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Abstract

Students Against Nicotine and Tobacco Addiction (SANTA) is an action research project that engages local medical and mental health providers in partnership with students, teachers, and administrators in the Minneapolis/St Paul Job Corps community to reduce on-campus smoking. In this article, we describe how the initiative has endeavored to better understand the causes of students' smoking behaviors; changed the campus environment in ways facilitative to stress-management and boredom-reduction; revised the manners in which smoking cessation and support services are conducted; and sustained the project following the discontinuation of its start-up grant.

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Evaluative efforts across several cohorts of students in time show that smoking rates decrease significantly with prolonged exposure to SANTA interventions.

Keywords

adolescent smoking, smoking, smoking cessation, teen smoking, quit smoking

Introduction

One of the greatest untapped resources in our efforts to reduce smoking in young adults is the lived-experience and wisdom of the very individuals and groups that we seek to influence. Community-based participatory research (CBPR) is an action research approach that emphasizes close collaboration among researchers and community members who are directly affected by an issue to generate knowledge and solve local problems. Hierarchical differences are flattened through this partnership, and all participants work together to create knowledge and effect change (AHRQ, 2004; Lewin, 1946; Mendenhall & Doherty, 2005). Research is not conducted 'on' people, but 'with' them, as community participants take active roles in the entire research process – from conceptualizing problems and formulating solutions to solve them, to designing and implementing interventions, identifying relevant benchmarks of success and analyzing outcome data, feeding results back into intervention designs, and modifying them in accord to evaluative findings (Berge, Mendenhall, & Doherty, 2009; Bradbury & Reason, 2003; Hambridge, 2000; Ma, 2004; Mendenhall & Doherty, 2005; Schulz et al., 2003).

CBPR methods have been successfully applied in smoking cessation studies with a variety of communities identified as 'high risk' or 'difficult to reach' (Burton, 2004; Power et al., 1989; Tsark, 2001). For example, Tsark (2001) addressed the need for culturally/ethnically relevant approaches to address tobacco use among native Hawaiians. In this collaboration of professional and community participants, a user-friendly survey tool was developed to gather data from a broad range of community groups and constituencies. The findings were then directly applicable to ongoing intervention design(s), and the partnership greatly increased the local community's capacity for health promotion. Power et al. (1989) employed similar methods with young mothers in a CBPR initiative to reduce smoking in a small New Zealand community. In New York City, researchers are partnering with the Chinese American community to reduce smoking in young adults (Burton, 2004). This CBPR team has developed a multi-modal intervention that includes awareness campaigns, telephone support, print materials, and neighborhood groups.

The common thread running through these (albeit few) projects is the CBPR methodology used to engage community members as active partners in research. Unlike conventional approaches that seek to design a single intervention that can be transported across different communities (with positive quantitative results that are replicated time and again to prove its merit), CBPR researchers develop

interventions that are immediately relevant to the specific communities in which they are positioned – addressing local and unique challenges and tapping local wisdom and unique resources in-context (Hambridge, 2000; McGarvey, 1993; Morrison & Lilford, 2001).

Background of the SANTA Project

The mission of Job Corps is to provide high-quality academic skills and training, combined with a safe living environment, that are conducive to learning and supportive to students' emotional and physical needs. Established in 1981 under the direction and funding of the United States Department of Labor, Job Corps has provided training for at-risk youth (ages 16–24) for more than 25 years. Job Corps' Minnesota-based site is consistently ranked within the top 10 performing Job Corps centers (out of 122 nationwide) by the Department of Labor, and maintains a teacher-student ratio of 15:1. The site has received several National Director Awards for Sustained Excellence, maintained ongoing North Central Association Accreditation as an educational institution, and has been recognized for outstanding contributions to vocational education by the Minnesota Vocational Association.

Job Corps has onsite programs developed through its Counseling Department, Health and Wellness Center, and Center Standard and Incentive Office to ensure support for students as they complete their academic and vocational training. This includes a variety of opportunities that meet or exceed conventional expectations of an alternative secondary school environment (e.g. job shadowing, internship placements) and an aggressive approach to dropout-prevention. Much of students' time is spent doing hands-on activities, focusing on professional field and content areas that include culinary arts, business/clerical, health, facilities maintenance, and residential/industrial painting and wallpapering apprenticeships. Opportunities for leadership roles are available to those wishing to take part in the Student Government Association (SGA), peer counseling, the annual Minnesota State Youth Leadership Conference, and (more recently) SANTA.

Internal surveys and focus groups conducted in 2005 found that more than 40 percent of students at the Minnesota-based Job Corps site smoked, with substantial increases in smoking (across both onset and number of cigarettes smoked per day) after arriving at Job Corps (Haas, 2005). While almost 70 percent of smokers wanted to quit (and most had tried to in the past), few reported having been successful. These findings were very troubling to Job Corps' administration, because on-campus smoking cessation and support groups (although poorly attended) were readily available to those wishing to participate, as well as a variety of nicotine-replacement therapies through the medical director and on-site physician.

Rising to meet this campus-wide challenge, the SANTA Project (Students Against Nicotine and Tobacco Addiction) was initiated and launched as a community-based participatory research endeavor involving an active

collaboration between University of Minnesota medical and mental health providers with Job Corps' students, administrators, teachers, counselors, and staff. For a detailed account of this project's initial construction and early development, see Mendenhall, Whipple, Harper, and Haas (2008).

As SANTA has moved forward into its working phases, its members are driven by a mission and project rationale to improve the health and well-being of students at Job Corps. In this article, we describe these working phases, specifically focusing on how SANTA has endeavored to better understand the causes of students' smoking behaviors (Phase One); change the campus environment in ways facilitative to stress-management and boredom-reduction (Phase Two); revise the manners in which smoking cessation and support services are conducted (Phase Three); and sustain the project following the discontinuation of its start-up grant (Phase Four). We also report key findings in our evaluative efforts while tracking sequential cohorts of students enrolled at Job Corps.

Method

As outlined above, community-based participatory research (CBPR) emphasizes close collaboration among researchers and community participants who are directly affected by an issue to generate knowledge and solve local problems. Hierarchical differences are flattened through this partnership as all participants work together to create knowledge and effect change through a series of iterative cycles whereby problems are conceptualized and solutions are co-created, interventions are designed and implemented, data are gathered and analyzed, and results are fed back into intervention revisions and designs (Lewin, 1946; Mendenhall & Doherty, 2005; Mendenhall, Doherty, Baird, & Berge, 2008; Minkler, 2000; Wallerstein & Duran, 2003).

As members of Job Corps' administration and faculty first began to discuss new ways to address its students' on-campus smoking with colleagues at the University of Minnesota, CBPR was identified as an approach and methodology that held promise by nature of its call to collaborate with Job Corps students – tapping their energy, lived-experience, knowledge and expertise – in partnership with professional team members. Early steps encompassed the formation of an action-and-planning group – including 16 students (10 non-smokers; six smokers), four teachers/staff, one administrator, and two university faculty. As they developed their name (Students Against Nicotine and Tobacco Addiction) and mission statement ('Our mission is to improve the health and well-being of students at Job Corps through smoking cessation, education, stress reduction, and support'), a strong and shared sense of trust and community-participation developed.

Participants

The Minnesota-based Job Corps houses 200–250 students at any given time, as new enrollees enter and others graduate or leave the site every month. Students' stay

with Job Corps ranges from six to 18 months, and more than 90 percent reside in on-site dormitory housing. Gender ratios favor males (62%; $p < .001$), and students' race/ethnicity is diverse (46% African American; 23% Caucasian; 7% American Indian or Alaskan Native; 7% Hispanic; 2% Asian or Pacific Islander; 15% Other). Previous surveys confirm that students' campus-wide smoking prevalence is high. White students maintain the highest prevalence (78%); all other racial groups have evidenced smoking prevalence of 55–62 percent except recent African immigrant students (16%) (Haas, 2005; Mendenhall & Harper, 2007). Data reported in this article relating to the SANTA Project's CBPR efforts and outcomes to-date were collected across five time periods, each separated by three months. Total students on campus and demographics directly associated with them reflect general data described above.

Results

Consistent with the recursive and evolving nature of intervention development and design in community-based participatory research, the SANTA Project has created and implemented several interventions over the course of its work and engagement at Job Corps. Reported below are the results from the project's first four phases, and the manners in which campus-wide interventions to address students' smoking were activated in response to new knowledge gained through campus-wide surveys and evaluative findings.

Phase One: Recognition of stress and boredom as a major antecedent to smoking

Exploring the question, 'Why do students smoke?', SANTA launched its first campus-wide survey. This survey (and each version following it) was constructed collaboratively by all project members, with SANTA's students taking the lead in identifying what they believed to be key areas to attend to vis-à-vis their peers. Surveys were administered in every classroom on-site during a single class period, and generally took about 10 minutes to complete (after first introducing students to the survey and obtaining indicated and appropriate consent). Surveys were administered by SANTA student and administrative members in a systematic manner approved by the University of Minnesota's Institutional Review Board. CBPR tenets of involving students throughout all stages of this process – from survey development to data collection – were maintained as important in facilitating campus-wide participation (i.e. high response rates) and honest/accurate responses.

Yielding an 84% response rate, the most striking finding from this survey to the professional members of SANTA was not that nearly half of all students smoked, but that almost three-quarters of them (74.2%) maintained that they did so as efforts to reduce stress, followed by more than one-in-ten (12.9%) who did so to reduce boredom. Student members of SANTA were not surprised, however, and

shared how many they know (including some of themselves) only smoke when they are physically at Job Corps. Many students do not smoke while visiting family over a weekend or an extended holiday break, for example, but then resume smoking upon returning to Job Corps. This was further connected to why straightforward education about smoking cessation (only) may have missed the mark; variables seen as primarily causal (i.e. stress and boredom) to smoking were not being adequately addressed (Byrne, Byrne, & Reinhart, 1995; Ho, 1989; Perkins & Grobe, 2007; Pomerleau & Pomerleau, 1991).

Further exploring the questions, 'What are students stressed about?' and 'Why are they bored?', student members of SANTA began talking with their peers across classroom, lunchroom, social, and dormitory contexts – and then brought these conversations back to the project's collaborative CBPR meetings. A host of stress 'topics' were identified (and later integrated into the project's second phase, described below), alongside a widespread notion that there was a paucity of things to do on campus after classes were over in the mid-afternoon (other than to 'hang out' and smoke).

The SANTA Project then acted upon these data and new knowledge. Student members took the lead in creating and facilitating a combination of social and exercise activities (e.g. yoga, dancing, arts & crafts, volleyball, basketball, weights, drama, and rapping-contests). They made large posters and artwork advertising the activities, which were then reproduced and posted across campus grounds and buildings' hallways and meeting areas. Professional members in SANTA worked hard with other administrators and staff to accommodate and maintain these activities through requisite administrative approvals; accommodation of space, time, and resources; and campus-wide assembly announcements.

The culmination of this work represented a considerable change from the availability of activities on-campus prior to SANTA's attention and efforts. Prior to the first phase of the project, the only consistent after-school activities on campus were basketball and weight-lifting. Per the SANTA's student-members' anecdotal reports, these early activities were generally made use of by a small group of students – whereas turnouts for the new and broader range of activities initiated by SANTA were embraced by comparatively large numbers of students.

Phase Two: Augmenting knowledge and changing the Job Corps' environment

While creating more activities and things to do on campus was not directly connected to smoking cessation (i.e. quit-plans or related education sequences were not directly integrated into any of these activities, and they were open to all students regardless of smoking status), the SANTA Project quickly began gathering feedback across campus that many students were not smoking as much because they were not just 'hanging out' anymore and/or had outlets in which to 'burn-off' their stress. This CBPR process of evaluation on-the-fly was helpful in terms of exploring the question, 'How do we change the principal reasons that

students attribute to smoking?', and in understanding that these said activities were potentially making an impact.

Building upon this and Phase One's recognition of multiple stress 'topics', the SANTA Project then revised its original survey to tap more detail about students' stress. Coordinated and administered in the same manner as the first survey, SANTA's second survey yielded an 83 percent response rate. Results confirmed that this population bears a great deal of stressors. The most highly ranked topics by all participating students included financial problems and finding work, followed closely by stressors related to feeling homesick, family problems and personal problems. However, smokers reported more concerns about roommate issues, their physical health, and sexual problems than their non-smoking counterparts (see Table 1).

The SANTA Project then acted upon these data and new knowledge. To further create and amplify a 'buzz' on campus – defined as qualitative and noticeable increases in students' talking about smoking, its effects on health and

Table 1. Stress differences by smoker status across surveys, by percent

	Survey 2		Survey 3		Survey 4		Survey 5	
	Non-smoker	Smoker	Non-smoker	Smoker	Non-smoker	Smoker	Non-smoker	Smoker
Money	31	54	55	48	50	52	47	52
Finding work	39	44	57	44	53	48	18	7*
Family problems	23	44	37	40	33	37	65	76
Personal Issues	46	40	33	57**	32	50**	7	7
Homesick	31	40	51	37*	47	46	55	54
No freedom	31	33	24	38*	30	21	17	23
JC rules	23	28	21	35*	21	32	25	18
Academic classes	54	20**	13	15	21	22	38	42
JC gossip	31	26	19	30	30	34	15	15
Finding housing	14	28	27	34	29	23	11	12
Dorm issues	8	23	14	13	23	20	23	25
Relationships	8	23	26	34	37	23*	16	30*
Vocations classes	23	17	12	11	21	20	25	18
Dealing with peers	8	21	24	28	23	27	15	16
Self-image issues	8	17	15	8	7	16*	32	25
Roommate issues	0	10	15*	5	14	13	25	16
Phys/medical issues	0	9	15	22	10	10	25	33
Sexual issues	0	9	6	9	8	7	17	23
<i>n</i>	13	82	123	88	126	90	123	110

* $p < .05$; ** $p < .01$.

employability, and even challenging each other (and themselves) to reduce or quit their tobacco use – a campus-wide newsletter called the ‘SANTA-Report’ was constructed and introduced within the community through distribution to every Job Corps student and employee. This eye-catching document was also printed into bright colored 3’ x 5’ posters that were displayed in busy areas (including the smoking-break area) across campus. By headlining survey findings about smoking on-campus, and then highlighting a variety of sources connecting such behavior to topics sure to get students’ attention (e.g. the potentiality of sexual problems; McVary, Carrier, & Wessells, 2001; Mirone, Imbimbo, & Bortolotti, 2002; Phillips, 2000; Wincze & Carey, 2001) – the SANTA Project’s aforementioned aim to generate a buzz worked. People were talking.

Alongside the SANTA Report, the project began distributing information about stress reduction (in a general sense) and piloted community-forums specifically targeting select areas of stressors that students reported struggling with (e.g. financial management, conflict resolution with roommates). Information about key smoking and smoking cessation FAQs was refined and integrated into on-campus assemblies and health fairs.

Active discussions between members of the SANTA Project and the wider Job Corps community further mobilized efforts in change across several other areas, as well. SANTA worked with Job Corps’ administration to advocate and successfully move the campus’s designated smoking area to a less desirable location, and to change the color (now bright red) of underage students’ identification cards so that they are easily recognized as being under 18 years old (this helps enforce no smoking rules for minors). The group also advocated and received permission for students to design and wear SANTA t-shirts and buttons that carry with them a variety of smoking-related education and smoking cessation passages in text (instead of wearing standard Job Corps uniforms). Finally, they changed Job Corps policy to require that all employees (e.g. teachers, staff) who wish to smoke during breaks do so in their cars (instead of with students at the campus’s designated smoking location).

Phase Three: Revising smoking cessation and support at Job Corps

As the SANTA Project worked to change the Job Corps environment in Phase Two, it was also discussing with students different ways to effect more participation (and more sustained/successful participation) in on-campus smoking cessation education and support forums – that is, exploring the question, ‘How do we personalize conventional approaches in smoking cessation to this unique and high-risk population?’ While it was easy to pick out top-ranked stressors that smokers reported in Phase Two and integrate attention to them in these classes, professional and student members of SANTA were not wholly convinced that achieving good results was that simple. First, they agreed that another survey to further establish and confirm that the top stress areas found in Phase Two were

consistent over time (due to the population's aforementioned constantly changing nature as graduating students leave and new students enroll) was indicated. Second, they were not sure that the top-down manner in which current smoking cessation education and support was delivered (i.e. by faculty to students) was the best format, and thereby agreed to begin conversations with Job Corps students in the larger student body about this.

SANTA's third survey yielded an 85 percent response rate. Results were similar to the second survey, insofar as the most highly ranked stress topics by all participants ($n=215$) included financial problems (52%) and finding work (52%), followed closely by stressors related to family and personal problems. Smokers differed most significantly in personal problems ($p < .001$), and were also more likely to identify struggles with Job Corps' rules ($p = .023$) and restrictions to freedom ($p = .029$) as compared to their non-smoking counterparts (see Table 1). Struggles with roommate issues found in Phase Two reversed in Phase Three, with more non-smokers identifying this topic as a significant problem ($p = .012$). Non-smokers were also more likely to report being homesick ($p = .033$), and their concerns about finding work approached significance ($p = .072$).

The SANTA Project then acted upon these data and new knowledge. Group members worked to explicitly integrate attention to stress management and adaptive coping mechanisms to Job Corps' smoking cessation groups/classes, along with directed focus on problem-solving as it relates to students' most commonly reported sources of stress (e.g. financial and job-seeking issues, personal/relationship stress). Student members of SANTA, especially, maintained that attending to these foci in an integrated fashion with standard discussions of smoking triggers, quit dates, etc., would be helpful in tackling smoking holistically while at the same time establishing supportive relationships between participating members.

In regard to the format(s) and manner(s) that smoking cessation groups/classes are conducted, aforementioned discussions between SANTA student members and others in the Job Corps community called for more participation of students in supportive and mentorship roles than as compared to standard practice wherein a staff or faculty member functioned in a primary leader/facilitator capacity. The group is now working toward the recruitment and preparation of student mentors – many of whom are also SANTA members – to work with other students across a range of formats (e.g. 1:1 discussions; group meetings on- and off-campus; and collaboration with faculty in advocating smoking cessation aids and related resources). These efforts are proceeding alongside standardized education sequences, offering a broader range of supportive formats for students who wish to stop smoking.

Phase Four and beyond: Sustaining the SANTA Project

History is full of shining examples of 'community projects' that fizzled or stopped altogether as soon as external funding ran out or their charismatic leader(s) left.

A key tenet of community-based participatory research is that this not happen, for the reason that extant community resources and energies are tapped and project ownership is shared collectively by a group of citizens that inhabit a project or are somehow connected to it (Doherty & Mendenhall, 2006; Mendenhall & Doherty, 2005; Wallerstein & Duran, 2003). With this said, we have spent a great deal of energy in answering the question, ‘How do we keep SANTA going as an initiative that is owned-and-operated by the community in which it is positioned?’ We believe that project sustainability is a realistic and expected outcome in SANTA because 1) participating members are highly invested in the project surviving long after they have graduated, retired, or otherwise revised the foci of their current work, and 2) no independent student-based group or organization in the history of Job Corps has ever lasted as long as the SANTA initiative already has.

The following activities and next-steps will permeate SANTA’s ongoing and future efforts. Students immediately within the SANTA Project will continue to nominate peers in collaboration with Job Corps staff who they believe would be energetic and enthusiastic contributors to the ongoing evolution of the CBPR initiative. Our previous experience with several CBPR initiatives focused on both social- and health- related issues (Berge, Mendenhall, & Doherty, 2009; Doherty & Mendenhall, 2006; Doherty, Mendenhall, & Berge, 2010; Mendenhall & Doherty, 2003, 2005, 2007b; Mendenhall, Kelleher, Baird, & Doherty, 2008) suggests that this method is superior to general invitations, insofar as those with expressed interest, outgoing and adventurous dispositions, and personal leadership attributes are intentionally recruited. As the project proceeds, replacement of members will be an ongoing activity. Strong emphases will (continue to) be oriented to leadership development within SANTA and across the Minnesota-based Job Corps community. As participants in the CBPR process (students, staff, administrators) increasingly and consistently take ownership of the initiative, professional leaders’ leadership roles will synchronously (and appropriately) decrease (Doherty & Mendenhall, 2006; Mendenhall & Doherty, 2005, 2007a, 2007b; Minkler & Wallerstein, 2003; Sullivan et al., 2003; Wallerstein & Duran, 2003).

SANTA will continue to work in assessing where it has been and where it is going as it relates to interventions and activities currently in place. This will facilitate the ongoing maintenance of interventions that are consistently perceived as popular and effective (e.g. maintaining yoga classes because students see them as helpful in reducing stress and boredom), and move energies away from interventions that are not perceived as such (e.g. discontinuing the chess club because few students participate in it). This process will be carried out through a variety of venues and discussions that SANTA participants are involved in with other students, and within formal action-and-planning group meetings. Finally, SANTA’s current efforts in changing Job Corps’ culture across policy, physical environment, stress/boredom, and cessation education/support foci will continue.

Evaluative findings

A key goal of SANTA is to reduce the overall prevalence of smoking at Job Corps, regardless of how long students have been on-site. This a difficult task, however, insofar as senior students are always leaving the general student population and new students are always enrolling into the general student population. Students who have been enrolled at Job Corps long enough to change their smoking behaviors are potentially missed in assessing campus-wide smoking rates as they are replaced by other students who are smoking and have not yet been exposed to SANTA for any appreciable period of time. Assessments of general smoking prevalence reflect this: total sums of how many students across-campus smoke spanning five survey periods (separated by three-month intervals) do not evidence significant change ($F_{(4,1076)} = 0.544, p = .703$).

Insofar as the ever-changing and dynamic flow of the study population is such that it is difficult to establish how much individuals have been exposed to the project's efforts (or for how long) by looking only at whole-population statistics, assessing change within temporal cohorts of students is indicated. As we have done this (following five sequential cohorts of students, separated by three-month increments), a different picture emerges. Specifically, students reported that within the first six months, they smoked significantly more than when they first entered Job Corps. Follow-up queries with students regarding this suggest that this increase is attributable to adjusting to life at Job Corps and aforementioned concomitant stressors. After these initial six months, however, students significantly reduce the amount of cigarettes they smoke. LSD post hoc tests show that both the increases in smoking rates and subsequent decreases in smoking rates after the six-month mark were significant for all cohorts. Tests also show that there were significantly more students who reported that they smoke less at 12 month's follow-up than compared to every other survey time (mean difference between .341 and .556 with $p < .018$).

Discussion

The SANTA Project's collaborative efforts in community-based participatory research have encompassed (and continue to encompass) the involvement of professionals (providers, administrators, teachers, staff) and students in a partnership whereby all participants' unique strengths, wisdom, and resources are tapped. The sum of these efforts has translated into new knowledge and interventions that neither group (professionals or students) could have created by itself – and is reflective of the notion that collaborative partnerships like SANTA can unleash the capacity of ordinary citizens as producers of health and social change for themselves and their communities.

As we move into the next phases of this work, our team will build upon its early and preliminary findings that CPBR is a promising, engaging, and holistic way to intervene within high-risk populations to reduce smoking.

Following a non-randomized controlled trial design, we plan to systematically compare smoking and smoking-related outcomes across the Minnesota-based Job Corps intervention site with demographically-similar comparison group sites. Benefits of this research to students at the Minnesota-based site will encompass successful and sustained smoking cessation and improved employability. Local administrators will benefit through the maintenance of learning environments that boast low (or no) smoking prevalence, and efforts across comparable institutions in Minnesota and other Job Corps sites to fund similar initiatives will be advanced. Increased understanding of the effectiveness of CBPR within these high-risk groups (+quantitative outcome data demonstrating it), and which components of the Minnesota-based CBPR project are most directly linked to positive outcomes, will inform future efforts toward the use of CBPR and potentially similar interventions within similar populations across Minnesota and elsewhere. Health researchers will benefit through ongoing and future testing of efficacy between these CBPR interventions and other interventions (e.g. no smoking policies, standard education) to further understanding of the relative and respective performance of different treatment formats that incorporate different levels of community participation, professional/provider involvement, and attention to socio-cultural complexities in context. This will further inform interventions with other high-risk youth across a variety of academic and social arenas, for example, high schools, day programs, juvenile detention sites, community colleges and trade schools.

Finally, it is important to note that students, administrators, staff, and professional researchers in SANTA see themselves as part of something more than a time-limited smoking cessation support group with restricted scope or just another anti-smoking campaign that echoes sentiments we all already hear on television and see on billboards everyday that say 'smoking is bad'. We are instead part of a movement, changing and affecting the lives of people we will never meet and families we will never know, through our collective energies, resources and passion to change the world.

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References

Agency for Healthcare Research and Quality (AHRQ). (2004). *Community-based participatory research: Assessing the evidence*. Rockville, MD: AHRQ.

- Berge, J., Mendenhall, T., & Doherty, W. (2009). Families and health issues: Using community-based participatory research (CBPR) to target health disparities. *Family Relations*, 58, 475–488.
- Bradbury, H., & Reason, P. (2003). Action research: An opportunity for revitalizing research purpose and practices. *Qualitative Social Work*, 2, 155–175.
- Burton, D. (2004). Community-based participatory research on smoking cessation among Chinese Americans in Flushing, Queens, New York City. *Journal of Inter-professional Care*, 18, 443–445.
- Byrne, D., Byrne, A., & Reinhart, M. (1995). Personality, stress and the decision to commence cigarette smoking in adolescence. *Journal of Psychosomatic Research*, 39, 53–62.
- Doherty, W., & Mendenhall, T. (2006). Citizen health care: A model for engaging patients, families, and communities as co-producers of health. *Families, Systems & Health*, 24, 251–263.
- Doherty, W., Mendenhall, T., & Berge, J. (2010). The Families & Democracy and Citizen Health Care Project. *Journal of Marital and Family Therapy*, 36, 389–402.
- Haas, G. (2005). Smoking at the HHH Job Corps in St. Paul, MN. Unpublished data.
- Hambridge, K. (2000). Action research. *Professional Nurse*, 15, 598–601.
- Ho, R. (1989). Why do people smoke? Motives for the maintenance of smoking behavior and its possible cessation. *Australian Psychologist*, 24, 385–400.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2, 34–46.
- Ma, G. (2004). ATECAR: An Asian American community-based participatory research model on tobacco and cancer control. *Health Promotion and Practice*, 5, 382–394.
- McGarvey, H. (1993). Participation in the research process: Action research in nursing. *Professional Nurse*, 8, 372–376.
- McVary, K., Carrier, S., & Wessells, H. (2001). Smoking and erectile dysfunction: Evidence-based analysis. *Journal of Urology*, 166, 1624–1632.
- Mendenhall, T., & Doherty, W. (2003). Partners in diabetes: A collaborative, democratic initiative in primary care. *Families, Systems & Health*, 21, 329–335.
- Mendenhall, T., & Doherty, W. (2005). Action research methods in family therapy. In F. Piercy & D. Sprenkle (Eds.), *Research methods in family therapy* (2nd edn., pp. 100–117). New York: Guilford Publications.
- Mendenhall, T., & Doherty, W. (2007a). Partners in diabetes: Action research in a primary care setting. *Action Research*, 5, 378–406.
- Mendenhall, T., & Doherty, W. (2007b). The ANGELS (A Neighbor Giving Encouragement, Love and Support): A collaborative project for teens with diabetes. In D. Linville & K. Hertlein (Eds.), *The therapist's notebook for family healthcare* (pp. 91–101). New York: Apex Press.
- Mendenhall, T., & Harper P. (2007). Community-based participatory research to decrease smoking prevalence in a high risk young adult population: A collaboration between Job Corps and Family Medicine. Presentation at the Minnesota Academy of Family Physicians Research Network (MAFPRN) 27th Annual Research Forum, Minneapolis, MN.
- Mendenhall, T., Doherty, W., Baird, M., & Berge, J. (2008). Citizen health care: Patients, families, and communities as co-producers of health. *Minnesota Physician*, 21, 1–13.
- Mendenhall, T., Kelleher, M., Baird, M., & Doherty, W. (2008). Overcoming depression in a strange land: A Hmong woman's journey through the world of Western medicine. In R. Kessler (Ed.), *Collaborative medicine case studies* (pp. 327–340). New York: Springer.

- Mendenhall, T., Whipple, H., Harper, P., & Haas, S. (2008). Students against nicotine and tobacco addiction (SANTA): Community-based participatory research in a high-risk young adult population. *Families, Systems & Health, 26*, 225–231.
- Minkler, M. (2000). Using participatory action research to build healthy communities. *Public Health Reports, 115*, 191–197.
- Minkler, M., & Wallerstein, N. (2003). Introduction to community based participatory research. In M. Minkler & N. Wallerstein (Eds.), *Community based participatory research for health* (pp. 3–26). San Francisco, CA: Jossey-Bass.
- Mirone, V., Imbimbo, C., & Bortolotti, A. (2002). Cigarette smoking as risk factor for erectile dysfunction: Results from an Italian epidemiological study. *European Urology, 41*, 294–297.
- Morrison, B., & Lilford, R. (2001). How can action research apply to health services? *Qualitative Health Research, 11*, 436–449.
- Perkins, K., & Grobe, J. (2007). Increased desire to smoke during acute stress. *Addiction, 87*, 1037–1040.
- Phillips, N. (2000). Female sexual dysfunction: Evaluation and treatment. *American Family Physician, 62*, 127–136.
- Pomerleau, O., & Pomerleau, C. (1991). Research on stress and smoking: Progress and problems. *British Journal of Addiction, 86*, 599–603.
- Power, F., Gillies, P., Madeley, R., & Abbot, M. (1989). Research in an antenatal clinic: The experience of the Nottingham Mothers' Stop Smoking Project. *Midwifery, 5*, 106–112.
- Schulz, A., Israel, B., Parker, E., Lockett, M., Hill, Y., & Wills, R. (2003). Engaging women in community-based participatory research for health: The east side village health worker partnership. In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health* (pp. 293–315). San Francisco, CA: Jossey-Bass.
- Sullivan, M., Chao, S., Allen, C., Kone, A., Pierre-Louis, M., & Krieger, J. (2003). Community-researcher partnerships: Perspectives from the field. In M. Minkler & N. Wallerstein (Eds.), *Community-researcher partnerships: Perspectives from the field* (pp. 113–130). San Francisco, CA: Jossey-Bass.
- Tsark, J. (2001). A participatory research approach to address data needs in tobacco use among Native Hawaiians. *Asian American/Pacific Islander Journal of Health, 9*, 40–48.
- Wallerstein, N., & Duran, B. (2003). The conceptual, historical, and practice roots of community-based participatory research and related participatory traditions. In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health* (pp. 27–52). San Francisco, CA: Jossey-Bass.
- Wincze, J., & Carey, M. (2001). *Sexual dysfunction: A guide for assessment and treatment*. New York/London: Guilford Press.

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