
e. Community Affiliates	Community and organizational representatives supporting KSDPP intervention and research, but do not participate in KSDPP committees. A partner at T2 and T3; completed surveys at T2 only.	†	17/33 (52)	Not surveyed
f. Supervisory Board	Community and academic representatives ensuring fiscal accountability and providing financial oversight. Considered an independent partner group for the T3 survey.	†	†	5/8 (63)

* Number of surveys returned/number of surveys distributed.

† Not recognized as an independent active partner at this time point.

they seek to form with universities. To understand decision-making dynamics between academic and Aboriginal community partners, this study assessed the evolution of perceived primary ownership, cross-sectionally, across three stages of the Kahnawake Schools Diabetes Prevention Project (KSDPP).

METHOD

Setting

Kahnawake is a Kanien'kehaka (Mohawk) community near Montreal, Canada. Community concern over the high local prevalence of type 2 diabetes and the perceived weight gain of school children, combined with the Kanien'kehaka tradition of caring for future generations, moved Kahnawake to partner with academic researchers to implement and evaluate a diabetes prevention program. KSDPP began in 1994 to change social norms and enhance environmental supports for

healthy eating and active lifestyles in the schools and community.⁶

Participants

Drawing on participatory research principles, KSDPP engaged community and university representatives in all research phases. KSDPP partners were composed of representatives from community organizations and the private sector, and those with a research interest, who may or may not have had an affiliation with an academic institution. These partners were involved in KSDPP through their affiliation with one or more of the following groups: (1) Community Advisory Board (CAB), (2) KSDPP Staff, (3) Supervisory Board, (4) Academic Researchers, (5) Community Affiliates, and (6) Community Researchers. A core group of partners was involved from the beginning; other partners were active at various points. Partner roles and contributions are summarized in Table 1.

KSDPP Staff were represented by diabetes prevention facilitators and trainers, secretarial and administrative support staff, and researchers from the community (i.e., community researchers) or outside the community (i.e., community-based researchers). The CAB, which met monthly, consisted of members from health, social, political, spiritual, recreation, and private sectors of the community in addition to interested community members. In 2002, the CAB created a five-member executive committee to provide oversight to KSDPP administrative and financial operations. The Supervisory Board was represented by an elder, administrators from research-related institutions, and local political and education representatives. This group ensured research accountability to the community, universities and funding agencies. Academic Researchers were faculty members and undergraduate and graduate students in health- and social science-related disciplines from

partnering universities. Community Affiliates were service providers, front-line workers, and administrators from organizations and institutions engaged in planning and implementation of KSDPP intervention and research activities, but not directly involved in any of the above committees. Community Researchers were professionals from the health and education sector (e.g., nutritionists) who assumed research responsibilities. KSDPP decisions were supported by a collective decision-making process that involved representation from multiple partner groups; notably, KSDPP staff attended research meetings, and academics and KSDPP staff attended CAB meetings.

Design

Cross-sectional surveys were administered to project partners in 1996 (T1), 1999 (T2), and 2004 (T3) representing three project stages—formalization, mobilization, and maintenance. These stages emphasize developing operating guidelines, procedures, and ethics (formalization); capacity-building and accountability (mobilization); and sustaining the infrastructure and research products (maintenance).⁷ For all three time points, self-report surveys and consent forms were distributed directly to committee members attending project meetings or mailed to community organization representatives supporting the project. Active partners at each time point (see Table 1) were eligible to complete surveys. Community Affiliates members were mailed surveys at T2 despite less formal involvement in project decision making. Given the low T2 response rate, this group was not surveyed at T3. Eligibility to participate was determined by staff and researchers reviewing attendance documented in meeting minutes. For concerns regarding anonymity, confidentiality, and survey aims, participants contacted the lead researcher by phone or in person. A project staff member contacted participants by phone 2 and 4 weeks following survey administration to prompt the return of surveys; reminders also were provided at project meetings. Surveys and signed consent forms were returned by mail in addressed stamped envelopes or placed in a drop box at the KSDPP

office. Participant responses were anonymous. Because of a need for anonymity, required by the community, individual respondents could not be linked for analysis across time points; however, group membership changed, with members joining and others leaving at T2 and T3.

Survey response rates were 80% (28/35) at T1, 63% (44/70) at T2, and 75% (51/68) at T3; for this paper, response rates are 74%, 60%, and 74% because of missing data. Response rates for partner groups are reported in Table 1. Partner affiliation was determined by self-reported primary affiliation and counted only once in the sample at each time point. Fifty-nine percent (20/35) of those surveyed at T1 remained active at T2. Excluding Community Affiliates members present at T2, 56% (20/36) of project partners at T2 were present at T3. Twelve partners were involved in KSDPP from T1 to T3.

The KSDPP Code of Research Ethics (http://ksdpp.org/elder/code_ethics.php) was followed. Protocols for this study were first approved by the KSDPP CAB and then submitted to the McGill Faculty of Medicine Institutional Review Board.

Measures

Study questions were drawn from a survey assessing perceived influence, the results of which have been previously reported.^{8,9} Revision to project functioning questions resulted in greater differentiation in project domains and scaling at T3 as compared to T2 and T1 and thus precluded comparisons. The perceived primary ownership question remains the only comparable question across each time point. After completing the survey, participants were asked “which partner was the primary owner of KSDPP at the present time”; they selected one response from the list of active partners. Content validity, construct validity, and initial reliability tests for the survey measures were reported by Flynn¹⁰; face validity of the perceived primary ownership question was established by academic researchers and community members with community organization expertise reviewing the survey.

Data Analysis

To assess the evolution of perceived primary ownership from T1 to T3, the

linear trend test was used. The z-test was then applied to assess the perceived primary ownership of each partner at the three time points. Data were analyzed using PEPI epidemiological software.

RESULTS

Given naturally occurring changes in group composition from T1 to T3 and ethical considerations of anonymity and confidentiality, a conservative approach was taken by treating observations as independent in the analysis. At T2 only, response rates were significantly lower for CAB (57%) and Community Affiliates (52%) compared to other partners (Table 1). Women comprised the larger proportion of project partners at T1 (53.8%), T2 (68.2%), and T3 (82%). Data for perceived primary ownership appear in Table 2; trend tests evaluating greater perceived ownership between T1 and T3 for CAB members ($\chi^2_1 = 12.3, p < .0001$) and declining KSDPP Staff ($\chi^2_1 = 10.5, p < .001$) ownership were statistically significant. KSDPP Staff was perceived as primary owner at T1 and shared ownership with CAB at T2 and T3 (see Table 2). Trends analyzed without Community Affiliates in the sample at T2 remained robust for CAB ($\chi^2_1 = 12.3, p < .0001$) and KSDPP Staff ($\chi^2_1 = 10.0, p = .002$) with 41.7% of those surveyed perceiving CAB and KSDPP Staff as primary owners and 16.7% perceiving Community Researchers as primary owner. At T1, differences in proportions were statistically significant between KSDPP Staff and all other partners. At T2 and T3, differences in proportions between KSDPP Staff and CAB were not statistically significant ($p = .18$ and $p = .22$). At T2, all other comparisons were statistically significant except for those between Community Researchers and CAB and between Community Researchers and Academic Researchers. At T3, all comparisons were statistically significant except for the comparison between KSDPP Staff and CAB. Academic Researchers were not perceived as primary owners at any time point.

DISCUSSION

This is the first longitudinal study to report on the evolution of perceived

Table 2
Perceptions of Primary Ownership of KSDPP Aggregated Across Partners (Percentage and Number of Participants), Cross-Sectionally at T1 (1996), T2 (1999), and T3 (2004)

Perceived Primary Owner	T1, % (No.)*	T2, % (No.)†	T3, % (No.)‡
	(n = 26)	(n = 42)	(n = 50)
a. KSDPP Staff	80.8 (21)	50.0 (21)	40.0 (20)
b. Community Advisory Board	11.5 (3)	33.3 (14)	54.0 (27)
c. Academic Researchers	0 (0)	0 (0)	0 (0)
d. Community Researchers	7.7 (2)	16.7 (7)	§
e. Community Affiliates	§	0 (0)	0 (0)
f. Supervisory Board	§	§	6.0 (3)

* a-b, a-c, a-d ($p < 0.0001$).

† a-c, a-e, b-c, b-e ($p < 0.0001$); a-d ($p < 0.05$).

‡ a-c, a-e, a-f, b-c, b-e, b-f ($p < 0.0001$).

§ Not recognized as an independent active partner at this time point.

ownership of a university-Aboriginal community partnership. Perceived ownership is a subdimension of community power, which constitutes 1 of 10 core dimensions of community capacity.^{11(p 262)} Two noteworthy findings are highlighted below and discussed in relation to their implications for community capacity building.

First, findings show that KSDPP was perceived to be owned by one or more community partners during its formalization, mobilization, and maintenance stages. This result runs counter to the Friarian imperative that an external change agent was responsible for activating this Aboriginal community and developing community members' capacity to "take over" the program.³ In the formalization stage, KSDPP Staff was perceived as primary owner and in the mobilization and maintenance stages KSDPP Staff shared this ownership with the CAB. Ownership was not developmentally fostered by the academic partner, as may be the case with participatory research models such as empowerment evaluation,¹² nor was ownership shared between community and university partners, as outlined in exemplary applications of community-based participatory research with marginalized populations. Academics were not perceived as primary owner at any time point. Although the proportion of women completing surveys increased from T1 to T3, the community has a strong culture and history of Aboriginal self-determination and self-government that transcend gender.

Second, community capacity was developmentally fostered and/or transferred from KSDPP staff to CAB members with greater perceived ownership accruing across the mobilization and maintenance stages. This finding supports the assertion that community capacity is dynamic and develops in stages of readiness.¹¹ As illustrated in Table 2, the percentage of partners perceiving CAB as primary owner steadily increased across the three stages, from 11.5% to 33.3% to 54%. This process took years, which suggests that the short-term funding timelines of granting agencies does not fit with the real-world capacity-building efforts required by grassroots communities. More research is required to understand the process of developing grassroots capacity within Aboriginal communities.

Limitations

Study results must be interpreted in light of limitations. Findings are based on a single measure extracted from a larger survey administered at three time points. We acknowledge that partnerships change in the real world of program implementation. This is reflected by the in-migration and out-migration of partners at each time point, which impacted group composition. Beyond group composition, the partnership structure changed at T3, with the Supervisory Board recognized as an independent partner group and the phasing out of Community Researchers. Cross-sectional sampling al-

lowed partners who were active at each time point to report their perceptions of perceived ownership. However, the lower T2 response rate was biased because of smaller proportions of CAB and Community Affiliate members completing surveys. As previously reported by KSDPP,⁸ those who placed trust in or were less satisfied with the partnership may have been less inclined to complete the survey. Response rates at T3 were, however, more comparable to T1, and the T3 results are arguably the most telling.

Implications for Health Promotion

Study findings suggest rethinking the role of the external change agent in relation to consciousness raising and capacity building in Aboriginal communities. In line with current perspectives in Aboriginal self-determination,^{5,7} health promotion practitioners should approach communities with a willingness to partner and not dictate help or assistance, as this may be perceived as paternalistic and undermine community capacity. In addition, granting agencies need to rethink their short-term funding timelines to allow sufficient time for grassroots capacity to develop in Aboriginal communities.

Acknowledgments

The authors would like to thank participants for taking the time to complete the surveys. The authors are grateful to the Community Advisory Board of the Kahnawake Schools Diabetes Prevention Project for their continued support, which includes reviewing this paper.

References

1. Chen H-T. *Practical Program Evaluation. Assessing and Improving Planning, Implementation and Effectiveness*. Thousand Oaks, Calif: Sage Publications; 2005.
2. Wallerstein N. Power between evaluator and community: research relationships within New Mexico's healthier communities. *Soc Sci Med*. 1999;49:39-53.
3. Friere P. *Pedagogy of the Oppressed*. New York, NY: Seabury Press; 1970.
4. Wallerstein N, Duran B. The roots of community based participatory research. In: Minkler M, Wallerstein N, eds. *Community-Based Participatory Research for Health*. San Francisco, Calif: Jossey-Bass; 2003:27-52.
5. Chino M, Debruyen L. Building true capacity: indigenous models for indigenous communities. *Am J Public Health*. 2006;96:596-599.
6. Macaulay AC, Paradis G, Potvin L, et al. The Kahnawake Schools Diabetes Prevention Project: intervention, evaluation, and baseline results of a diabetes primary prevention program with a native community in Canada. *Prev Med*. 1997;26:779-790.
7. Cargo M, Mercer S. The value and challenges of participatory research: strengthening its practice. *Annu Rev Public Health*. 2008;29:325-350.
8. Cargo M, Lévesque L, Macaulay AC, et al. Community governance of the Kahnawake Schools Diabetes Prevention Project, Kahnawake Territory, Mohawk Nation, Canada. *Health Promot Int*. 2003;18:177-187.
9. Cargo M, Delormier T, Lévesque L, et al. Can the democratic ideal of participatory research be achieved? An inside look at an academic indigenous community partnership. *Health Educ Res*. 2008;23:904-914.
10. Flynn BS. Measuring community leaders' perceived ownership of health education programs: initial tests of reliability and validity. *Health Educ Res*. 1995;10:27-36.
11. Goodman RM, Speers MA, McLeroy K, et al. Identifying and defining the dimensions of community capacity to provide a basis for measurement. *Health Educ Behav*. 1998;25:258-278.
12. Fetterman DM, Wandersman A. *Empowerment Evaluation Principles in Practice*. New York, NY: Guilford Press; 2005.

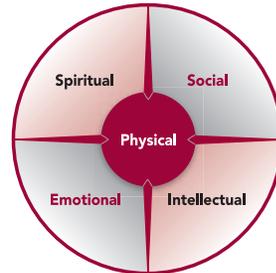
Online
subscriptions
now available

Volume 25, Number 1
September/October 2010

The Wisdom of Practice and the Rigor of Research

Definition of Health Promotion

“Health Promotion is the art and science of helping people discover the synergies between their core passions and optimal health, enhancing their motivation to strive for optimal health, and supporting them in changing their lifestyle to move toward a state of optimal health. Optimal health is a dynamic balance of physical, emotional, social, spiritual, and intellectual health. Lifestyle change can be facilitated through a combination of learning experiences that enhance awareness, increase motivation, and build skills and, most important, through the creation of opportunities that open access to environments that make positive health practices the easiest choice.”



**DIMENSIONS OF
OPTIMAL HEALTH**

(O'Donnell, *American Journal of Health Promotion*, 2009, 24,1,iv)

“The *American Journal of Health Promotion* provides a forum for that rare commodity — *practical and intellectual exchange between researchers and practitioners.*”

Kenneth E. Warner, PhD
*Dean and Avedis Donabedian Distinguished University Professor of Public Health
School of Public Health, University of Michigan*

“The contents of the *American Journal of Health Promotion* are *timely, relevant,* and most important, *written and reviewed by the most respected researchers in our field.*”

David R. Anderson, PhD, LP
Senior Vice President & Chief Health Officer, StayWell Health Management

Subscribe today...

ANNUAL SUBSCRIPTION RATES: (Available 1/1/11. Good through 12/31/11)

	INDIVIDUAL		INSTITUTION	
	Print + Online	Print	Online	Print + Online
U.S.	\$139	\$184	\$359	\$359
Canada and Mexico	\$148	\$193	\$359	\$368
Other Countries	\$157	\$202	\$359	\$377

Call 800-783-9913 (U.S. only) or 818-760-8520



Editor in Chief
Michael P. O'Donnell, PhD, MBA, MPH

Associate Editors in Chief
Margaret Schneider, PhD
Jennie Jacobs Kronenfeld, PhD
Shirley A. Musich, PhD
Kerry J. Redican, MPH, PhD, CHES

SECTION EDITORS
Interventions
Fitness
Barry A. Franklin, PhD
Medical Self-Care
Lucy N. Marion, PhD, RN
Nutrition
Karen Glanz, PhD, MPH
Smoking Control
Michael P. Eriksen, ScD
Weight Control
Kelly D. Brownell, PhD
Stress Management
Cary Cooper, CBE
Mind-Body Health
Kenneth R. Pelletier, PhD, MD (hc)
Social Health
Kenneth R. McLeroy, PhD
Spiritual Health
Larry S. Chapman, MPH

Strategies
Behavior Change
James F. Prochaska, PhD
Culture Change
Daniel Stokols, PhD
Population Health
David R. Anderson, PhD, LP

Applications
Underserved Populations
Antronette K. (Toni) Yancey, MD, MPH
Health Promoting Community Design
Bradley J. Cardinal, PhD
The Art of Health Promotion
Larry S. Chapman, MPH

Research
Database
Leslie Spenser, PhD
Financial Analysis
Ron Z. Goetzel, PhD
Measurement Issues
Shawna L. Mercer, MSc, PhD

Check out our new online format:
<http://www.HealthPromotionJournal.com/online.htm>