

Measuring the Intrapersonal Component of Psychological Empowerment: Confirmatory Factor Analysis of the Sociopolitical Control Scale

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Abstract The Sociopolitical Control Scale (SPCS) is a widely used measure of the intrapersonal component of psychological empowerment. Confirmatory factor analyses (CFA) were conducted with data from two samples to test the hypothesized structure of the SPCS, the potential effects of method bias on the measure's psychometric properties, and whether a revised version of the scale (SPCS-R) yielded improved model fit. Sample 1 included 316 randomly selected community residents of the Midwestern United States. Sample 2 included 750 community residents of the Northeastern U.S. Results indicated that method bias from the use of negatively worded items had a significant effect on the factor structure of the SPCS. CFA

of the SPCS-R, in which negatively worded items were rephrased so that all statements were positively worded, supported the measure's hypothesized two-factor structure (i.e., leadership competence and policy control). Subscales of the SPCS-R were found reliable and related in expected ways with measures of community involvement. Implications of the study for empowerment-based research and practice are described, and strategies to further develop the SPCS are discussed.

Keywords Sociopolitical control · Psychological empowerment · Measurement

Sociopolitical control (SPC) has been identified as a critical element of the intrapersonal component of psychological empowerment (PE) (Holden, Evans, Hinnant, & Messeri, 2005; Zimmerman, 1990, 1995, 2000). SPC refers to individuals' beliefs about their capabilities in social and political systems (Paulhus, 1983; Zimmerman & Zahniser, 1991) and involves self-perceptions of their ability to organize a group of people (Smith & Propst, 2001) as well as influence policy decisions in a local community (Itzhaky & York, 2003). Community-based initiatives such as an urban project to reduce unsafe sex among Latino gay and bisexual men (Carballo-Diequez et al., 2005), a training program to improve adaptive behaviors among low-income women immigrants (Itzhaky, 2003), and a school-based effort to promote adolescent involvement in health advocacy (Altman et al., 1998) have included SPC as a pivotal facet of intrapersonal PE and a crucial target for intervention.

Zimmerman (1990, 1995) proposed a framework for PE that included three interrelated components: intrapersonal, interactional, and behavioral. The intrapersonal component of PE, which includes SPC and is the focus of this study, was conceptualized as involving notions of competence,

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efficacy, and mastery. Interactional PE includes critical awareness and understanding of the sociopolitical environment, while behavioral PE refers to actions intended to directly affect outcomes. This framework is useful to researchers and practitioners because it provides a model that may be applied to guide the development and evaluation of community-based health promotion and disease prevention interventions designed to be psychologically empowering (Holden, Messeri, Evans, Crankshaw, & Ben-Davies, 2004; Peterson, Lowe, Aquilino, & Schneider, 2005). Holden et al. (2004), for example, described the application of Zimmerman's (1990, 1995) model for PE to the national evaluation of the American Legacy Foundation's Statewide Youth Movement Against Tobacco Use (SYMATU) program. They viewed PE as a vital individual-level outcome of the process through which youth became active participants in local tobacco use prevention efforts.

Although other conceptual frameworks and operational definitions of empowerment exist (Becker, Israel, Schulz, Parker, & Klem, 2002; Frymier, Shulman, & Houser, 1996; Hardiman & Segal, 2003; Israel, Checkoway, Schulz, & Zimmerman, 1994; Kim, Crutchfield, Williams, & Hepler, 1998; Matthews, Diaz, & Cole, 2003; Segal, Silverman, & Temkin, 1995; Spreitzer, 1995; Wallerstein, 1992, 2002), the Sociopolitical Control Scale (SPCS) (Zimmerman & Zahniser, 1991) has been widely used in studies of the construct (e.g., Carballo-Dieguez et al., 2005; Hamilton & Fauri, 2001; Holden, Crankshaw, Nimsch, Hinnant, & Hund, 2004; Holden et al., 2005; Itzhaky, 2003; Itzhaky & York, 2000, 2003; Peterson & Hughey, 2004; Peterson & Reid, 2003; Speer, 2000; Speer, Jackson, & Peterson, 2001; Speer & Peterson, 2000; Smith & Propst, 2001; Zimmerman, Ramirez-Valles, Suarez, de la Rosa, & Castro, 1997). Itzhaky and York (2003), for instance, translated the SPCS into Hebrew to study PE among immigrants participating in community development activities in Israel. In the United States, the Center for Substance Abuse Prevention (CSAP) recognized the SPCS as a useful tool for assessing empowerment-related outcomes of substance abuse prevention interventions (Kumpfer et al., 1993).

Given the breadth of application of the SPCS, a brief review of its development may be useful. Earlier work by Zimmerman (1989, 1990) and others (e.g., Gerschick, Israel, & Checkoway, 1990; Rappaport, 1981, 1987; Swift & Levin, 1987) provided the conceptual foundation for Zimmerman and Zahniser's (1991) study, which initially developed the SPCS by clarifying and linking literature and measures of SPC to PE. The SPCS was intended to be an integrated measure, drawing on items from 10 instruments designed to assess related aspects of SPC, such as political efficacy (Craig & Maggiotto, 1982), perceived competence (Florin & Wandersman, 1984), locus of control (Levenson, 1974),

and sense of mastery (Pearlin, Menaghan, Lieberman, & Mullan, 1981). The 17 items included in the SPCS were selected on the basis of several validity criteria. Specifically, items retained were to be significantly correlated in the hypothesized direction with two different measures of community involvement (i.e., participation in voluntary organizations and participation in community activities) and item content had to be conceptually relevant to SPC and PE. Zimmerman and Zahniser (1991) tested the validity of the SPCS in three different samples that varied by age, life stage and geographic location. Their factor analysis yielded two subscales subsequently referred to as leadership competence and policy control. Reliabilities in the multiple samples for the two SPCS subscales were respectable, based on criteria offered by DeVellis (1991) and Nunnally and Bernstein (1994), with coefficient alphas ranging from .75 to .78. The SPCS subscales were also related as expected with measures of alienation (Dean, 1961) and community involvement (Zimmerman & Rappaport, 1988).

A potential problem with the SPCS, however, was noted by Zimmerman and Zahniser (1991). Their factor analysis results indicated that two negatively worded items (i.e., one item thought to represent leadership competence and another for policy control) failed to load on the expected factor. Negatively worded items (e.g., items using the term "not") are those phrased semantically in the opposite direction from a particular construct (Cronbach, 1950; Nunnally, 1978). SPCS items such as "I would rather not try something I'm not good at" would be considered negatively worded. In the only other published study examining the underlying structure of the 17-item SPCS, Smith and Propst's (2001) factor analysis yielded similar findings—the hypothesized factors of leadership competence and policy control emerged, but several negatively worded items failed to produce significant loadings. Although both of these studies failed to use confirmatory factor analysis techniques to test the measure's factor structure, they strongly suggest that method bias from the use of negatively worded items may have a detrimental effect on the SPCS's psychometric properties and future research should investigate and, if needed, rectify this measurement problem.

Traditionally, measurement researchers (e.g., Anastasi, 1982; Likert, 1932) have advocated for the mixed use of positively and negatively worded items to protect against response set bias and acquiescent behaviors of respondents. More recent studies, however, have demonstrated problems with factor structure (Peterson, Speer, & Hughey, 2006; Schmitz & Baer, 2001) and internal consistency (Barnette, 2000) that can result from this practice. One possible reason for these issues involves increased item complexity (Marsh, 1986, 1996; Raja & Stokes, 1998), which can cause individuals to misunderstand an item or answer differently than they would to a positively worded statement. Another

possible reason involves respondent carelessness (Schmitt & Stults, 1985), which may occur in research that administers lengthy survey instruments. Finally, negatively worded items may more accurately represent a different construct rather than the construct of interest (Roberts, Laughlin, & Wedell, 1999). In the case of the SPCS, negatively worded items such as “Most public officials wouldn’t listen to me no matter what I did” may be more relevant to constructs such as depressive realism (Alloy & Abramson, 1988; Msetfi, Murphy, Simpson, & Kornbrot, 2005) than intrapersonal PE. Efforts to enhance the validity of the SPCS are needed because they may improve the quality of research and evaluation studies that measure PE, a fundamental concept in community psychology and other fields such as social work (Itzhaky & York, 2002), education (Cummings, 1997), nursing (Powers, 2003) and public health (Minkler & Wallerstein, 2003).

In the current study, we used confirmatory factor analysis to test the hypothesized structure of the SPCS, the potential effects of method bias on its psychometric properties, and whether a revised version of the scale (in which negatively worded items were rephrased to be positively worded) resulted in improved model fit. Given the findings of previous research (i.e., Smith & Propst, 2001; Zimmerman & Zahniser, 1991), it is vital to test the possible effect of method bias on the SPCS. One useful strategy to examine the effects of method bias on the factor structure of a scale was described by Bollen and Paxton (1998). Their approach, which was applied in our study, involves including method-specific factors (i.e., one factor comprised of only positively worded items and another factor comprised of only negatively worded items) within the model being tested. The effect of method bias is evaluated by comparing the model with the method factors against the model without the method factors. Additionally, reworded items can be evaluated for scale inclusion using the more appropriate confirmatory factor analysis technique. In light of the interest in the intrapersonal component of PE in community-based research and practice, as well as the widespread application of the SPCS to represent this component of PE, it is essential to test and redress method bias that may have a detrimental effect on the psychometric properties of the SPCS.

Method

Sample 1

Participants in the first sample ($n = 316$) were interviewed in 2004 as part of an evaluation study of a community health promotion initiative conducted with a rural community located in the Midwestern United States. The sampling frame

for the first sample was developed using a telephone directory in electronic format. A simple random sample was then selected. The entire set of measures was administered by trained data collectors through face-to-face interviews typically lasting 60 to 90 min. A total of 362 randomly selected residents participated in the study. Of these individuals, a total of 316 completed all SPCS items and were included in this analysis. This sample ($n = 316$) was 58% female, 1.6% Hispanic, and 98.4% white, non-Hispanic. Approximately 11% was age 18–35; 30% was 36–50; 20% was 51–60; 20% was 61–70; and 19% was age 71 or older. Twelve percent reported annual household income of less than \$20,000; 24% reported income between \$20,000 and less than \$35,000; 23% reported income of \$35,000 to less than \$50,000; 29% reported income \$50,000 to less than \$75,000; and 12% reported income of \$75,000 or more. Educationally, 5% had less than high school; 36% had completed high school; 21% had some college; 12% had an Associate’s degree; 18% had a Bachelor’s degree; and 8% had a graduate degree.

Sample 2

Participants in the second sample ($n = 750$) were interviewed in 2004 as part of a community needs assessment conducted in a large Northeastern U.S. city. The sampling design for the needs assessment included probability proportionate to size sampling procedures (Babbie, 1973). Specifically, we first determined the racial and ethnic composition of the study population based on year 2000 census data. Random digit dialing was then used to recruit and interview 600 individuals with the intention of arriving at a sample that mirrored the distribution of race and ethnicity in the study population. Additionally, 150 individuals were approached using the same random digit dialing procedure with the intention of over sampling participants of Hispanic origin. Measures were administered through telephone interviews generally lasting 25 to 45 min in length. The final sample ($n = 750$) was 58% female and 46% African American. Twenty-nine percent of the sample was Hispanic; 20% was white, non-Hispanic; and five percent reported some other racial/ethnic category. Sixteen percent was age 18–24; 21% of the sample was age 25–34; 22% was 35–44; 31% was 45–64; and 10% was age 65 or older. Twenty-six percent reported annual household income of less than \$20,000; 17% reported income between \$20,000 and less than \$30,000; 17% reported income of \$30,000 to less than \$40,000; and 40% reported income of \$40,000 or more. Educationally, 20% had less than a high school diploma; 32% had completed high school; 26% had some college; 15% had a college degree; and 7% had a graduate or professional degree.

Measures

Sociopolitical control

The 17-item SPCS developed and tested by Zimmerman and Zahniser (1991) was used in this study, as well as an alternate form of the measure (henceforth referred to as the SPCS-R). Both forms of the measure (see Appendix A) included eight items to assess leadership competence and nine items to assess policy control. The SPCS-R used all of the positively worded items from the original SPCS, however negatively worded items were rephrased into positively worded statements. Sample 1 participants received only the original SPCS (leadership competence: $M = 3.00$, $SD = .81$; policy control: $M = 3.39$, $SD = .76$). Both forms of the measure were administered to Sample 2, with approximately half of the respondents receiving the original SPCS (these respondents are referred to as Sub-Sample A) (leadership competence: $M = 3.53$, $SD = .88$; policy control: $M = 3.54$, $SD = .78$), while the other half received the SPCS-R (these respondents are referred to as Sub-Sample B) (leadership competence: $M = 3.87$, $SD = .81$; policy control: $M = 3.83$, $SD = .82$). All respondents answered items in both forms of the measure using a five-point, Likert-type response option format ranging from strongly disagree to strongly agree. Scores represented the mean of items comprising each subscale.

Community involvement

Three measures of community involvement were administered to the second sample. These measures are conceptually similar to those used by Zimmerman and Zahniser (1991). The first measure assessed involvement in community action activities. Eight items asked respondents to indicate their frequency of involvement in a variety of events and behaviors over a three-month period (e.g., signed a petition, attended a public meeting to pressure for a policy change). Respondents answered using a four-point scale ranging from “not at all” to “five times or more.” Alpha for the community action activities scale was .81 ($M = 1.62$, $SD = .64$). The second measure was organizational membership. This item asked respondents to indicate whether they were members of community organizations such as school/parent groups, faith institutions, or civic associations. The third measure was respondents’ level of organization participation. Respondents were asked to report how often they participated in each organization to which they belonged. Consistent with Zimmerman and Zahniser (1991), these three measures were averaged to form an overall community involvement score.

Data analytic strategy

A series of confirmatory factor analyses (CFA) were performed, using two data sets, to test three models: Model 1, the two-factor SPCS (Zimmerman & Zahniser, 1991); Model 2, the two-factor SPCS with the two method factors (i.e., positively worded items and negatively worded items); and Model 3, the two-factor SPCS-R. Models 1 and 2 were tested with data from all respondents in Sample 1 and half the respondents in Sample 2 (i.e., Sample 2, Sub-Sample A). Model 3 was tested with data from the second half of respondents in Sample 2 (i.e., Sample 2, Sub-Sample B). Consistent with prior research testing the effects of method bias on scale factor structure (Peterson et al., 2006; Schmitz & Baer, 2001), we estimated indicator uniqueness and factor intercorrelations in the models, but we restricted correlations among factors in Model 2. Specifically, the two SPCS factors were allowed to correlate, and the two method factors were allowed to correlate, but the two SPCS factors were not allowed to correlate with the two method factors. CFA was conducted using maximum likelihood estimation procedures of AMOS 4.01 (Arbuckle & Wothke, 1999) and the indices that we interpreted are considered to be acceptable measures of fit (Hoyle, 1995).

Results

Table 1 presents fit indices for the three models tested in this study. As can be seen in Table 1, the two-factor solution for the original SPCS (Model 1) provided the poorest fit to the data from both samples. The discrepancy X^2 was significant for all three models; however, this goodness-of-fit statistic is often considered too stringent and an unrealistic standard. Conversely, the other fit indices indicate acceptable fit for Models 2 and 3. The Goodness-of-Fit Index (GFI) and Comparative Fit Index (CFI) were above .90 for Models 2 and 3 in both samples. The Expected Cross-Validation Index (ECVI) values and the Root Mean Square of Error Approximation (RMSEA) values showed the same pattern. Higher ECVI and RMSEA values indicated poorer fit for Model 1, while lower values indicate improved fit for Models 2 and 3.

The 90% Confidence Intervals (CIs) for the ECVI and the RMSEA, which are also shown in Table 1, are important because they indicate differences in fit between Models 1 and 2, which are not hierarchically nested. The CIs allowed us to compare Model 1 (the two-factor SPCS by itself) and Model 2 (the SPCS with the two methods factors) by examining the extent of overlap between the models. As can be seen in Table 1, the CIs did not overlap between Models 1 and 2, indicating that the two models fit the data differently. Model 2, which had the smallest ECVI and RMSEA values, may

Table 1 Overall fit statistics for sociopolitical control scale (SPCS) confirmatory factor analyses^a

Measures of fit	Models				
	Model 1: Two-factor SPCS		Model 2: Two-factor SPCS and method factors		Model 3: Two-factor SPCS-revised
	Sample 1 (n = 316)	Sample 2 Sub-Sample A (n = 374)	Sample 1 (n = 316)	Sample 2 Sub-Sample A (n = 374)	Sample 2 Sub-Sample B (n = 376)
χ^2	508.572	618.629	214.245	169.423	265.230
df	118	118	100	100	118
p-value	<.001	<.001	<.001	<.001	<.001
GFI	.831	.767	.929	.949	.925
CFI	.777	.651	.935	.954	.907
ECVI (90% CI)	1.837 (1.627, 2.070)	1.846 (1.648, 2.065)	1.017 (.895, 1.163)	.722 (.637, .829)	.910 (.794, 1.047)
RMSEA	.103	.107	.060	.042	.059
(90% CI)	(.093, .112)	(.098, .115)	(.049, .071)	(.030, .053)	(.050, .068)

^aTwo-factor SPCS based on Zimmerman and Zahniser (1991) (i.e., leadership competence and policy control). Method factors include one factor with only positively worded items and another factor with only negatively worded items. The SPCS-Revised is based on Zimmerman and Zahniser (1991); however, negatively worded items were rephrased so that all statements were positively worded.

be interpreted as fitting the data better than Model 1 for both samples.

Using the .30 level as indicating the presence of a factor loading, the standardized loadings shown in Tables 2–4 are important because they demonstrate the effect of method bias from the use of negatively worded items on the SPCS and the improved fit of the SPCS-R. Specifically, the loadings represent the strength of each SPCS and SPCS-R item in relation to the method factors (i.e., positively and negatively worded items) and hypothesized factors (i.e., leadership competence and policy control) that were tested in our study. Tables 2 and 3 show the standardized loadings for Model 2 that were obtained for Sample 1 and Sample 2, Sub-Sample A, respectively. The loadings for Model 2 shown in Table 2 indicate that, among Sample 1 respondents, four of the eight leadership competence items in the original SPCS (i.e., SPCS1, SPCS4, SPCS5, & SPCS7) produced strong loadings (>.30) for both the hypothesized SPCS factor and the corresponding method factor. In addition, three of the policy control items (SPCS13, SPCS15, & SPCS16) loaded on both the hypothesized factor and the method factor, while another item (SPCS17) loaded only on the method factor.

Model 2 results for Sample 2, Sub-Sample A, which are shown in Table 3, demonstrate a pattern that is similar to that found for Sample 1. Model 2 was appropriate for the data in our study, showing adequate overall fit for the sample (Table 1). As can be seen in Table 3, four out of the eight leadership competence items in Model 2 (i.e., SPCS3, SPCS4, SPCS5, & SPCS6) had strong loadings on both the hypothesized and corresponding method factor, while two of the leadership competence items (i.e., SPCS7 and SPCS8) loaded only on the method factor. Furthermore, five of the policy control items in Model 2 (SPCS10, SPCS13, SPCS15, SPCS16, & SPCS17) loaded only on the

corresponding method factor, indicating that they did not measure policy control but rather they reflect method bias.

Table 4 presents the standardized loadings for Model 3 that were obtained for Sample 2, Sub-Sample B. This model, Model 3, was also appropriate for the data in our study because it too provided an adequate overall fit for the sample (Table 1). Contrary to the item loadings for the hypothesized SPCS factors (i.e., leadership competence and policy control) shown in Model 2, all of the loadings for the SPCS-R items in Model 3 were strong. Comparison of the loadings on leadership competence for the SPCS’s negatively worded

Table 2 Standardized regression weights for sociopolitical control scale (SPCS) confirmatory factor analyses, sample 1^a

Item	Model 2			
	Leadership competence	Policy control	Positively worded	Negatively worded
SPCS1	.670		.335	
SPCS2	.754		.199	
SPCS3	.625			.030
SPCS4	.402		.787	
SPCS5	.301		.763	
SPCS6	.524			.187
SPCS7	.465			.358
SPCS8	.423			.290
SPCS9		.595	.131	
SPCS10		.495		.275
SPCS11		.638	.216	
SPCS12		.732	.204	
SPCS13		.421		.576
SPCS14		.492	.091	
SPCS15		.522		.538
SPCS16		.354		.660
SPCS17		.201		.421

^aItems correspond to the SPCS as shown in Appendix A.

Table 3 Standardized regression weights for sociopolitical control scale (SPCS) confirmatory factor analyses, sample 2, Sub-sample A^a

Item	Model 2			
	Leadership competence	Policy control	Positively worded	Negatively worded
SPCS1	.701		.226	
SPCS2	.679		.085	
SPCS3	.409			.428
SPCS4	.476		.542	
SPCS5	.355		.412	
SPCS6	.448			.319
SPCS7	.295			.613
SPCS8	.262			.550
SPCS9		.589	.124	
SPCS10		.166		.515
SPCS11		.556	.120	
SPCS12		.715	.143	
SPCS13		.126		.505
SPCS14		.504	.173	
SPCS15		.294		.636
SPCS16		.075		.455
SPCS17		.236		.586

^aItems correspond to the SPCS as shown in Appendix A.

items in Table 3 (SPCS3, SPCS6, SPCS7, & SPCS8) to the SPCS-R items for leadership competence in Table 4 (SPCS3-R, SPCS6-R, SPCS7-R, & SPCS8-R) indicate that the revised items (which were rephrased into positively worded statements) produced stronger loadings on the hypothesized leadership competence factor. The same pattern was found for the hypothesized policy control factor. The loadings on policy control for the SPCS's negatively worded items in Table 3 (SPCS10, SPCS13, SPCS15, SPCS16, & SPCS17) were weaker than the loadings on policy control for the SPCS-R items in Table 4 (SPCS10-R, SPCS13-R, SPCS15-R, SPCS16-R, & SPCS17-R). Taken as a whole, the results of our CFA indicate that method bias from the use of negatively worded items influenced the factor structure of the SPCS. The hypothesized structure of the alternate version of the scale (SPCS-R) provided an improved fit to the data in our study.

Table 5 presents bivariate correlations among the leadership competence and policy control subscales of the SPCS-R and a set of demographic and community involvement variables that were computed on data from Sample 2, Sub-Sample B. Demographics included race/ethnicity (i.e., African American: 1: African American; 0: Other; Hispanic: 1: Hispanic; 0: Other), age, gender (1: male; 2: female), education, and income. In addition, Table 6 shows coefficient alphas for the SPCS-R subscales, as well as partial correlations between the subscales and community involvement after controlling for demographics. Partial correlation results

Table 4 Standardized regression weights for sociopolitical control scale—revised (SPCS-R) confirmatory factor analyses, sample 2, sub-sample B^a

Item	Model 3	
	Leadership competence	Policy control
SPCS1	.618	
SPCS2	.633	
SPCS3-R	.693	
SPCS4	.574	
SPCS5	.504	
SPCS6-R	.499	
SPCS7-R	.467	
SPCS8-R	.434	
SPCS9		.716
SPCS10-R		.467
SPCS11		.519
SPCS12		.554
SPCS13-R		.498
SPCS14		.590
SPCS15-R		.625
SPCS16-R		.482
SPCS17-R		.584

^aRevised items correspond to the SPCS-R as shown in Appendix A.

shown in Table 6 indicate a significant association between the SPCS-R subscales ($r = .45, p < .01$). SPCS-R subscales were also significantly associated community involvement. Controlling for demographics, the relationship between leadership competence and community involvement ($r = .18, p < .05$) was weaker than the relationship between policy control and community involvement ($r = .29, p < .01$).

Discussion

This study tested the hypothesized factor structure of the SPCS, a widely used measure of the intrapersonal component of PE (e.g., Carballo-Diequez et al., 2005; Hamilton & Fauri, 2001; Holden et al., 2004, 2005; Itzhaky, 2003; Itzhaky & York, 2000, 2003; Peterson & Hughey, 2004; Peterson & Reid, 2003; Speer, 2000; Speer et al., 2001; Speer & Peterson, 2000; Smith & Propst, 2001; Zimmerman et al., 1997). Our findings indicate that method bias had an effect on the factor structure of the SPCS. Importantly, rephrasing of the SPCS's negatively worded items into positively worded statements (SPCS-R) produced results that confirmed the originally hypothesized two-factor model of leadership competence and policy control. Our findings also indicate that the revised subscales of the SPCS-R representing the two factors were reliable and related in expected ways with measures of community involvement.

Table 5 Bivariate correlations among sociopolitical control scale-revised (SPCS-R) subscales, covariates and community involvement, sample 2, sub-sample B

	1	2	3	4	5	6	7	8	9
1. Leadership Competence	–	.51**	.16**	–.08	–.22**	–.03	.16**	.12*	.20**
2. Policy Control		–	.18**	–.08	–.01	.04	.14**	.04	.34**
3. African American			–	–.46**	–.03	.24**	.06	–.10	.22**
4. Hispanic				–	–.13*	–.13*	–.21**	–.06	–.16**
5. Age					–	.04	–.00	–.07	.12*
6. Gender						–	.08	–.05	.16**
7. Education							–	.41**	.19**
8. Income								–	.11
9. Community Involvement									–

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

These data demonstrating the detrimental effect of method bias on the SPCS's factor structure, the advantage of revising negatively worded items, and the improved validity of the SPCS have vital implications for the PE construct, its measurement, and the evaluation of empowerment-based interventions.

As originally conceived (Zimmerman & Zahniser, 1991), items for the SPCS were derived from different instruments intended to measure a variety of constructs within the sociopolitical sphere. Sphere-specific empowerment was adopted as a guiding principle based on the reasonable assumption that beliefs relevant to PE would, to some extent, manifest differently depending on the context as opposed to more general indicators of control such as self efficacy (Bandura, 1977, 1982). SPC has since been frequently used as a benchmark for assessment of intrapersonal PE. Despite some elaboration of SPC to adapt to specific contexts (Holden et al., 2005), the two factors of leadership competence and policy control have generally been implemented in some form. Our confirmatory factor analysis results, which were replicated across two samples with very different characteristics (i.e., race/ethnicity, geographic location), support

retention of the two dimensions of intrapersonal PE, while also supporting the views of those who advocate for caution or abandonment of the practice of mixing negatively worded and positively worded items in the design of measures (Barnette, 2000; Benson, 1987; Knight, Chisholm, Marsh, & Godfrey, 1988; Schriesheim, Eisenbach, & Hill, 1991; Peterson et al., 2006; Pilotte & Gable, 1990; Schmitz & Baer, 2001).

The role that protective factors, like empowerment, play in community quality of life, in health outcomes, and in programs that aim to promote healthy environments and behaviors has received ever-increasing attention (Altman & Feighery, 2004; Kristenson, Eriksen, Sluiter, Starke, & Ursin, 2004; Siegrist & Marmot, 2004; Syme, 2004), and this emphasis is often accompanied by calls for multiple levels of analysis and intervention (Minkler & Wallerstein, 2003). Studies of intervention frameworks based on empowerment theory are also beginning to emerge that provide some evidence concerning measurement and implementation issues. Siegrist and Marmot (2004), for instance, highlighted the importance of methodological issues, specifically issues of reliability and validity, in unpacking the multi-level and multidisciplinary aspects of two complimentary models of psychosocial stress in the health-demand-control model and the effort-reward-balance model. While particularly focused on the workplace, the context for their examination was the larger issue of SES and health disparities in which constructs such as individual mastery or control (i.e., empowerment) are crucial factors that may explain health outcomes. Elsewhere, Kristenson et al. (2004) paint a compelling picture of synergistic effects of biological and behavioral interactions owing to empowerment-related factors. These perspectives are consistent with Zimmerman's (1990, 1995) model of PE and Zimmerman and Zahniser's (1991) dimensions of SPC because they emphasize the psychologically brutal and

Table 6 Reliabilities and partial correlations for sociopolitical control scale-revised (SPCS-R) subscales and community involvement, sample 2, sub-sample B

	Coefficient alpha	1	2	3
1. Leadership competence	.78	–	.45**	.18**
2. Policy control	.81		–	.29**
3. Community involvement	NA			–

Note. NA: Not applicable.

** $p < .01$.

potentially lethal dynamic of high levels of environmental demand accompanied by low levels of control over features of the environment.

Use of the SPCS-R, shown here as an improved measure of SPC concepts, is recommended for strengthening the validity of future empirical studies, particularly those that evaluate interventions for improving community involvement, citizenship, and intrapersonal PE. Given the interplay of policy and political debates about vulnerable populations and social determinants of health and wellbeing (Syme, 2004; Wilkinson, 1997) and studies that analyze or evaluate programs to enhance empowerment and redress inequities (Carballo-Diequez et al., 2004), efforts to improve the psychometric properties of a commonly used measure of empowerment were needed. More precise measurement of SPC will be useful to researchers attempting to distinguish components of PE more clearly, create a more sensitive measure of the intrapersonal component of PE for outcome measurement, and more accurately assess leadership and policy control dimensions of SPC. It is important to recognize, however, that the measure tested in this study was designed to assess one element of the intrapersonal component of PE (i.e., SPC) and should not be taken as an overall measure of PE. Additional studies are also needed to replicate and extend our findings.

From its introduction to community psychology in 1981 (Rappaport, 1981), empowerment has become a cornerstone in prevention science and has extended the reach of community psychology to other disciplines such as social work (Itzhaky, 2003) and public health (Koelen & Lindstrom, 2005; Minkler, 2004), as well as to community practice (Holden et al., 2005). In tandem with elaboration of the empowerment construct (Zimmerman, 1990), measurement of PE through the original SPCS (Zimmerman & Zahniser, 1991) was a milestone in the development of empowerment theory. The present study's analysis and improvement of the measurement of intrapersonal PE with the SPCS-R is also a solid vehicle to advance empowerment by improving the SPCS's fit to empirical data. The SPCS-R might also contribute to improving community practice through increased confidence in evaluation measures. As the literature on empowerment continues to expand and the concept becomes more thoroughly articulated with respect to other levels like organizational empowerment (OE) (Peterson & Zimmerman, 2004), careful measurement of the intrapersonal component of PE becomes all the more vital. This study contributes to the empowerment literature by further developing one of its foundational measurement instruments.

Appendix A

Sociopolitical control scale (SPCS) original and revised (SPCS-R) Items

	Original SPCS items		SPCS-Revised items
SPCS1	I am often a leader in groups		
SPCS2	I would prefer to be a leader rather than a follower		
SPCS3	I would rather someone else took over the leadership role when I'm involved in a group project	SPCS3-R	I would rather have a leadership role when I'm involved in a group project
SPCS4	I can usually organize people to get things done		
SPCS5	Other people usually follow my ideas		
SPCS6	I find it very hard to talk in front of a group	SPCS6-R	I find it very easy to talk in front of a group
SPCS7	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	SPCS7-R	I like to work on solving a problem myself rather than wait and see if someone else will deal with it
SPCS8	I would rather not try something I'm not good at	SPCS8-R	I like trying new things that are challenging to me
SPCS9	I enjoy political participation because I want to have as much say in running government as possible		
SPCS10	Sometimes politics and government seem so complicated that a person like me can't really understand what's going on	SPCS10-R	A person like me can really understand what's going on with government and politics
SPCS11	I feel like I have a pretty good understanding of the important political issues which confront our society		
SPCS12	People like me are generally well qualified to participate in political activity and decision making in our country		

Appendix A. Continued

	Original SPCS items		SPCS-Revised items
SPCS13	It hardly makes any difference who I vote for because whoever gets elected does whatever he wants to do anyway	SPCS13-R	It makes a difference who I vote for because whoever gets elected will represent my interests
SPCS14	There are plenty of ways for people like me to have a say in what our government does		
SPCS15	So many other people are active in local issues and organizations that it doesn't matter much to me whether I participate or not	SPCS15-R	It is important to me that I actively participate in local issues
SPCS16	Most public officials wouldn't listen to me no matter what I did	SPCS16-R	Most public officials would listen to me
SPCS17	A good many local elections aren't important enough to bother with	SPCS17-R	A good many local elections are important to vote in

Note. The SPCS-Revised used all positively worded items from the original SPCS; however, negatively worded items were rephrased into positively worded statements.

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