

Quantifying the Impact of Participation in Local Tobacco Control Groups on the Psychological Empowerment of Involved Youth

Debra J. Holden, PhD
Erik Crankshaw, MPH
Christian Nimsch, MA
Laurie W. Hinnant, PhD
Lisa Hund, MPH

A core component of Legacy's Statewide Youth Movement Against Tobacco Use is the ability of state and local initiatives to empower youth to effect change in their communities. The authors' conceptual framework proposes that youth empowerment is an outcome of the process by which youths become active participants in local efforts. Youths are proposed to attain specific skills (e.g., assertiveness, advocacy), attitudes (e.g., domain-specific self-efficacy, perceived sociopolitical control, participatory competence), and knowledge of relevant resources. All are proposed outcomes of their individual participation in these local efforts. Data collected in fall 2002 through a tested survey instrument designed to obtain data on key components of empowerment are presented. Regression modeling was used to examine the extent to which characteristics of empowerment are an outcome of individual participation in these groups. A summary of lessons learned pertaining to effectively measuring empowerment and enhancing the empowerment process through local initiatives is provided.

Keywords: psychological empowerment; participation; involvement; youth empowerment; tobacco control

Empowerment theory^{1,2} is an attractive, if largely untested, conceptual framework for developing interventions that promote healthy lifestyles among adolescents. It proposes that positive youth development emerges through promotion of greater participation and involvement by youths in the public affairs of their community.³ The conceptual elaborations of empowerment that have been proposed^{1,4} are complex and multifaceted and embrace both process and outcome at individual, group, and community levels. An important first step in advancing research on youth empowerment is the design and evaluation of interventions through the implementation of measures that provide valid and reliable

Debra J. Holden, Erik Crankshaw, Christian Nimsch, Laurie W. Hinnant, and Lisa Hund, RTI International, Research Triangle Park, North Carolina.

Address reprint requests to Debra J. Holden, RTI International, 3040 Cornwallis Road, Research Triangle Park, NC 27709-2194; phone: (919) 541-6491; fax: (919) 541-6683; e-mail: debra@rti.org.

This research was funded by the American Legacy Foundation. The authors would like to thank Peter Messeri for his ongoing guidance and intellectual input throughout the development of this study. We would also like to thank Renate Houts for advising us through our analysis and Susan Murchie for her editing and coordination of this special issue.

Health Education & Behavior, Vol. 31 (5): 615-628 (October 2004)
DOI: 10.1177/1090198104268678
© 2004 by SOPHE

measures of the various components that operationalize this construct for both its processes and outcomes.

Data for this article come from an evaluation of the Statewide Youth Movement Against Tobacco Use (SYMATU) initiative funded by the American Legacy Foundation (Legacy). A goal of these youth-led, youth-directed initiatives was to empower youths to become agents of change in their communities around the issue of tobacco control. Through review of the literature and guidance from a panel of experts, we developed a conceptual framework for youth empowerment and the processes and outcomes that may be expected from these types of interventions. In another work, Holden et al.⁵ present a measurement model for psychological empowerment (PE) among youths working within the context of tobacco control. This article builds on this work by determining the extent to which involvement in these local tobacco control efforts actually leads to PE. This study presents findings from the second year of data collected from youths involved in 17 SYMATU programs in fall 2002, with a discussion of the extent to which these findings seem to support the link between involvement in these local efforts and the outcome of PE.

BACKGROUND

Psychological Empowerment

Empowerment is an intriguing idea for guiding social and community development. However, researchers have struggled with defining the concept and articulating its constituent components—a necessary first step in developing indicators for empirical research. Following Rappaport et al., empowerment refers to the “individual’s process of gaining influence over events and outcomes of importance in their environment” (p. 122).² Empowerment at the individual level (hereafter referred to as psychological empowerment or PE) embodies an interaction between individuals and environments that is culturally and contextually defined.

Although several authors have provided insights for developing a comprehensive youth empowerment model,^{4,6,7} the ideas of Zimmerman,^{1,8} and Kim et al.⁴ most influenced our conceptual framework. We recognize that others have contributed to the study of empowerment through a variety of methods,⁷ but we found that these two models were the most applicable to the evaluation of the SYMATU programs. We found Kim et al.’s model to be particularly informative for conceptualizing the key program components, or context, of a youth empowerment initiative and used domains from it to propose the relationships we would expect to find among the youths and the groups through which they were involved in SYMATU. Although Kim et al.’s work and others informed the development of our overall conceptual framework,⁹ the study presented here is drawn directly from the work of Zimmerman.

Zimmerman^{1,8} has concentrated on working through the implications of empowerment from an outcomes perspective. Zimmerman¹ distinguishes PE from earlier concepts of self-efficacy as not simply self-perceptions of competence but also active engagement in one’s community and an understanding of one’s sociopolitical environment. He organizes PE into three components: *intrapersonal* (domain-specific perceived control, domain-specific self-efficacy, motivation to control, perceived competence, and mastery), *interactional* (critical awareness, understanding causal agents, skill development, skill transfer across life domains, and resource mobilization), and *behavioral* (commu-

nity involvement, organization participation, and coping behaviors). Empowered individuals have some combination of a sense of control, critical awareness of their socio-political environment, and involvement in their community.⁸

We made an important distinction in our framework that deviates from Zimmerman's concepts. Whereas Zimmerman proposes a behavioral component to PE, we hypothesized that our primary behavior of interest, youth participation, is the behavioral mechanism through which PE occurs. Therefore, we viewed the behavioral component of empowerment to be "participation," and it is through this action that the intrapersonal and interactional components of empowerment emerge.

Role of Participation in Achieving Empowerment

The idea that participation in organized tobacco control activities leads to positive youth and adult outcomes is a natural extension from a large body of research. We summarize this literature thoroughly in Holden et al.,⁹ but examples of findings related to PE include that participation has been linked to a range of positive psychological outcomes, such as an increased sense of competence and control,^{10,11} an increase in personal and social skills,¹⁰ and positive changes in self-esteem.¹²

Although others have operationalized participation,¹³ Winston and Massaro's¹⁴ definition of "intensity of involvement"—"the product of the interaction of the quality and quantity of effort"—was most applicable to the design of the SYMATU initiative. In their framework, the quality dimension, ignored in many previous definitions of participation, includes an assessment of the degree of psychological investment in the success of the organization or activity. Using this definition as a framework, Winston and Massaro¹⁴ developed the Extracurricular Involvement Inventory (EII). Because the EII most closely matched youth involvement in SYMATU groups, we used this scale and present findings on the degree of association between variation along different dimensions of participation in SYMATU group activities and components of PE.

METHOD

Sample and Data Collection Procedures

Data were collected from a convenience sample of youth involved in local tobacco control efforts in 17 states. Each lead health department was asked to determine the groups that should be included in the sample as part of the SYMATU. Of the 17 programs participating in the study, all had a variety of active youth groups that were operating locally through schools and/or community settings. The structure of these groups provided several obstacles to data collection from youths in each state. To begin with, in order to obtain Internal Review Board (IRB) approval to collect data from these youths, we had to guarantee their anonymity. This concession allowed us to maximize the number of groups we could survey and the number of youths likely to respond because parental (or "active") consent was not required. However, it limited the manner with which we could collect the data.

The structure of the local groups typically included a volunteer or paid adult coordinator assigned to work with them. These local adult coordinators were provided mail packages of the study materials. Because many of the states did not have individual contact information for involved youths, conducting a mail or phone survey with the youths

themselves was infeasible. This issue also limited our ability to follow up with youths who had dropped out of the groups.

For data collection, we stressed to local coordinators the importance of not surveying only the *very involved* youths but including a diverse sample of group members. We utilized the Youth Group Member Survey (YGMS), which was created for this project and pilot- and field-tested the previous year.^{5,9} In administering the survey, coordinators were instructed to choose one meeting or event such that youths with different levels of participation were in attendance. This criterion ensured that both *new* and *existing* group members could respond. To later calculate response rates, each coordinator was asked to provide a count of the youth members present during survey administration, as well as a count of youths they considered to be active or regular participants.

Youths were instructed to complete the survey during the meeting and then return it to their adult coordinator in a sealed envelope. For compensation, youth groups received a \$50.00 gift certificate that could be used to purchase supplies or food to benefit the group.

Measures

Psychological Empowerment

Taking our lead from Zimmerman, the process of constructing PE measures within the context of tobacco control began by identifying possible indicators that relate to constructs in each domain, including intrapersonal (domain-specific perceived control and self-efficacy, and perceived competency) and interactional (skill development) components of his model. We broadened the scope of these domains through the assistance of a panel of experts.⁹ Table 1 summarizes how each attribute proposed in our conceptual framework was operationalized.

Our model of PE focuses on six specific attributes. The intrapersonal component includes attitudes and beliefs that are considered to be particularly relevant to involvement in tobacco control efforts, including domain-specific efficacy, perceived socio-political control, and participatory competence. Interactional component variables include relevant knowledge and skills, such as the knowledge of available resources, and the skills most applicable to this context—assertiveness and advocacy. As described in another article,⁵ multi-item scales measuring PE constructs were estimated following a confirmatory factor analysis procedure. At least three items were retained for each of the latent variables or factors. Indicators from previous research that treats variables with loadings of .60 or excellent were used to determine which items would be retained.¹⁵ For some PE and participation items, the conversion of categorical responses to continuous data was required. For these items, we followed the procedure recommended by Fryer and Pethybridge¹⁶ of using the midpoint of each range in the analysis, such that a response of “2-4 times” as the number of meetings/events attended in the past 30 days would be coded in the data as a 3.¹⁶ The following provides results for the confirmatory factor analysis or combination of items into scales for the PE construct.

Scale Development for Psychological Empowerment

For each of the six attributes for PE (see Table 1), we present the relevant findings for the testing of these measures in the 2002 sample:

Table 1. Major Domains and Attributes of Psychological Empowerment With Items and Response Categories

Attribute	Item (with item number)	Response Categories
Domain: Intrapersonal		
Industry and interpersonal confidence	How confident are you that you can work effectively against the tobacco industry?	5-point Likert-type scale from <i>I definitely cannot do it</i> to <i>I definitely can do it</i>
	How sure are you that you can convince family members not to smoke?	
	How sure are you that you can convince your friends not to smoke?	
Perceived socio-political control ^a	So many other youths are active in local teen issues that it does not matter whether I participate or not.	5-point Likert-type scale from <i>strongly disagree</i> to <i>strongly agree</i>
	I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered by it.	
	I enjoy participation because I want to have as much say in my community or school as possible.	
	I find it very hard to talk in front of a group.	
Participatory competence	I can work with people in this group to get things done.	5-point Likert-type scale from <i>strongly disagree</i> to <i>strongly agree</i>
	I can influence the decisions my group makes.	
Domain: Interactional		
Knowledge of resources	What resources are available to your group in your community or school to help you work on tobacco issues?	Open-ended list of resources
Assertiveness ^b	I can talk with adults about issues I believe in.	5-point Likert-type scale from <i>strongly disagree</i> to <i>strongly agree</i>
	I can invite others to work on tobacco issues.	
	I can start discussions with others about tobacco issues.	
Advocacy	In the past year, how many times have you tried to convince other students, your family, or friends to be more concerned about tobacco use?	Scale with <i>never</i> , <i>once</i> , <i>2 or 3 times</i> , <i>4 or 5 times</i> , or <i>6 or more times</i>
	In the past year, how many times have you tried to convince school officials, local businesses, community agencies, or government officials to be more concerned about tobacco use?	

a. Condensed version of Zimmerman's scale.

b. Adapted from a Social Skills Rating System (SSRS) subscale.

Table 2. Confirmatory Factor Analysis Results for Perceived Sociopolitical Control and Assertiveness

Survey Item	Factor Loading
Perceived sociopolitical control (Cronbach's alpha = .64)	
So many other youths are active in local teen issues that it does not matter much whether I participate or not.	.74907
I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered.	.79949
I enjoy participation because I want to have as much say in my community or school as possible.	.57681
I find it very hard to talk in front of a group.	.63914
Assertiveness (Cronbach's alpha = .63)	
I can talk with adults about issues I believe in.	.62451
I can invite others to work on tobacco issues.	.81488
I can start discussions with others about tobacco issues.	.82401

Industry and Interpersonal Confidence. Three items were used to measure industry confidence (i.e., to work effectively against the tobacco industry) and interpersonal confidence (i.e., to convince family members or friends to not smoke). The correlation of the two items for interpersonal confidence is .45, and an additive score was created for this construct.

Perceived Sociopolitical Control (PSPC). Results of the confirmatory factor analysis of our adapted scale¹⁷ of four items are presented in Table 2.

Participatory Competence. This attribute was assessed through two items on the YGMS. The correlation between these two items is .40 so that an additive scale for this attribute was created.

Knowledge of Resources. One item was asked to assess how familiar youths were with resources that are available to their group. Closed-ended responses that were provided included "access to media/news reporters for promoting events," "funding to conduct activities," and "adults who believe youths can make a difference." An additive scale was created by assigning one point for each resource a youth selected, such that the greater the points, the greater the number of resources a youth was aware of in his or her community. Aggregate scores ranged from 0 to 8, with a mean of 2.6 ($SD = 2.0$).

Assertiveness. Three items were asked of respondents to assess their level of assertiveness in this context and resulted in loadings ranging from .62 to .82 (Table 2).

Advocacy. Two items were combined into an additive scale for advocacy. The correlation between these two items was .40.

As described in Holden et al.,⁵ we developed a measurement model for PE that incorporates all of the constructs described here. For this study, we used the standardized scores for these constructs to create a score of empowerment that could be incorporated into a regression model to determine the extent to which the participation variables are associated with this empowerment construct.

Participation

Participation is the core component of the conceptual framework we developed.⁹ Drawing primarily from Winston and Massaro,¹⁴ we operationalized participation in the local tobacco control initiatives along the two domains of *quantity* of participation (duration and level or intensity of involvement) and *quality* (roles played while involved). Methods for preparing these items for analysis are described below.

Duration. The length of time that youths reported being active participants in the local SYMATU group was considered to be a key component for measuring levels of participation. Youths were asked, "How long have you been participating in events or meetings conducted by this group?" Responses ranged from *less than 1 month* to *more than 2 years*. The midrange was used as the code for each of the ranges of responses.¹⁶

Intensity or Level of Participation. Two items were asked of youths to assess the extent to which they were participating in their local group efforts. First, they were asked to describe the "events or meetings of this group attended in the past 30 days." Youths were provided a list of options, ranging from "nothing other than this event/meeting today" to "a training or workshop" and "a leisure or fun event," among others, and were asked to fill in all responses that apply to them. Responses to these items were then scored as 0 for those that required little to no active participation (e.g., "health fair," "nothing other than this event/meeting today") or 1 for those that required more active engagement (e.g., "regularly scheduled meetings of the group," "activities related to law enforcement"). The aggregate of these items was then scored to provide a sum of events they had attended. The second item asked youths about their time commitment to the group in the past 30 days.¹⁴ The midrange was used as the code for each response.¹⁶

Roles. Four items were used to assess the roles that youths reported playing within their group. The first item asked youths to specify roles they had played within the group.¹⁴ All responses that apply could be completed and ranged from "have not taken an active role yet" to "served in a formal leadership role," among others. These responses were then scored as 0 for those that did not involve any leadership responsibilities (e.g., "active member through meeting attendance") or 1 for leadership roles (e.g., "supervised other youths"). The remaining three items for roles asked youths to indicate the frequency that they take part in group discussions, make an effort to encourage others to attend the group, and take responsibility for things that the group needs to have done. Each item was asked on a 5-point scale of 1 (*never*) to 5 (*very often*). Responses indicating that they had "no opportunity to do this" were coded 0.

Analysis

Analyses of the survey data occurred in several stages. The first analyses focused on confirming the constructs associated with PE, as described under the measures section. In another article,⁵ we present the results of this process in developing a measurement model for PE as derived from data collected in 2001 and first confirmed that the data collected in 2002 fit our measurement model.

Analyses were then conducted on the participation variables as presented below to determine whether the proposed relationships seemed to be confirmed by the data. Using PROC MIXED in the SAS software to account for the clusters within groups inherent in

our data, we conducted two sets of regression models to first determine the extent to which each variable of participation seems to be individually associated with the factors and constructs associated with PE and then to test whether a calculated score for empowerment is associated with the participation variables. In each regression model, age, race/ethnicity, and gender were included to account for their potential impact on the results.

RESULTS

This study focuses on the relationship between individual participation within the local tobacco youth groups and the outcomes of characteristics associated with PE. Table 1 lists the specific items from the YGMS that were used as measures for PE. The following provides a brief overview of the sample characteristics and results for the participation variables, as well as the results of the regression analyses.

Sample Characteristics

Because these data were collected from individuals within a group setting, two response rates are provided. First, the number of youth groups surveyed in each state in late 2002 ranged from 6 in California to 61 in New York, with a mean of 24.8 groups responding within the 17 states. Response rates among these groups ranged from 41.7% in New Hampshire to 100% in California, Maryland, and Utah. Because the focus of this article is on individual-level measures, the group structure is not detailed here but can be found elsewhere.¹⁸

A total of 3,587 youths representing 297 groups are included in the 2002 sample of those involved in local tobacco control efforts through 17 SYMATU programs. The study sample included 70.1% of the eligible groups, with an average of 12.1 respondents or members per group. The response rate among individual youths within these groups was 69.6% (the number of youths responding of those who adult coordinators consider to be active participants).

More than two-thirds (67%) of the youths participating in the survey were female, ranging in age from 10 to 21 years, with a mean and median of 15 years. Nearly two-thirds of the youths (60.5%) were White, with African American (19.5%), American Indian or Alaskan Native (7.4%), and Hispanic and Latino (8.3%) youths also represented. One state elected not to collect race/ethnicity data because it felt it would compromise the confidentiality of respondents. The majority of respondents had plans to attend or were already enrolled in college (91.9%), and more than half reported "better than" or "much better than" average performance in school (65.6%).

Participation

As shown in Table 3, participation was measured through three primary attributes: two associated with the quantity of participation (duration, intensity or level) and one associated with the quality of participation (roles). The following provides a summary of descriptive statistics for each of these variables.

Duration of Participation. Responses to this item were quite variable, with 201 (5.6%) reporting they have never attended before the event/meeting on the day the YGMS was administered, 396 (11.0%) reporting they had been involved for less than 1 month, 779

(21.7%) reporting involvement for 1 to 3 months, 403 (11.3%) reporting 4 to 6 months of involvement, and the remaining 1,808 youths (50.4%) reporting having been involved for 7 months or more. On average, youths reported that they had been participating for 10.1 months. These findings indicate that the youth respondents had been involved with their groups for a varied amount of time.

Intensity or Level of Participation. The first item related to intensity asked youths to specify the group events they had attended, and an aggregate of their response was calculated. This score ranged from 0 to 10, with a mean of 1.5 ($SD = 1.6$).

When asking youths how much time they had committed to the group in the past 30 days, responses again varied, with 1,271 (35.4%) reporting participating for 3 hours or less in the past month, 1,074 (29.9%) reporting participating for 4 to 9 hours, and the remainder reporting 10+ hours (23.5%) or that their group had held no activities in the past 30 days so they were unable to participate (282, or 7.9%). Youths reported participating for an average of 4.9 hours in the past 30 days. These results seem to indicate that the youths responding to the survey were participating at varying levels of intensity.

Roles. One item related to the “quality” of participation referred to the extent to which youths had taken on leadership roles within the group. Aggregate scores for this variable ranged from 0 to 8, with a mean of 2 ($SD = 1.8$). The remaining three items for roles asked youths to indicate the frequency that they take part in group discussions ($M = 3.4$, $SD = 1.5$), make an effort to encourage others to attend the group ($M = 3.6$, $SD = 1.4$), and take responsibility for things that the group needs to have done ($M = 3.2$, $SD = 1.4$).

Regression Analysis Results

This study sought to answer how different components of individual participation differentially affect constructs associated with PE. A regression analysis accounting for the random effects from the groups and individuals surveyed was conducted to determine the association of individual participation with components of PE. Table 3 presents the findings from the regression model.

Industry and Interpersonal Confidence

Roles of participation were found to be significantly associated with both industry and interpersonal confidence. For industry confidence, whether the youths had been in a leadership role, took part in group discussions, or encouraged others to attend their group were significantly associated with this variable ($p < .01$). Male members were significantly less likely to report “industry confidence” than female members ($p < .01$). Taking part in group discussions, encouraging others to attend group, and taking responsibility for getting things done were associated with interpersonal confidence ($p < .01$).

Perceived Sociopolitical Control

Three of the four constructs for roles of participation were associated with PSPC. Taking a leadership role, being a part of group discussions, and making an effort to encourage others to attend the group were all positively associated with PSPC ($p < .01$). The duration that youths have been involved was negatively associated with this factor ($p < .05$). Mem-

Table 3. Findings for Each Regression Model

Participation	Psychological Empowerment																																		
	Industry Confidence					Perceived Sociopolitical Control					Participatory Competence					Knowledge of Resources					Assertiveness					Advocacy					Psychological Empowerment Model				
	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE	P Est	SE					
Duration	-.00	.00	.00	.00	-.03*	.01	.01**	.00	.01	.00	.01	.00	.01	.00	-.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.02				
Events attended in past 30 days	-.00	.01	.00	.02	.07	.07	-.02	.02	.20**	.02	.20**	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.10				
Hours spent in past 30 days	.01	.01	-.00	.01	-.05	.03	.01	.01	.01	.01	.01	.01	.01	.01	-.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.04					
Formal leadership roles ever held	.06**	.01	.00	.02	.61**	.07	.04**	.02	.39**	.02	.39**	.02	.01	.01	.24**	.06	.19**	.04	.19**	.04	.19**	.04	.19**	.04	.19**	.04	.19**	.04	.95**	.09					
Takes part in group discussions	.05**	.02	.07**	.03	.58**	.08	.29**	.02	.01	.03	.29**	.06	.11*	.05	.83**	.10	.42**	.05	.42**	.05	.42**	.05	.42**	.05	.42**	.05	.42**	.05	1.40**	.11					
Encourages others to participate	.10**	.02	.13**	.03	.54**	.08	.37**	.03	.06*	.03	.06*	.03	.06*	.03	.63**	.07	.42**	.05	.42**	.05	.42**	.05	.42**	.05	.42**	.05	.42**	.05	1.40**	.11					
Takes responsibility to get things done	.03	.02	.08**	.03	.15	.08	.71**	.03	.05	.03	.05	.03	.05	.03	.36**	.07	.14**	.05	.14**	.05	.14**	.05	.14**	.05	.14**	.05	.14**	.05	1.07**	.11					

NOTE: P Est = parameter estimate. Number of groups = 297; number of youth respondents = 3,587. Standards are adjusted for group clusters. The estimated regression coefficient for variables has been adjusted for potential demographic confounders (i.e., age, gender, and race/ethnicity).

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

bers who were younger or male were significantly less likely than older or female members, respectively, to report beliefs related to PSPC ($p < .01$).

Participatory Competence

Duration and all four items for “roles” of participation were associated with participatory competence. Duration of involvement, taking part in the group’s discussion, making an effort to encourage others to attend, and taking responsibility for getting things done were all associated with this construct ($p < .01$). Serving in a leadership role in the group was also associated with participatory competence ($p < .05$).

Knowledge of Resources

Type of events attended in the past 30 days and the extent to which they had taken on leadership roles were significantly associated with knowledge of resources ($p < .01$). Younger respondents as well as male members were significantly less likely to report knowledge of available resources ($p < .01$). Encourages others to participate was also positively associated with knowledge of resources ($p < .05$).

Assertiveness

Assertiveness was significantly associated with all four variables for roles of participation ($p < .01$). Younger members ($p < .01$) and male members ($p < .05$) were significantly less likely than older members and female members, respectively, to report assertiveness skills.

Advocacy

Advocacy was significantly associated with increased hours youths had participated in the past 30 days, whether they had taken on a leadership role in the group, had encouraged others to attend, or had taken responsibility for getting things done ($p < .01$). Whether they took part in group discussions was also significantly associated with advocacy ($p < .05$). As with some of the other variables, both younger members and male members were less likely to report skills in advocacy ($p < .01$).

Psychological Empowerment Model

All of the participation constructs, except for “duration” and “hours” were significantly associated with the empowerment construct ($p < .01$). If youths reported being more actively involved, they were also more likely to report characteristics associated with our definition of PE. In addition, those youths who had taken on leadership roles in the group, taken part in group discussions or in getting things done, or made an effort to encourage others to attend were significantly more likely to report characteristics of PE. It is interesting to note that in our sample, younger members as well as male members were less likely to report characteristics of PE ($p < .01$). Race/ethnicity was not significantly associated with any variables in our regression models.

DISCUSSION

This article describes the strategy we used to determine the extent to which characteristics of empowerment are associated with the level of participation among youths. Our conceptual framework for PE organized operational measures corresponding to six attributes included in Zimmerman's^{1,8} intrapersonal and interactional domains: domain-specific efficacy, perceived sociopolitical control, participatory competence, knowledge of resources, assertiveness, and advocacy. We then added the behavioral domain of PE, in this case participation, to this model as associated with attributes of PE. Although Zimmerman^{1,8} proposes that "PE" in and of itself consists of a behavioral component, as well as intrapersonal and interactional domains, we believe it is through these behaviors or actions, such as participation, that characteristics of "empowerment" emerge. We recognize that individuals who become involved in local initiatives may already exhibit characteristics of empowerment. However, even these individuals and those new to the process of becoming involved in a concentrated effort such as the SYMATU, will demonstrate changes in characteristics indicative of empowerment. Therefore, we attempted to measure the relationship between individual participation in local tobacco control efforts on youths exhibiting these characteristics.

Our findings are consistent with the hypothesis that increases in the quality and intensity of participation produces a sense of both intrapersonal and interactive aspects of PE. Findings further indicate that among the variables used to operationalize participation, the roles that youths play in these local efforts are particularly important to whether they report attitudes, beliefs, knowledge, or skills related to PE. Variables measuring the roles youths played in these groups were associated with each aspect of PE and were also key in predicting the overall PE model. The extent to which youths were provided or took the opportunity to participate as leaders was associated with whether they reported confidence in working effectively against the tobacco industry or in influencing others not to smoke, the degree to which they reported beliefs associated with perceived sociopolitical control and participatory competence, and the extent to which they reported being assertive ($p < .01$). This variable was also significantly associated with advocacy skills ($p < .05$). All of the variables for role were associated with the overall PE model. This finding is consistent with those reported by others who have studied participation in that satisfaction of group members is derived from opportunities to take an active role in the group's work.^{13,19} Although the length of time that youths were involved in their local groups or the average number of hours they reported participating in the groups were components of our participation construct, they did not prove to be as helpful as the roles youths played in predicting the overall PE model or its individual components. Neither hours nor duration seemed to be associated with variables in our PE model, lending support to the notion that quality of involvement is much more important to members than the quantity of time spent in the group.¹⁴

The types of events that youths reported attending were significantly associated with the overall PE model ($p < .01$). However, this variable was only associated with one individual construct of PE: knowledge of resources ($p < .01$). This finding supports Zimmerman's PE model that proposes knowledge as a key component to this process. This variable took into account whether youths were simply regular attendees of meetings or periodic events, versus being involved in active events that potentially require more interaction than just being present. However, this component of participation did not seem to be linked to other constructs of PE as expected.

Overall, we believe this study supports our hypothesis that participation in and of itself is a separate component of PE and is associated with certain characteristics of this construct. Our measures for PE are grounded in former research, and our findings support much of the work of Zimmerman in terms of the characteristics of the intrapersonal and interactional components of PE. However, because several of the attributes of PE were affected by the age of the youths involved, future work will need to focus on measuring these characteristics for a period of time to ascertain which are simply a feature of maturity and which are impacts of participating in an effort like SYMATU. A longitudinal study of PE would not only address this issue but also help to clarify the directionality of the relationship between PE and participation.

This research has several limitations. As mentioned, one limitation is that the data were collected at one period of time so it is difficult to ascertain causality among these relationships. Another limitation is that these results are based on self-reports from the youths and would be strengthened by perspectives from an outside person who could provide input into how much he or she thinks individual youths have participated, as youths could be under- or overestimating their role, and how much youths have changed as a result of their participation. Other limitations include that the youths in these groups are not typical of other youths, in that they report above-average performance in school and most plan to attend college. By joining the group, they are likely to be more interested in tobacco control or are thinking of ways to improve their applications to colleges with this experience. However, any groups like SYMATU will tend to draw individuals who are partly self-selected and socially selected so these data may be representative of the types of youths who join these kinds of efforts. In addition, although we made every effort to sample youths with various levels of involvement, our convenience sample includes those who attended one particular meeting or event during fall 2002. Although we discouraged them from doing so and our results seem to indicate variability in levels of participation, it could be that adult coordinators selected those youths who were most involved to respond in hopes of making their group appear more effective.

Our findings indicate that youths can benefit from local participation in tobacco control efforts. If their roles are established so that they can hold leadership positions and be active in their participation (i.e., openly discuss issues in group meetings, encourage others to participate, take responsibility for actions to be completed), youths can obtain attitudes, beliefs, knowledge, and skills that will help them feel more empowered as community change agents. This article is an introduction to a much broader effort now underway to use data collected for the SYMATU evaluation to explore and understand the multi-layered process of youth empowerment and how we, as public health professionals, can best affect this process. Future work will need to address whether these findings are consistent in populations of youths involved in these types of efforts for a longer period of time.

IMPLICATIONS FOR PRACTICE

This research examines the extent to which individual participation in youth empowerment groups leads to PE. This work suggests that PE is a construct that can be measured and that individual characteristics and behaviors, such as active participation in youth empowerment groups, may be identified as predictors of empowerment. This study suggests that the roles youths play in these types of initiatives is critical to the development of PE characteristics. Giving youth opportunities to actively take part in the group's discus-

sions, to directly participate in efforts to recruit others to attend the group, and to perform group leadership roles, such as taking responsibility for getting things done, is important in developing empowerment in youths. While relinquishing the power of making decisions in these groups is often a challenge for adults, this study supports the notion that by doing so, they can accomplish much more in the way of youth development and perhaps ultimately affect the level of group activity. Local public health efforts like SYMATU that provide meaningful opportunities for youth leadership and active participation will likely be the most effective at producing empowered participants.

References

1. Zimmerman MA: Psychological empowerment: Issues and illustrations. *Am J Community Psychol* 23(5):581-599, 1995.
2. Rappaport J, Swift C, Hess R (eds.): *Studies in Empowerment: Steps Toward Understanding and Action*. New York, Haworth, 1984.
3. Botvin GJ, Baker E, Botvin EM, Filazzola AD, Millman RB: Prevention of alcohol misuse through the development of personal and social competence: A pilot study. *J Stud Alcohol* 45(6):552-553, 1984.
4. Kim S, Crutchfield C, Williams C, Hepler N: Toward a new paradigm in substance abuse and other problem behavior prevention for youth: Youth development and empowerment approach. *J Drug Educ* 28(1):1-17, 1998.
5. Holden DJ, Evans WD, Hinnant L, Messeri P: Modeling psychological empowerment among youth involved in local tobacco control efforts. *Health Educ Behav*, in press, 2004.
6. Cahill M, Pitts L: *Strengthening Youth Employment Prospects Through Youth Development*. New York, Youth Development Institute Fund for the City of New York, 1997.
7. Becker AB, Israel BA, Schulz AJ, Parker EA, Klem L: Predictors of perceived control among African American women in Detroit: Exploring empowerment as a multilevel construct. *Health Educ Behav* 29(6):699-715, 2002.
8. Zimmerman MA: Empowerment theory: Psychological, organizational, and community levels of analysis, in Rappaport J, Seidman E (eds.), *Handbook of Community Psychology*. New York, Kluwer/Plenum, 2000, pp. 43-63.
9. Holden DJ, Messeri P, Evans WD, Crankshaw E, Ben-Davies M: Conceptualizing youth empowerment within tobacco control. *Health Educ Behav* 31(5): 548-563, 2004 (this issue).
10. Lewis BA: Today's kids care about social action. *Educ Leadersh* 49:47-49, 1991.
11. Primavera J: The unintended consequences of volunteerism: Positive outcomes for those who serve. *J Prev Interv Community* 18:125-140, 1999.
12. Larson RW, Verma S: How children and adolescents spend time across the world: Work, play, and developmental opportunities. *Psychol Bull* 125:701-736, 1999.
13. Astin AW: Student involvement: A developmental theory for higher education. *J College Student Personnel* 25:297-308, 1984.
14. Winston RB, Massaro AV: Extracurricular involvement inventory: An instrument for assessing intensity of student involvement. *J College Student Personnel* 28:169-175, 1987.
15. Comrey AL, Lee HB: *A First Course in Factor Analysis* (2nd ed.). Hillsdale, NJ, Lawrence Erlbaum, 1992.
16. Fryer JG, Pethybridge RJ: Maximum likelihood estimation of a linear regression function with grouped data. *Appl Stat* 21(2):142-154, 1972.
17. Zimmerman MA, Zahniser JH: Refinements of sphere-specific measures of perceived control: Development of a sociopolitical control scale. *J Community Psychol* 19:189-204, 1991.
18. Evans WD, Ulasevich A, Blahut S: Adult and group influences on participation in youth empowerment programs. *Health Educ Behav* 31(5): 564-576, 2004 (this issue).
19. O'Donoghue JL, Kirshner B, McLaughlin M: Introduction: Moving youth participation forward. *New Dir Youth Dev* 96(Winter):15-25, 2002.