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Building Capacity Through the Use of a Strategic Prevention Framework System In Communities

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BUILDING CAPACITY THROUGH THE USE OF A STRATEGIC PREVENTION
FRAMEWORK SYSTEM IN COMMUNITIES

by

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As a community psychologist I truly enjoy learning more about promoting health and well-being across communities. Working on this dissertation afforded me the unique opportunity to engage in community-based research at the state level. It was gratifying to become skilled in a new programming language, better understand what is “under the hood” of multi-level models and structural equation models, and grow as a writer.

Before my work started, David Collins, Knowlton Johnson, and their team at the Pacific Institute for Research and Evaluation secured grant funds from the US Center for Substance Abuse Prevention to support this study. Without their hard work and coordination, this study would have never been planned or implemented. They have been great thought partners throughout and provided invaluable guidance.

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ABSTRACT

The Strategic Prevention Framework (SPF) is a planning and implementation model that mobilizes communities to collaborate on developing and implementing an evidence-based prevention system. This model follows a structured five-step process with two cross-cutting elements (cultural competence and sustainability) that emphasizes building capacity of coalitions to strategically plan, implement, and sustain evidence-based prevention services to reduce adolescent substance use. This study utilized a repeated cross-sectional design. Participating youth were in grades 6, 8, 10, and 12 and lived in one of 27 counties in a Southeastern state that was funded through the Center for Substance Abuse Prevention's SPF State Incentive Grant program. Stakeholders in participating county coalitions demonstrated increased capacity in their awareness, commitment, and skills for advancing through the SPF. After the SIG had concluded, middle and high school students reported using less alcohol and tobacco. High school students also reported less use of other drugs such as cocaine, inhalants, and methamphetamines. Due to limitations in the research design (e.g., lack of a comparison group, only one year of implementing prevention services in these counties, lack of valid implementation data), these reductions in adolescent substance use are best explained by secular trends. Recommendations are made for enhancing the research design to allow for a more thorough analysis of the effects of the SPF SIG and investigation into the link between capacity built through this approach and adolescent substance use at the county-level.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CFA.....	Confirmatory Factor Analysis
CI.....	Confidence Interval
CSAP.....	Center for Substance Abuse Prevention
CTC.....	Communities That Care
CYDS	Community Youth Development Study
H.....	Hypothesis
HGLM.....	Hierarchical Generalized Linear Modeling
ML.....	Maximum Likelihood Estimation
MOR	Median Odds Ratio
OR.....	Odds Ratio
PCA.....	Principal Component Analysis
RMSEA.....	Root Mean Square Error of Approximation
RQ.....	Research Question
SAMHSA.....	Substance Abuse and Mental Health Services Administration
SPF.....	Strategic Prevention Framework
SPF SIG	Strategic Prevention Framework State Incentive Grant Program
TA	Technical Assistance
TLI	Tucker-Lewis Index

CHAPTER 1

INTRODUCTION

Over the past two decades, substance abuse prevention practice in the United States has transitioned from a focus on individual-level behavioral change to a focus on multi-component strategies that target both individual and environmental change (Piper, Stein-Seroussi, Flewelling, Orwin, & Buchanan, 2012). This is due in part to the rise of community systems models which posit that alcohol and other drug problems result from the interaction between the individual and a complex, dynamic community system (Holder, 2002). In these community systems models, solely altering individual beliefs and behaviors without paying attention to the role of an individual's environment will only produce short-term reductions in substance use because it leaves the system unchanged. This shift has heightened attention to the infrastructure of community prevention systems and the need to build their capacity (Center for Substance Abuse Prevention, 2002; Mitchell, Florin, & Stevenson, 2002). As such, understanding how to best develop and sustain these community systems so they can better support the planning and implementation of effective prevention services in communities has become a central issue for prevention science (Chinman et al., 2005; Spoth & Greenberg, 2005; Wandersman, 2003).

Several approaches exist for developing and sustaining a community system's efforts to implement prevention services (e.g., Collaborative for the Application of

Prevention Technologies, n.d.; Hawkins, Catalano, & Arthur, 2002; National Opinion Research Center, 2010; Partnerships for Success, 2003; Spoth, Clair, Greenberg, Redmond, & Shin, 2007; Wandersman, Imm, Chinman, & Kaftarian, 2000). These approaches utilize similar components for supporting communities that are referred to by Wandersman, Chien, and Katz (2012) as “tools, training, technical assistance, and quality assurance/quality improvement” (p. 447). The authors’ description of tools includes books, manuals, guides, worksheets, spreadsheets, and checklists that help organize, summarize, and/or communicate knowledge. They define training as a planned instructional activity that intends to facilitate knowledge and skills acquisition along with impacting practitioner attitudes to help enhance performance. For technical assistance (TA), the authors define it as individualized, hands-on capacity building that follows and supports training. Finally, they describe quality assurance/quality improvement as monitoring and assessing quality of performance and making improvements based on this information. Together approaches like these can help communities identify and select evidence-based prevention services, provide support to practitioners who implement these services, and secure funding from federal, state, and private organizations to support implementation over time (Firesheets, Francis, Barnum, & Rolf, 2012).

In the United States, substance abuse prevention services and much of its supporting infrastructure are primarily federally funded (Piper et al., 2012). One major source of federal funding is the Center for Substance Abuse Prevention (CSAP), an agency that operates under the Substance Abuse and Mental Health Services Administration (SAMHSA) which is a branch of the U.S. Department of Health and Human Services. CSAP supports substance abuse prevention by distributing funds to

states through various discretionary grant mechanisms. States that are awarded grant funds then use these monies to support communities to implement prevention services (e.g., evidence-based prevention practices, prevention-oriented policies) or provide assistance to community-based organizations (e.g., training, TA, strategic planning processes). One CSAP grant mechanism is the Strategic Prevention Framework, which is the focus of this study.

Evolution of the Strategic Prevention Framework

In the early 1990s, CSAP awarded community partnership grants to help communities address local substance abuse problems (Yin & Kaftarian, 1997). While these grants were successful in helping communities build effective partnerships to help prevent substance abuse, the resulting partnerships did not always select and implement strategies that were evidence-based (Collaborative for the Application of Prevention Technologies, n.d.). This led to a push in the late 1990s toward using evidence-based programs and practices (Crowley, Yu, & Kaftarian, 2000), yet communities were not consistently implementing programs that specifically targeted the unique needs of the populations they served. As a result, many of these evidence-based programs failed to produce similar outcomes as those achieved in their original research settings (Collaborative for the Application of Prevention Technologies, n.d.).

Learning from these experiences, CSAP saw a need to emphasize evidence-based programs coupled with a process for building capacity to implement these programs in communities. As a result CSAP unveiled its Strategic Prevention Framework (SPF) in 2004 as a mechanism to mobilize prevention stakeholders to collaborate on the development and implementation of an evidence-based community prevention system.

The theoretical basis of the SPF draws on the Hawkins and Catalano risk and protective factors model (Collins, Johnson, & Becker, 2007). Risk factors are “characteristics, variables, or hazards that, if present for a given individual, make it more likely that this individual, rather than someone selected at random from the general population, will develop a disorder” (Mrazek & Haggerty, 1994). Protective factors are characteristics that reduce the likelihood of problem behavior either directly or by mediating or moderating the effect of exposure to risk factors (Masten & Coatsworth, 1998; Rutter, 1987; Werner & Smith, 1992). In Hawkins and Catalano’s model, reduction in the prevalence of adolescent health and behavior problems in a community can be achieved by identifying elevated risk factors and depressed protective factors that the community’s youth population experiences, and then implementing preventive interventions that have been shown to affect those specific risk and protective factors (Brown, Hawkins, Arthur, Briney, & Fagan, 2011). This model is supported by research which indicates that a comprehensive approach to prevention designed to reduce risk factors and enhance protective factors is a promising approach for promoting positive youth development and preventing adolescent problem behaviors (e.g., Durlak, 1998; Hawkins et al., 2002).

The SPF is one such approach to comprehensive prevention designed to reduce risk factors and enhance protective factors. This collaborative planning and implementation model for states and communities consists of five key steps. Although the five SPF steps are represented linearly, it is expected that in practice these activities will continue and be revisited throughout the duration of a community’s prevention work.

The steps are:

Step 1: Assess community prevention needs based on epidemiological data

Step 2: Build community prevention capacity

Step 3: Develop a strategic plan

Step 4: Implement effective community prevention programs, policies, and practices

Step 5: Evaluate their efforts for outcomes

Embedded within each of the five steps are two important cross-cutting elements: cultural competence and sustainability. Since these elements are embedded within each step, the process of ensuring cultural competence in prevention activities and working to develop an infrastructure of partnerships and policies to sustain prevention efforts is woven into the SPF SIG process from the onset. Each of these five steps are described below.

SPF Step 1: Assess community prevention needs based on epidemiological data. SPF Step 1 involves a comprehensive assessment of community-level data, including demographics, levels and patterns of substance use and related problems, and available resources to support prevention efforts. The purpose of this step is to understand the local context in which substance abuse and related consequences are occurring so that a comprehensive plan can be developed that makes the best use of available resources.

SPF Step 2: Build community prevention capacity. SPF Step 2 is focused on increasing individual, organizational, fiscal, and other resources to address any substance abuse problems identified in Step 1 and their possible solutions. It also includes increasing a community's readiness to address the risk and protective factors identified in Step 1 and mobilizing a community's available resources to establish and maintain an effective community prevention system.

SPF Step 3: Develop a strategic plan. Step 3 in the SPF involves developing a strategic plan that outlines how a community will reduce risk factors and enhance protective factors. This plan is crafted using the data collected in Step 1 to ensure that adopted interventions specifically target risk and protective factors present in their community. A logic model which graphically depicts this plan is constructed to help prevention practitioners and other stakeholders understand how the components of the plan fit together. These planning activities are meant to make future evaluation tasks much easier.

SPF Step 4: Implement effective community prevention programs, policies, and practices. Step 4 is the point where communities implement their adopted prevention activities. Communities select the prevention services that best fit their local needs and conditions. These services may include evidence-based programs delivered directly to youth as well as broader environmental strategies that target settings where alcohol and drugs are consumed and sold (e.g., reducing retail and social access, countering industry advertising, strengthening school policies).

SPF Step 5: Evaluate their efforts for outcomes. Finally, Step 5 involves conducting, analyzing, reporting, and using the results of a community-level process and outcome evaluation of the previous steps. The process evaluation measures how and what was done; the outcome evaluation assesses short- and long-term substance use outcomes. This step helps communities become more skillful and precise in how they monitor what they are doing and how they use data to improve their efforts. The results of the process and outcome evaluation can inform the revisiting of prior SPF steps in the communities' ongoing prevention work.

The SPF State Incentive Grant Program

By following this five-step sequential and structured process, focusing on empirically-based practices, and employing data-informed decision making, the SPF model has the potential to change the practice of substance abuse prevention in dramatic ways (Florin et al., 2012). To help foster this transformation and promote adoption of the SPF, CSAP initiated the Strategic Prevention Framework State Incentive Grant (SPF SIG) program. This program is an infrastructure grant program that supports an array of activities to help awardees build a solid foundation for delivering and sustaining effective substance abuse and/or mental health services. To date CSAP has funded 49 States, 19 tribes/tribal organizations, eight Territories, and the District of Columbia (SAMHSA, 2011).

Under the terms of the SPF SIG, each state, territory, or tribal government receiving an award is expected to implement the five SPF steps at the state level. Through completion of the steps they create a data-informed comprehensive state-level strategic plan. These plans are then submitted to CSAP for review and approval. The SPF SIG is the first United States federal grant initiative in substance-related harm prevention that requires states to engage in data-driven strategic planning and to have their written plans approved by the federal government prior to releasing program funds (Orwin, Edwards, Buchanan, Flewelling, & Landy, 2012). As a result, the submission, review, and eventual approval of states' plans are critical milestones in the SPF SIG implementation process since they mark the transition from prevention work at the state-level to prevention work at the community-level.

Within each awarded state, territory, or tribal government, sub-recipient communities that receive funding and support are selected using a data-informed selection procedure based on (1) epidemiological and other data indicating that a community has prevention needs to address and (2) the degree of readiness of the community's prevention system to implement the SPF planning process. Communities selected by their state to be awarded funds are required to utilize the five SPF steps to promote youth development, reduce risk-taking behaviors, build assets and resilience, and prevent problem behaviors across the life span (SAMHSA, 2011). The funded communities work through the five SPF steps to (a) prevent the onset and reduce the progression of substance abuse, including childhood and underage drinking, (b) reduce substance abuse-related problems in communities, and (c) build prevention capacity and infrastructure at the state/territory/tribal and community levels. In this way, actual implementation of substance abuse prevention occurs primarily at the community level.

The SPF Delivery System

The community-level approach to prevention in the SPF SIG is implemented through the use of coalitions. Simply stated, a coalition is a group of individuals who work together toward a common goal (University of Kansas Work Group for Community Health and Development, 2013b). The individuals who comprise a coalition usually represent diverse organizations, community sectors, and/or constituencies (Feighery & Rogers, 1989), and together these individuals leverage resources and coordinate their efforts to collectively affect the type of change they would not be able to bring about on their own (Butterfoss, Goodman, & Wandersman, 1993; Feinberg, Greenberg, Osgood, Sartorius, & Bontempo, 2007). Coalition members collaborate on behalf of the

organization(s) they represent while also advocating for the coalition itself. In this way, a coalition's membership is widely regarded as its primary asset (Foster-Fishman, Berkowitz, Lounsbury, Jacobson, & Allen, 2001; Wandersman, Goodman, & Butterfoss, 1997).

Coalitions work to achieve their goals through a variety of strategies that may include aspects of social planning, community organizing, community development, policy advocacy, and serving as a catalyst for community change (Roussos & Fawcett, 2000). They can play a critical role in identifying community needs, identifying innovative solutions to address these needs, and mobilizing community support for these efforts (Foster-Fishman et al., 2001). To achieve these tasks they may employ both top-down (e.g., supported use of science-based strategic planning approaches) (Collaborative for the Application of Prevention Technologies, n.d.) and bottom-up processes (e.g., grassroots community organizing) (University of Kansas Work Group for Community Health and Development, 2013a) to help achieve outcomes and foster broad community engagement.

Coalitions may differ in how they are structured. For example, a coalition could be briefly convened to achieve a specific goal and then disband, or it could become an organization in and of itself and establish a governing body, specific responsibilities it is accountable for, funding structures, and permanence (University of Kansas Work Group for Community Health and Development, 2013b). Feighery and Rogers (1989) define three types of coalitions: (1) *grassroots coalitions* that are organized by volunteers in times of crisis to pressure policy makers to act; (2) *professional coalitions* which are formed by professional organizations either in a time of crisis or as a long-term approach

to increasing their power and influence; and (3) *community-based coalitions* comprised of professional and grassroots leaders which form to influence long-term health and welfare practices for their communities. Community-based coalitions tend to be initiated by one or more agencies in response to a funding proposal (Butterfoss et al., 1993) and aim to improve population-level outcomes by creating important and sustainable environmental changes in different community sectors (Snell-Johns, Imm, Wandersman, & Claypoole, 2003). The coalitions that participated in the current study are best defined as community-based coalitions.

Community-based coalitions have appeal because multiple community sectors can help plan and coordinate solutions to problems that emerge from complex multi-level interactions (e.g., individual behaviors, family relations, neighborhood culture, quality of schools, economic stress) (Bronfenbrenner, 1986). Use of coalition-based approaches has grown over the last four decades since the initial cardio-vascular disease prevention trials in the 1970s (see Mittelmark et al., 1986; Puska et al., 1983), and the community-based coalition strategy has been employed to address problems such as substance use, obesity, crime and violence, teen pregnancy, and cancer (Feinberg, Ridenour, & Greenberg, 2008). In addition, there is evidence that community-based coalitions can be effective which has increased calls for this type of community-driven, collaborative approach to prevention (Specter, 2008; Woolf, 2008).

The role of coalitions in supporting prevention in communities. Coalitions can help foster high quality implementation of prevention services by providing direct support to communities (Durlak & DuPre, 2008). Direct support may be provided in the form of training, TA, and proactive monitoring of implementation – all of which have

been shown to help enhance community-based delivery of innovations (Dumas, Lynch, Laughlin, Phillips Smith, & Prinz, 2001; Fagan & Mihalic, 2003; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Lynch, Geller, Hunt, Galano, & Dubas, 1998; Spoth & Redmond, 2002). In fact one of the largest national evaluations of program implementation concluded that communities can implement evidence-based prevention programs with fidelity (Elliott & Mihalic, 2004) and implementation success was attributed in part to providing communities with intensive training, TA, and project oversight (Fagan & Mihalic, 2003; Mihalic & Irwin, 2003).

Coalitions also benefit from an organizing framework that can structure their prevention work. They also benefit when supported by feedback systems that review data regarding implementation delivery (Fagan, Hanson, Hawkins, & Arthur, 2008). These feedback systems can be used to reinforce positive behaviors and provide guidance if corrective action is needed (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). The SPF SIG provides communities with these elements: the SPF is the organizing framework and direct support is provided to coalitions through training and TA.

Communities That Care (CTC) is a coalition-based prevention system that uses an approach that is similar to the SPF. The CTC planning system guides communities through a five-phase process that parallels the five SPF Steps. Both models seek to assist communities in adopting and implementing effective preventive interventions to address elevated risks and suppressed protective factors affecting youth. Both models have milestones, tasks, and related benchmarks that provide a structure for monitoring progress and measuring fidelity with which the system is put into practice. Given these similarities, research findings and lessons learned from empirical investigations of the

CTC model can help inform research and practice for communities implementing the SPF.

The CTC model has been researched since the early 2000s. The Community Youth Development Study (CYDS) was the first community-randomized trial of CTC and was designed to investigate whether CTC can reduce levels of risk, increase levels of protection, and reduce the incidence and prevalence of tobacco, alcohol, and other drug use and delinquency in early adolescence in communities (Hawkins, Catalano, et al., 2008). In the CYDS, 12 communities were randomly assigned to implement CTC and 12 control communities were assigned to conduct prevention services as usual. The CTC communities were provided with training and TA in the CTC system, funding for a full-time CTC coordinator, and annual funding to implement evidence-based prevention programs for students and their families.

The effects of CTC were demonstrated after four years of implementation. Participating students in a longitudinal panel followed from grade 5 through grade 8 in CTC communities reported significantly lower rates of alcohol use, smoking initiation, smokeless tobacco use, and incidences of delinquent behavior compared to their counterparts in control communities (Hawkins et al., 2009). In addition, a recent mediation analysis demonstrated that effects of CTC on grade 8 youth outcomes were mediated through increasing communities' adoption of evidence-based prevention services (Brown et al. 2014).

Sustained effects of CTC were demonstrated in the longitudinal student panel in both grades 10 and 12. These effects were observed 1 and 3 years after study support for CTC implementation had ended (Hawkins et al., 2014; Hawkins et al., 2012). A recent

cost benefit analysis of CTC estimated that the benefit-cost ratio was over \$8 per dollar invested (Kuklinski, Fagan, Hawkins, Briney, & Catalano, 2015). Together, these studies provide evidence that coalition-based strategies can reduce youth substance use and other problem behaviors at the community level.

The role of capacity in the effectiveness of coalitions. The ability of coalitions to influence change has been empirically linked to their level of capacity (for a review, see Foster-Fishman et al., 2001). The concept of capacity is often used to describe the skills, motivations, knowledge, and attitudes that underlie the accomplishment of actions or tasks (Flaspohler, Duffy, Wandersman, Stillman, & Maras, 2008). For coalitions, an emphasis on capacity is especially critical because a coalition's ability to affect change is (a) dynamic and shifts due to membership, focus, and the coalition's developmental stage, (b) adjustable and enhanced by TA and targeted capacity building efforts, and (c) transferable such that the capacity developed within one coalition experience can carry over to other community-based efforts (Foster-Fishman et al., 2001). Emphasizing capacity is also helpful because it shifts attention from an exclusive focus on needs and deficits to the identification of community strengths and resources which can be built upon (Freudenberg, 2004; Goodman et al., 1998).

One facet of capacity relevant to community-based coalitions exists at the level of the individual coalition members themselves. While individual-level capacity (i.e., *stakeholder capacity*) related to prevention lacks a unified conceptualization, Flaspohler et al.'s (2008) review identifies individual-level elements of importance such as coalition members': capabilities and background; knowledge about their community; openness, buy-in and attitudes toward prevention; ability to collaborate; and their knowledge and

abilities for implementing innovations such as prevention strategies. Community-based coalitions tend to be voluntary organizations and often rely extensively on the extent to which their individual members have the capacity to perform needed tasks and collaborate with each other (Foster-Fishman et al., 2001; Knoke & Wood, 1981).

In addition to stakeholder capacity, a second type of capacity relates to the coalition itself. *Coalition capacity* relates to the infrastructure needed by the community-based coalition (Foster-Fishman et al., 2001; Wolff, 2001) and its ability to function well as an organization and utilize prevention practices with fidelity (Flaspohler et al., 2008). Important elements of coalition capacity include its formal linkages and inter-organizational networks (Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou, 2004; Livet & Wandersman, 2005; Shapiro, Oesterle, & Hawkins, 2015), and its written policies and procedures (Fredericksen & London, 2000). See Flaspohler et al. (2008) for a comprehensive review.

While there is evidence that state-level prevention systems that have participated in the SPF SIG have been able to build and sustain prevention capacity and infrastructure (Edwards, Stein-Seroussi, Flewelling, Orwin, & Zhang, 2015; Orwin, Stein-Seroussi, Edwards, Landy, & Flewelling, 2014), further research is needed to better understand the extent to which the SPF SIG can build stakeholder and coalition capacity at the community-level. To better understand the community-level effects of the SPF SIG, Nargiso et al. (2013) conducted cross-sectional correlational research with 14 SPF SIG funded coalitions. This study found that leadership capacity (i.e., leadership that promotes action and structures tasks) and implementation planning capacity (i.e., capacity to establish priorities and implement tasks and timelines) were positively and

significantly correlated with a greater number of reported hours that coalitions dedicated to local or state policy change efforts (Nargiso et al., 2013). Although there were no comparison communities to help rule out other intervening variables that may have accounted for the correlation between these variables, this study raises the possibility that capacity may relate to increases in local or state policy change efforts. To date, there are no peer-reviewed published studies directly assessing the extent to which SPF SIG counties have demonstrated statistically significant increases in stakeholder or coalition capacity.

Evaluating effectiveness of coalition-based prevention efforts: Addressing challenges through analytic strategies. While there is evidence that coalitions can prevent the development of youth drug use and delinquency (Feinberg et al., 2007; Spoth, Redmond, et al., 2007), in some instances coalitions have failed to achieve significant improvements in healthy youth behavior (Flewelling et al., 2005; Hallfors, Cho, Livert, & Kadushin, 2002). In fact, researchers have cautioned that community-based coalitions are difficult to enact (e.g., Wandersman & Florin, 2003) and that processes leading to coalition success can be unpredictable and idiosyncratic (e.g., Klitzner, 1993). A frequently encountered issue with coalitions stems from one of their strengths: community-based coalitions are typically empowered to make their own decisions regarding which community outcomes they target and how they want to address them. This creates difficulties when it comes time to objectively evaluate effectiveness across community-based coalitions because different measures often need to be employed in each community (Cowen, 1978; Farrington, 1997; Feinberg, Greenberg, & Osgood, 2004; Hollister & Hill, 1995; Rindskopf & Saxe, 1998; Yin & Kaftarian, 1997). Thus,

comparing long-term, intermediate, or immediate outcomes across community-based coalitions is often quite difficult.

Another difficulty that has been observed in regard to evaluating the effectiveness of coalitions has been due to research design. For example, Rhew et al. (2016) examined whether similar results were observed when different research designs were used to investigate community-level effects of a coalition-based prevention intervention. Specifically, these authors investigated whether community-level effects of CTC were still observed if a repeated cross-sectional design was used to test intervention effects. As previously described, effects of CTC were demonstrated by testing effects on a longitudinal panel of students followed over time. Rather than test effects on the same individuals over time, repeated cross-sectional designs test intervention effects on changes in outcomes at a specific grade level over time (Murray 1998). Rhew et al. used data from the same CTC community-randomized trial, but instead of using data from the longitudinal panel, they used cross-sectional student surveys that were conducted anonymously. As such, individual students could not be linked across time. Although CTC demonstrated effects with the design involving the longitudinal panel of students (Hawkins et al. 2014; Hawkins et al. 2012), Rhew et al. did not find any intervention effects when using the repeated cross-sectional investigation even though the data were from the same community-randomized trial.

Summary

The SPF SIG program is an infrastructure grant program that assists communities throughout the United States in implementing science-based community prevention systems. Communities participating in this program are charged with building a solid

foundation for delivering and sustaining effective substance abuse and/or mental health services to prevent substance abuse problems and their onset at the community level. An important mechanism for change in this program is building communities' capacity to engage in the five SPF steps which serve as an organizing framework for guiding data-driven strategic planning and implementation of evidence-based prevention services. Each participating community forms a coalition that is empowered to make decisions regarding which outcomes they seek to impact and how they want to achieve these outcomes.

Research Questions and Rationale

The current study focused on 29 communities (i.e., counties) within a SPF SIG-funded state located in the Southeastern United States. Counties were selected using a data-informed selection procedure based on multiple indicators of substance use consumption and related consequences and readiness to implement the SPF planning process. Funded counties sought to improve capacity and infrastructure to implement evidence-based prevention services (e.g., programs, policies, and strategies) through community-based coalitions.

The two research questions in this study and their hypotheses are:

RQ1: To what extent do levels of capacity change over the course of the SPF SIG project?

H1: It is hypothesized that SPF SIG funded counties in this study will demonstrate higher levels of capacity after completing the five SPF Steps.

RQ2: To what extent do prevalence rates for adolescent substance use change over the course of this study?

H2: It is hypothesized that prevalence rates for adolescent substance use will be significantly lower at the conclusion of this study.

Both research questions address two important aims of the SPF SIG initiative: (1) enhancing local prevention infrastructure and capacity and (2) reducing substance abuse (Edwards et al., 2015). Given the importance of building capacity, this construct played a key role in this study. Investigating the first research question can make a contribution to the evidence base for the SPF SIG planning and implementation model since there are no peer-reviewed published studies that directly assess the extent to which participating communities have demonstrated statistically significant increases in stakeholder or coalition capacity. However, it is important to note that there are other key mechanisms of change in the SPF SIG project beyond capacity building. More specifically, each participating county targeted specific substances and then implemented prevention services to reduce use of these substances. This study focuses specifically on the extent to which capacity was built in these counties since data related to the quality with which prevention services were implemented were not available.

In regard to the second research question, it is important to note that during the time of this study a systematic decrease in substance use was observed across the United States in national surveys (e.g., Johnston, O'Malley, Bachman, & Schulenberg, 2010). Taken together with the amount of time it takes before effective prevention services implemented at the community-level can be expected to impact community-level

substance use (Hawkins & Catalano, 2010), a valid test of the SPF SIG's impact on adolescent substance use in these counties is not possible. However, it is still important to understand changes in these county-level substance use rates. Understanding how these rates change over time could help these county coalitions continuously improve and tailor their approach for reducing substance use. Ultimately, continuous improvement of these prevention systems could impact substance use at a future time.

CHAPTER 2

METHOD

Study Design

This study utilized a repeated cross-sectional design which spanned from 2005 to 2010. A total of 29 counties¹ in this state participated in two different cohorts. Cohort 1 included 15 counties, and Cohort 2 included 14. Originally, the Cohort 1 counties were to implement the SPF SIG intervention and the Cohort 2 counties were to serve as comparison communities that implemented a delayed version of the intervention. However, in 2008 the state required that the Cohort 2 counties implement the SPF SIG intervention earlier than originally planned so the evaluation team had to revise the design to account for this requirement. Because of this, Cohort 1 had one more year of implementation compared to Cohort 2.

SPF SIG Intervention and Its Implementation

SPF SIG intervention activities included both capacity building and implementation of prevention efforts. First, capacity was built through training and TA provided to community-based coalitions in each county (i.e., county coalitions) as well as a comprehensive planning process. Subsequent to these planning-related activities, the county coalitions began to implement capacity building strategies and prevention services across their communities. The sections that follow discuss each of these in more detail.

¹ Initially there were 30 counties selected to participate but one of them discontinued participation prior to the intervention due to receiving other funding that precluded their participation in the SPF SIG.

Building capacity of county coalitions through training and TA. Training and TA are essential elements of coalition effectiveness (Dumas et al., 2001; Fagan & Mihalic, 2003; Henggeler et al., 1997; Lynch et al., 1998; Spoth & Redmond, 2002). As such, county coalitions participated in various training events that built capacity for working through the five SPF steps. There was a multimodal approach to training that consisted of an academy, a leadership forum, a mid-year conference, and a state prevention workshop sponsored by multiple state-level behavioral health entities. Training focused on content beyond the five steps as well. For example, capacity was built for implementing specific environmental prevention strategies like responsible beverage service (i.e., working with community establishments that serve alcoholic beverages to build skills for serving alcohol responsibly) or for sustainability strategies like grant writing. In other instances, training events engaged individuals who had key prevention roles in their community (e.g., substance abuse prevention specialists).

In addition to training, TA was provided in-person, by telephone, and through email. This TA supported each county coalition in their progression through the steps. Part of their work during each step was to develop a “product”. For example, Step 1 relates to assessing community prevention needs, and the product for that step is a report of community needs and resources that was developed using a systematic template. Another example is that in Step 3, which relates to strategic planning, the product is the strategic plan itself.

Each product needed to meet guidelines developed by the state division of behavioral health. To ensure this, products were reviewed by external evaluators and a state network of community anti-drug coalitions who then worked further with each

county coalition to ensure each product met state guidelines. County coalitions engaged in this comprehensive planning process for the first five years of the project, and at the end of Year 5 all of the products that had been developed up to that point were approved by the state.

Comprehensive plan implementation: Capacity building across the community. During Year 5, county coalitions implemented community-wide capacity building strategies that were specified in their strategic plans. Some of these activities were implemented to enhance expertise of individual coalition members (i.e., stakeholder capacity). Other activities aimed to recruit additional coalition members, refine the structure of the county coalitions, and improve coalition functioning (i.e., coalition capacity).

Comprehensive plan implementation: Prevention activities. During Year 5 county coalitions also implemented prevention services that were included in their strategic plan. These activities may have consisted of county-level prevention programs, strategies, and/or policies. Each county could have implemented different programs, strategies, or policies since these were adopted in light of the prevention needs assessments that each community conducted during Step 1. Of the 27 participating counties, 46% targeted alcohol, 15% targeted marijuana, cocaine, and methamphetamines, and 4% targeted tobacco.

To reduce use of these substances, 21 of the 27 county coalitions implemented between one and three evidence-based prevention services. The most frequently implemented were evidence-based environmental strategies, which made up 70% of the services. These strategies included the Community Trials Intervention (a multi-

component strategy), as well as stand-alone environmental strategies such as sobriety checkpoints, responsible beverage service, compliance checks (i.e., identifying alcohol establishments that sell to underage youth), keg registration, and social host ordinances (i.e., imposing liability on social hosts who serve alcohol to minors). Media or awareness campaigns were the second most frequently implemented, making up 19% of the evidence-based strategies used in this project. Some counties implemented evidence-based prevention curricula such as *Too Good for Drugs*, *Stay on Track*, and *Class Action*. Evidence-based curricula were the least frequently implemented, making up 11% of the evidence-based prevention services utilized by counties. The six counties that did not implement evidence-based prevention services implemented an array of non-evidence-based strategies.

Measures

The following section will describe this study's outcome measures and covariates. For each, the instrument used to operationalize the measure and its data source will be described. Outcome measures included capacity and adolescent substance use.

Outcome measure: Capacity. In this study, capacity was defined as the extent to which county coalitions have the necessary skills, motivations, knowledge, attitudes, and infrastructure to accomplish desired prevention goals. Capacity was operationalized with two capacity-related instruments that are described in the following sections: (1) a Stakeholder Capacity Survey and (2) a Coalition Capacity Survey.

Stakeholder Capacity Survey. The Stakeholder Capacity Survey was used to operationalize individual-level capacities of county coalition members who participated in this study. This survey – which was based on a pre-existing capacity survey used in

this state as well as other instruments used in previous SIG evaluations – was developed by the state’s external SPF SIG evaluation team. The evaluation team limited the number of stakeholder capacity constructs, and this was done in a systematic way by examining results from prior evaluations in other states to see which stakeholder capacity constructs were most correlated with positive outcomes.

Items on this survey were grouped into four subscales that assessed the extent to which these coalition members (1) were aware of SPF SIG components, (2) would commit to actively participate in SPF SIG-related activities, (3) had the skills to implement SPF SIG requirements, and (4) whether their home organization (i.e., the organization that the coalition member represented) was supportive. At Wave 1, internal consistency reliabilities for these four scales ranged from $\alpha = .89$ to $\alpha = .95$. These values fall into the “good” to “excellent” range based on interpretation guidelines suggested by George and Mallery (2003).

Verifying the factor structure. To verify the survey’s factor structure, a confirmatory factor analysis (CFA) was conducted using the ‘lavaan’ package version 0.5-20 (Rosseel, 2012) in the statistical program R. The analysis was conducted on data from 250 coalition members who responded to the Stakeholder Capacity Survey at Wave 2. Based on preliminary findings of a principal components analysis (Collins, Shamblen, Harris, Johnson, & Dwivedi, 2009), it was hypothesized that there was a second-order factor for Stakeholder Capacity that subsumed the first-order latent factors Awareness, Commitment, Skills, and Home Organization Support. These first-order factors correspond to the four scales on the Stakeholder Capacity Survey. The theoretical model is presented in Figure 2.1.

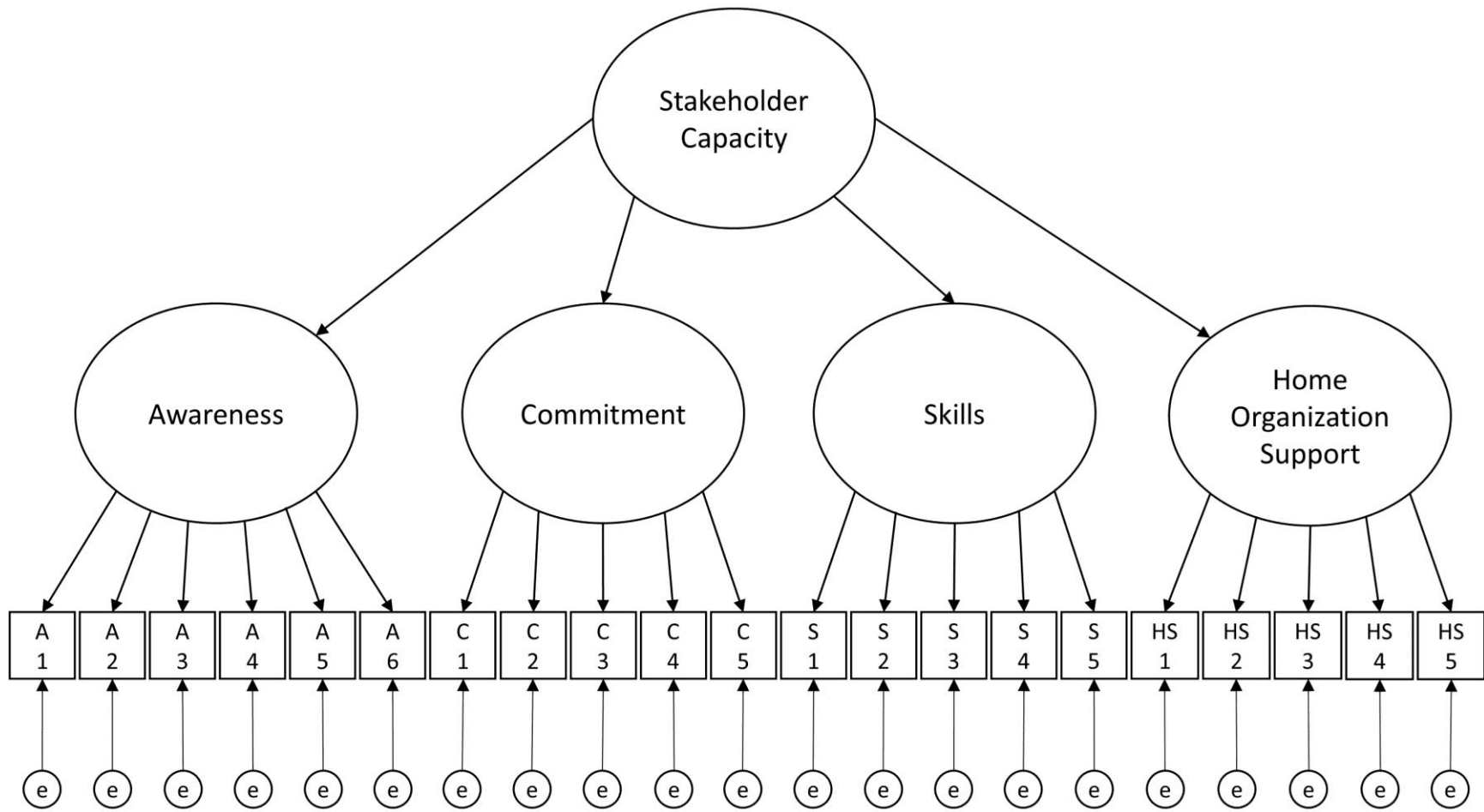


Figure 2.1. Hypothesized factor structure of the Stakeholder Capacity Survey. e = error; A1 – A6 = items on Awareness scale; C1 – C5 = items on Commitment scale; S1 – S5 = items on Skills scale; HS1 – HS5 = items on Home Organization Support scale.

Both a relative and an absolute fit index were used to determine how well the model fit the data. The Tucker-Lewis index (TLI) was .99 and the root mean square error of approximation (RMSEA) was .02. Hu and Bentler (1999) have suggested $TLI \geq .95$ and $RMSEA \leq .06$ as cutoffs for good model fit. Standardized parameter estimates are provided in Figure 2.2, and unstandardized estimates and standard errors are shown in Table 2.1.

All items had strong standardized loadings, suggesting that they are reliable indicators of the latent constructs. All loadings were statistically significant and they ranged from .78 to .98. Three of the four first-order latent factors had strong standardized loadings on the second-order factor of Stakeholder Capacity. The fourth loading – Home Organization Support – was in the moderate range. All loadings on the second-order factor were statistically significant.

This CFA provides evidence of the construct validity of this measure. Each subscale of the Stakeholder Capacity Survey is described below, and the items themselves can be found in Appendix A.

Awareness subscale. The first subscale was comprised of six items that assess the stakeholder's awareness of various components of the SPF SIG, including: comprehensive prevention planning, capacity building, cultural competence, and sustainability. Respondents indicated their level of awareness on a four-point scale anchored by "none" = 1 and "a lot" = 4. Higher scores indicated higher levels of self-reported knowledge. Scale scores were calculated by taking the average of the six items. Internal consistency reliability for this scale was $\alpha = .94$ at Wave 1.

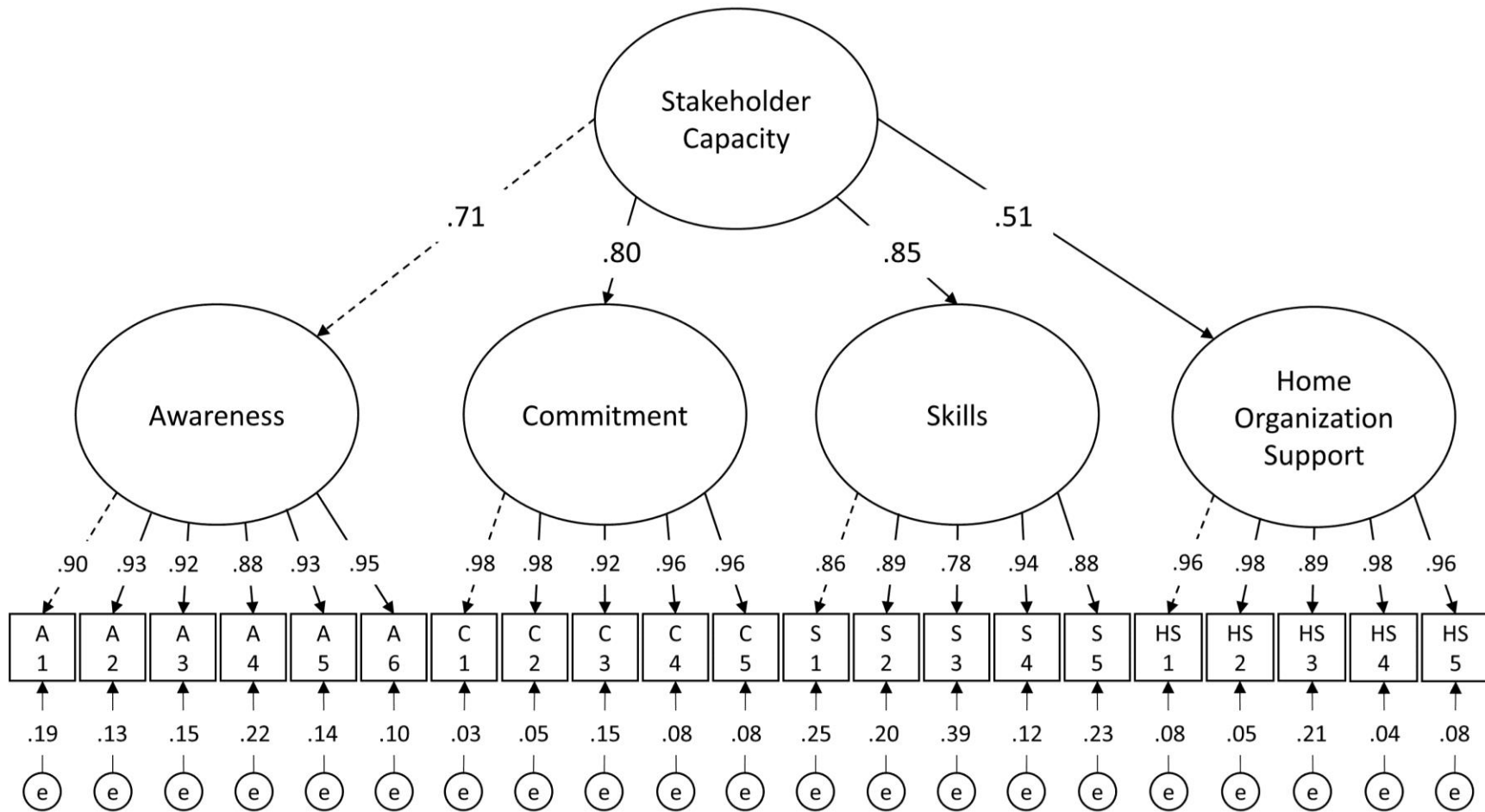


Figure 2.2. Confirmatory factor analysis of the Stakeholder Capacity Survey. Tucker-Lewis index = .99; root mean square error of approximation = .02; degrees of freedom = 185; e = error; A1 – A6 = items on Awareness scale; C1 – C5 = items on Commitment scale; S1 – S5 = items on Skills scale; HS1 – HS5 = items on Home Organization Support scale.

Table 2.1

Standardized Factor Loadings, Unstandardized Factor Loadings, and Standard Errors for Stakeholder Capacity Items

Observed variable	Latent construct	β	<i>B</i>	<i>SE</i>
Awareness of SPF-SIG (A1)	Awareness	0.90	1.00	
Awareness of county-level plan (A2)	Awareness	0.93	1.04	0.02
Awareness of capacity building efforts (A3)	Awareness	0.92	1.02	0.02
Awareness of incorporating cultural competence (A4)	Awareness	0.88	0.98	0.02
Awareness of sustaining prevention capacity (A5)	Awareness	0.93	1.03	0.02
Awareness of sustaining prevention strategies (A6)	Awareness	0.95	1.06	0.02
Commitment to assessing needs & resources (C1)	Commitment	0.98	1.00	
Commitment to developing prevention capacity (C2)	Commitment	0.98	0.99	0.01
Commitment to incorporate cultural competence (C3)	Commitment	0.92	0.94	0.02
Commitment to sustain prevention capacity (C4)	Commitment	0.96	0.97	0.01
Commitment to sustaining prevention strategies (C5)	Commitment	0.96	0.98	0.01
Level of skill for assessing needs and resources (S1)	Skills	0.86	1.00	
Level of skill for developing prevention capacity (S2)	Skills	0.89	1.03	0.07
Level of skill for incorporating cultural competence (S3)	Skills	0.78	0.90	0.06
Level of skill for sustaining prevention capacity (S4)	Skills	0.94	1.09	0.06
Level of skill for sustaining prevention strategies (S5)	Skills	0.88	1.02	0.06
Supportive of needs and resources assessment (HS1)	Home Organization Support	0.96	1.00	
Supportive of developing prevention capacity (HS2)	Home Organization Support	0.98	1.02	0.02
Supportive of incorporating cultural competence (HS3)	Home Organization Support	0.89	0.93	0.03
Supportive of sustaining prevention capacity (HS4)	Home Organization Support	0.98	1.02	0.02
Supportive of sustaining prevention strategies (HS5)	Home Organization Support	0.96	1.00	0.02

Commitment subscale. The second subscale was comprised of five items that measure the degree to which the stakeholder would commit to active participation in the following SPF SIG activities: assessing needs/resources, developing capacity, implementing practices with cultural competence, and sustainability. Respondents indicated their level of commitment on a four-point scale anchored by “very unlikely” = 1 to “very likely” = 4. Higher scores indicated higher levels of self-reported commitment. Scale scores were calculated by taking the average of these five items. Internal consistency reliability for this scale was $\alpha = .95$ at Wave 1.

Skills subscale. The third subscale was comprised of five items that measure the skills of the respondent relevant to implementing the SPF SIG in their county related to: assessing needs/resources, developing capacity, implementing practices with cultural competence, and sustainability. Respondents indicated their level of skills relevant to implementing the SPF-SIG in their county on a four-point scale anchored by “very poor” = 1 and “very good” = 4. Higher scores indicated higher levels of self-reported skills. Scale scores were calculated by taking the average of the five items. Internal consistency reliability for this scale was $\alpha = .89$ at Wave 1.

Home Organization Support subscale. The fourth subscale was comprised of five items that assess the degree of support that would likely be offered by the respondent’s home organization in the following areas: assessing needs/resources, developing capacity, implementing practices with cultural competence, and sustainability. Respondents rated the level of support in their community on a four-point scale anchored by “very unsupportive” = 1 and “very supportive” = 4. Higher scores indicated higher

levels of perceived support. Scale scores were calculated by taking the average of these five items. Internal consistency reliability for this scale was $\alpha = .93$ at Wave 1.

Data collection and response rate. Respondents for this survey were identified by the coordinators of each county coalition. For Wave 1 data collection (Year 3; 2006 – 2007) coordinators identified individual coalition members who were the most knowledgeable about prevention in that particular community, and for the second wave of data collection (Year 5; 2008 – 2009) coordinators identified county coalition members who were most involved in SPF SIG planning and implementation. Once these respondents were identified by coalition coordinators, their participation was solicited via multiple modes: email for a web-based survey and via telephone for a telephone survey. Of the 584 potential respondents identified at Wave 1, 391 completed interviews resulting in a 67% response rate. There were 101 participants who had no telephone number, an invalid telephone number listed, no email address, or an invalid email address listed. Removing these unreachable individuals from the total number of possible respondents adjusts the response rate to 81%.

During the final wave of data collection, three of the 391 respondents who completed interviews during Wave 1 opted out. An additional 31 did not complete a second interview as their email addresses were invalid when contact was attempted. As such there were 358 individuals who were able to be contacted for a Wave 2 interview and 179 of them at least partially completed the web survey. Phone numbers and email addresses of the members of the total sampling frame who had not participated in the second interview were provided to a third party research agency who attempted to reach them and conduct telephone interviews. In total, this agency was able to complete 71

telephone interviews, bringing the overall number of interviews to 250. Since there were 441 total respondents whose participation was solicited at Wave 2, the overall response rate was 57%. There were 66 stakeholders who responded to this survey at both time points.

Coalition Capacity Survey. The Coalition Capacity Survey was used to operationalize the capacity of each county coalition to function well as an organization and utilize prevention practices. Items on this survey were grouped into eight subscales which assessed (1) the coalition's structure, (2) whether it had formal linkages with other organizations, (3) the coalition's access to practitioners with prevention expertise, (4) its access to prevention champions, (5) the extent to which written policies and procedures were related to SPF SIG activities, (6) access to staffing resources, (7) funding resources, and (8) data resources.

The internal consistency reliabilities at Wave 1 for seven of these nine scales ranged from $\alpha = .72$ to $\alpha = .95$, which falls into the "acceptable" to "excellent" range based on the interpretation guidelines suggested by George and Mallery (2003). For the Data Resources scale, the reliabilities were "questionable" based on these interpretation guidelines ($\alpha = .64$).

Verifying the factor structure. Previously, a principal component analysis (PCA) was conducted to identify patterns in these data. The analysis revealed that all of the capacity variables had a satisfactory single factor structure with the exception of staffing resources (Shamblen, Collins, Harris, Johnson, & Thompson, 2010). To further verify the survey's factor structure, a confirmatory factor analysis (CFA) was planned based on data from 35 coalition members who responded to the Coalition Capacity Survey at Wave 2

(23 of 29 coalitions had one key informant, and 6 had two key informants who participated). Before conducting the CFA, this measure was streamlined by limiting its number of items. The need to pare down the survey was because there were only 35 respondents at Wave 2, and the sheer number of items ($n = 33$) on the survey made it infeasible for investigating its factor structure (Schreiber, Nora, Stage, Barlow, & King, 2006; Wolf, Harrington, Clark, & Miller, 2013).

The two scales with only two items were investigated further: Staffing Resources and Funding Resources. The internal consistency reliabilities of these scales at Wave 2 were $-.49$ and $.45$, respectively. The negative alpha coefficient indicates that one of the Staffing Resources items was negatively correlated with the total scale. Also, the previously conducted PCA indicated that this scale did not have a satisfactory single factor structure. The two items on the Funding Resources scale did not significantly correlate with each other, and this scale was constructed with a continuous response format that differed from all other scales which were binary or ordinal. Because of these issues the Staffing Resources and Funding Resources scales were excluded.

Another scale that had negatively correlated items at Wave 2 was Data Resources. In addition, the responses on this scale lacked variability. In one instance an item on this scale was a constant (i.e., all respondents endorsed the item in the same way). Given these issues, the Data Resources scale was also excluded.

Of the remaining five scales, two related to the capacity of practitioners who worked with each coalition: Expertise and Champions. These scales had similar items related to whether coalitions had practitioners with expertise for completing SPF Steps

and whether they advocated for the completion of these steps in their community. These scales were combined due to their shared focus on the human capital of the coalitions.

After the Coalition Capacity Survey was revised by reducing the number of items and combining similar scales, the CFA was conducted using the 'lavaan' package version 0.5-20 (Rosseel, 2012) in the statistical program R. The analysis was based on data from 35 key informants who responded to the Coalition Capacity Survey at Wave 2. It was hypothesized that there was a second-order factor structure for Coalition Capacity with Structure, Formal Linkages, Expertise & Champions, and Policies & Procedures as lower-order factors. The second-order factor that subsumed the other factors was hypothesized based on the previous PCA. The four first-order factors correspond to the four scales on the revised Coalition Capacity survey. The theoretical model is presented in Figure 2.3.

Both a relative and an absolute fit index were used to determine how well the model fit the data. The TLI was .98 and RMSEA was .04, indicating good model fit using the cutoff criteria posited by Hu and Bentler (1999). Standardized parameter estimates are provided in Figure 2.4, and unstandardized estimates and standard errors are shown in Table 2.2.

All items had moderate to strong standardized loadings, suggesting they are reliable indicators of the latent factors. All loadings were statistically significant and ranged from .49 to .99. Standardized loadings for the latent variables on the second-order factor for Coalition Capacity were also in the moderate to strong range. These loadings were also statistically significant and ranged from .51 to .85.

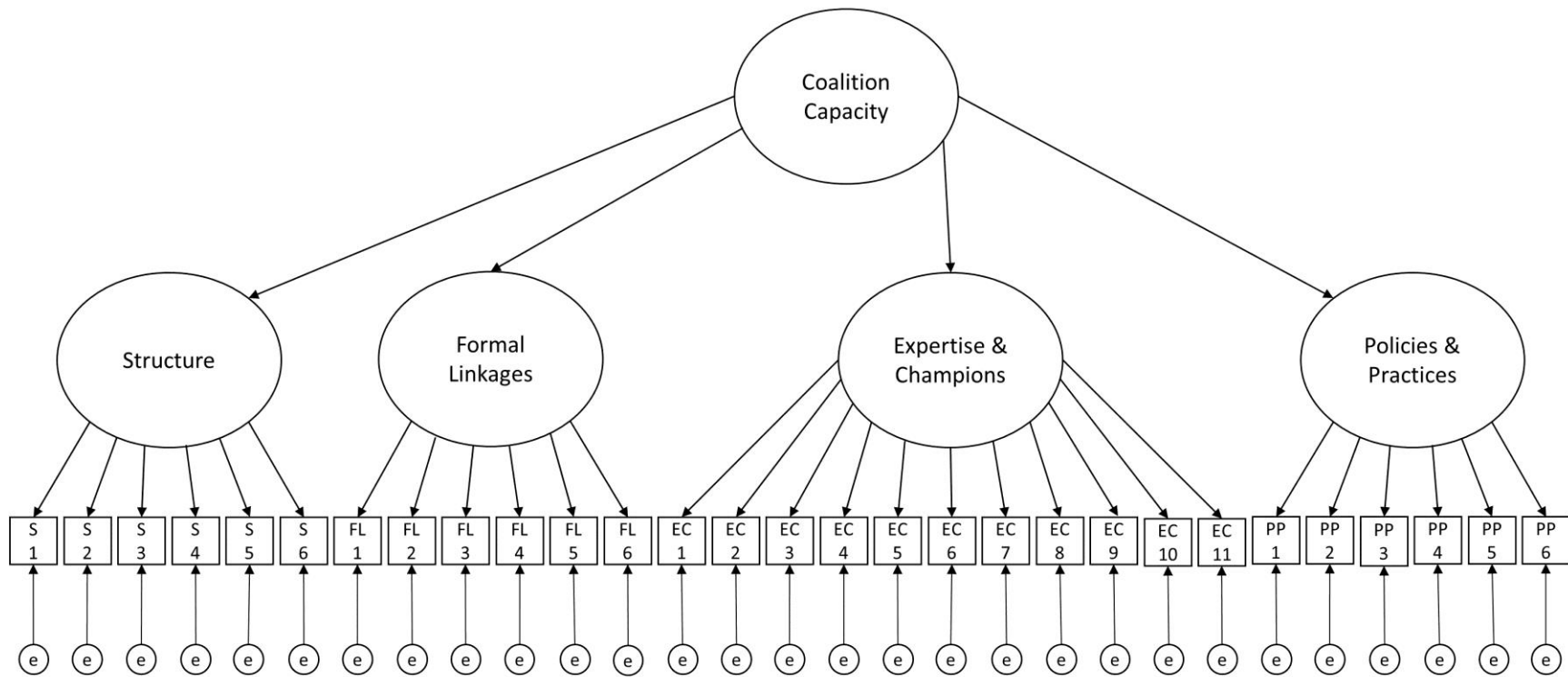


Figure 2.3. Hypothesized factor structure of the revised Coalition Capacity Survey. e = error; S1 – S6 = items on Structure scale; FL1 – FL6 = items on Formal Linkages scale; EC1 – EC11 = items on Expertise & Champions scale; PP1 – PP6 = items on Policies & Practices scale.

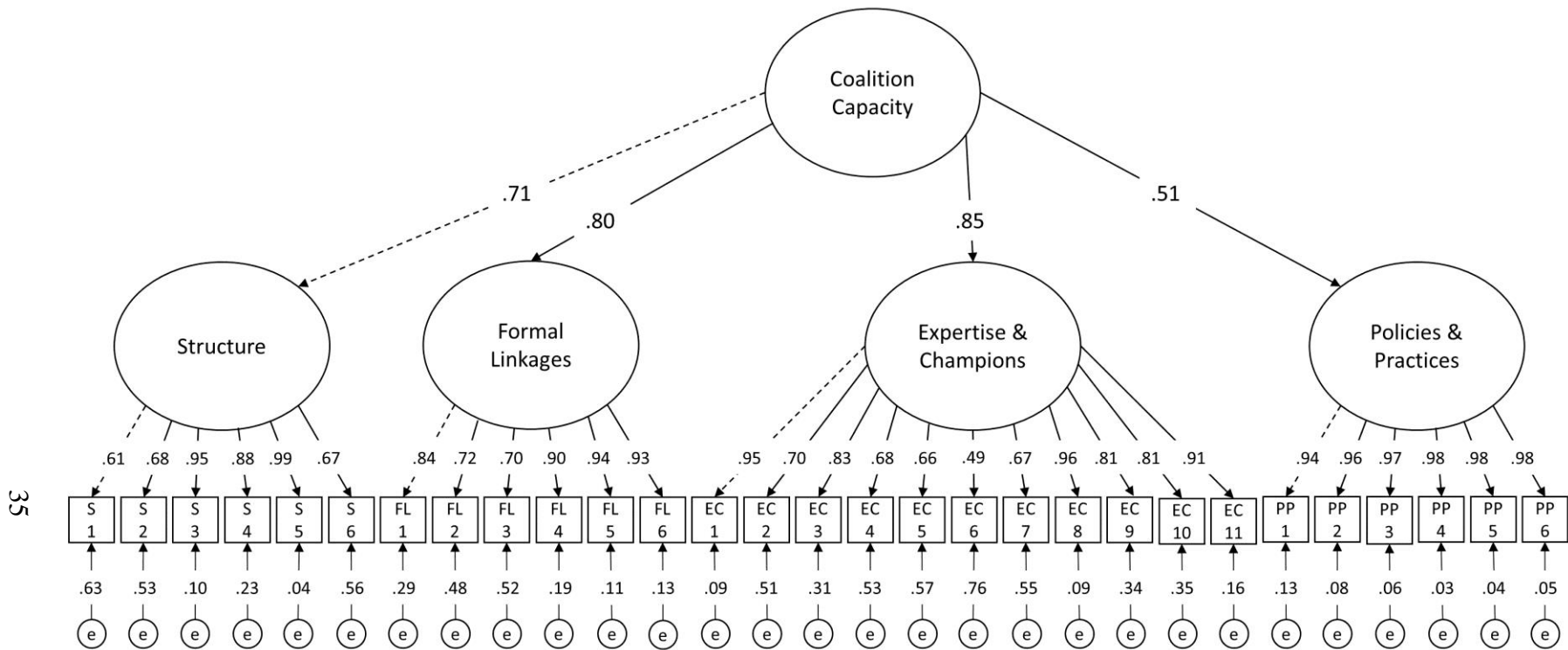


Figure 2.4. Confirmatory factor analysis of the revised Coalition Capacity Survey. Tucker-Lewis index = .98; root mean square error of approximation = .04; degrees of freedom = 373; e = error; S1 – S6 = items on Structure scale; FL1 – FL5 = items on Formal Linkages scale; EC1 – EC11 = items on Expertise & Champions scale; PP1 – PP5 = items on Policies & Practices scale.

Table 2.2

Standardized Factor Loadings, Unstandardized Factor Loadings, and Standard Errors for Coalition Capacity Items

Observed variable	Latent construct	β	<i>B</i>	<i>SE</i>
Committee for resource & needs assessment (S1)	Structure	0.61	1.00	
Committee for plan development (S2)	Structure	0.68	1.13	0.42
Committee for implementation (S3)	Structure	0.95	1.55	0.45
Committee for evaluating evidence-based programs (S4)	Structure	0.88	1.44	0.45
Committee for sustainability (S5)	Structure	0.99	1.63	0.53
Committee to ensure cultural competence (S6)	Structure	0.67	1.09	0.38
Formal agreement for assessing needs & resources (F1)	Formal Linkages	0.84	1.00	
Formal agreement for developing or updating county plan (F2)	Formal Linkages	0.72	0.85	0.20
Formal agreement for implementing evidence-based programs (F3)	Formal Linkages	0.70	0.83	0.18
Formal agreement for evaluating evidence-based programs (F4)	Formal Linkages	0.90	1.07	0.16
Formal agreement for sustaining evidence-based programs (F5)	Formal Linkages	0.94	1.12	0.16
Formal agreement for ensuring cultural competence (F6)	Formal Linkages	0.93	1.11	0.14
Expertise for assessing needs and resources (EC1)	Expertise & Champions	0.95	1.00	
Expertise for developing or updating a plan (EC2)	Expertise & Champions	0.70	0.74	0.14
Expertise for implementation (EC3)	Expertise & Champions	0.83	0.87	0.13
Expertise for evaluation (EC4)	Expertise & Champions	0.68	0.72	0.10
Expertise for sustainability (EC5)	Expertise & Champions	0.66	0.69	0.14
Champions for needs & resources assessment (EC6)	Expertise & Champions	0.49	0.52	0.20
Champions for developing or updating county level plan (EC7)	Expertise & Champions	0.67	0.70	0.16
Champions for implementation (EC8)	Expertise & Champions	0.96	1.00	0.12
Champions for evaluation (EC9)	Expertise & Champions	0.81	0.85	0.11
Champions for sustaining (EC10)	Expertise & Champions	0.81	0.84	0.12
Champions for ensuring cultural competence (EC11)	Expertise & Champions	0.91	0.96	0.11
Policy for prevention needs assessment (PP1)	Policies & Procedures	0.94	1.00	
Policy for prevention resource assessments (PP2)	Policies & Procedures	0.96	1.03	0.04
Policy for implementing prevention activities (PP3)	Policies & Procedures	0.97	1.03	0.06
Policy for outcome evaluation (PP4)	Policies & Procedures	0.98	1.05	0.06

Observed variable	Latent construct	β	<i>B</i>	<i>SE</i>
Policy for cultural competence (PP5)	Policies & Procedures	0.98	1.05	0.05
Policy for sustaining prevention programs (PP6)	Policies & Procedures	0.98	1.04	0.05

This CFA provides preliminary evidence of the construct validity of this measure. Results of this CFA should be interpreted with caution as these estimates are unstable given the small sample size. Each scale of the revised Coalition Capacity Survey is described below, and the items themselves can be found in Appendix B.

Coalition Structure subscale. This scale assessed whether the coalition had a defined department or unit for (1) conducting resource and needs assessments related to substance abuse prevention; (2) developing or updating a county-level written plan to prevent substance abuse; (3) overseeing the implementation of evidence-based prevention programs, practices, or strategies; (4) evaluating evidence-based programs, practices, or strategies; (5) directing efforts to sustain evidence-based programs, practices, or strategies; and (6) ensuring cultural competence in prevention activities. A follow-up question asked respondents to indicate whether they had significant input into an external workgroup when respondents indicated they did not have a defined committee for this area. Each of the six areas were given a score of 1 if the respondent reported either that the coalition had a department/unit responsible for that function *or* had significant input into an external workgroup. The “1” responses were summed to get a scale score. Internal consistency reliability for this scale at Wave 2 was $\alpha = .78$.

Formal Linkages subscale. Six items comprised this scale which assessed whether the coalition had formal agreements with other organizations for (1) assessing substance abuse prevention needs or resources; (2) developing or updating a county-level written plan to prevent substance abuse; (3) implementing evidence-based prevention programs, practices, or strategies; (4) evaluating evidence-based prevention programs, practices, or strategies; (5) sustaining evidence-based prevention programs, practices, or strategies;

and (6) ensuring cultural competence in prevention activities. Each of the items was given a score of 1 if the respondent indicated “yes”, and the “1” responses were summed to get a scale score. Internal consistency reliability for this scale at Wave 2 was $\alpha = .85$.

Expertise & Champions subscale. This scale was comprised of eleven items. For the five items related to expertise, respondents indicated the level of expertise in their coalition using a four-point scale anchored by “poor” = 1 and “excellent” = 4. The five areas of expertise assessed were (1) assessing substance abuse prevention needs or resources; (2) developing or updating a county-level written plan to prevent substance abuse; (3) implementing evidence-based prevention programs, practices, strategies; (4) evaluating evidence-based prevention programs, practices, strategies; and (5) developing and implementing sustainability plans for evidence-based prevention programs, practices or strategies. As part of the scale scores calculation, these five items were averaged.

The other six items on this scale measured whether their coalitions had prevention champions who advocated for (1) prevention needs or resource assessment in their community; (2) development or updating of a county-level written plan to prevent substance abuse; (3) implementation of evidence-based prevention programs, practices, or strategies; (4) evaluation of evidence-based prevention programs, practices, or strategies; (5) sustaining evidence-based prevention programs, practices, or strategies; and (6) ensuring cultural competence in prevention activities. Each of the items was given a score of 1 if the respondent indicated “yes”, and the “1” responses were summed with the average of the items related to champions to get a scale score. Internal consistency reliability for this scale at Wave 2 was $\alpha = .83$.

Policies and Procedures subscale. Six items comprised this scale which assessed whether respondents' coalitions had written policies and procedures for conducting (1) prevention needs assessments; (2) conducting prevention needs assessments; (3) specifying that implementation of prevention programs, practices, or strategies must be monitored; (4) specifying that programs, practices, or strategies must have outcome evaluation conducted; (5) specifying that programs, practices, or strategies incorporate cultural competence; and (6) specifying that programs, practices, or strategies be sustained. Each of the items was given a score of 1 if the respondent indicated "yes", and the "1" responses were summed to get a scale score. Internal consistency reliability for this scale at Wave 2 was $\alpha = .95$.

Data collection and response rate. Respondents for this survey were identified by the coordinators of each county coalition. For baseline data collection (Year 3; 2006 – 2007) coordinators identified individual coalition members who were the most knowledgeable about prevention in that particular community, and for the second wave of data collection (Year 5; 2008 – 2009) coordinators identified county coalition members who were most involved in SPF SIG planning and implementation.

There were either one or two respondents from each county coalition – including the coalition coordinator – that completed one Coalition Capacity Survey. The Wave 1 survey (Year 3; 2006 – 2007) was conducted primarily as a telephone interview; however, three respondents (10%) completed the survey via a web-based version. There was a response rate of 100% (30 of 30 coalitions). For the second wave of data collection (Year 5; 2008 – 2009) – which was conducted via web survey only – there was a

response rate of 100% (29 of 29 coalitions since one coalition had ceased their participation in the SIG).

Outcome measure: Adolescent substance use. This study's outcome measure is related to adolescent substance use. Adolescent substance use includes student use of alcohol, tobacco, marijuana, and/or other drugs (i.e., cocaine, inhalants, and methamphetamines). The instrument that was used to assess the outcome measure is an adapted version of the Communities that Care (CTC) Youth Survey (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002). This survey assesses health and behavior outcomes such as student self-report of past 30-day use of alcohol, tobacco, marijuana, and/or other drugs. The instrument is administered to students within school settings and takes approximately 50 minutes to complete, making it amenable to administer during a typical class period. The instrument was developed for students ranging in age from 11 to 18 years old (i.e., grades 6th through 12th) (Arthur et al., 2002).

Rigorous scientific methods have been used to help determine the extent to which this instrument leads to valid and reliable conclusions. Empirical findings support the reliability and construct validity of the survey's risk and protective factor scales (Arthur et al., 2002). In addition, Glaser, Van Horn, Arthur, Hawkins, and Catalano (2005) confirmed that the risk and protective factor scales were invariant (i.e., similar) across grade levels, genders, and racial and ethnic groups. In other words, their findings indicate that the survey measures risk and protective factors equally well for students with diverse backgrounds. As such it is not necessary to use different scales to measure risk and protective factors for different grade levels, for girls versus boys, or for different racial or ethnic groups (Glaser et al., 2005). For this study it is important to note that items

measuring alcohol, tobacco, and other drug use were adapted from their format on the original CTC Youth Survey to (a) make the items consistent with the National Outcome Measures required by CSAP and (b) to assess use of substances identified as being particularly problematic across this particular state as a whole.

All student outcome variables were dichotomized to reflect any use or engagement in the behavior versus no use or engagement in the behavior. This approach aligns with methods used by Hawkins, Brown, et al. (2008). Based on their methods, substance use prevalence outcomes were coded such that no reported use was assigned as “0” and all other responses were assigned as “1”.

Data collection and response rate. Student Surveys were collected in 27 of 29 SPF-SIG counties in this study. Wave 1 data were collected in Year 3 (2006-2007) and follow-up data were collected one year after the SPF SIG initiative was concluded (Year 6; 2009-2010). The two counties that did not participate in both Wave 1 and Wave 2 data collection were not included in analyses. The two non-participating counties were unable to obtain permission from their school districts to conduct the survey in a timely manner for the final wave of data collection. Respondents were 6th, 8th, 10th, and 12th grade students from the 27 SIG counties that participated in both waves of this study. Data collected through the survey was anonymous at the individual student level, so students were not able to be tracked over time. In total, there were 31,857 student respondents at Wave 1 and 30,779 student respondents at Wave 2.

Students who provided responses of questionable validity were eliminated from analyses using similar criteria employed by Hawkins et al. (2009). Specifically, students were removed from the analyses if they reported: (1) having used a fictitious drug

included in the survey as a validity screen (i.e., Derbisol) or (2) using two of three hard drugs (cocaine, inhalants, and methamphetamines) on 40 or more occasions during the past month, or (3) logically inconsistent patterns of substance use for four or more substances (e.g., use in the past 30 days but not use in the past year). Students who met one or more of these validity screens were deemed invalid ($n = 12$ at Wave 1 and $n = 10$ at Wave 2).

Student-level covariates. Possible student-level covariates were related to student demographics as well as risk and protective factors. All student-level covariates were operationalized by items on the Student Survey. These items included demographic variables related to age, grade level, race, whether the student identified as Hispanic or Latino, family composition (e.g., two-parent household, single-parent household), the geographic area student lived in (e.g., urban, rural), and whether the student participated in a reduced price lunch program. As would be expected with the large student sample size, there were significant differences between time points. However the sizes of these differences were small using Cramér's V as a measure of effect size since differences ranged from $V = .02$ to $.06$. Although these differences are small, these items were included as covariates in all statistical models since they are theoretically important. Descriptive statistics for student demographic variables can be found in Table 2.3.

Other possible student-level covariates were items about risk and protective factors related to school, family, peers, and the student's community. As would be expected with the large student sample size, there were significant differences between time points. Using Cohen's d as a measure of effect size, differences ranged from $d = -.07$

Table 2.3
Categorical Student Demographics

Variable	2006	2009	V
Grade***			0.03
6	8847	8068	
8	8089	8487	
10	8444	8059	
12	6465	6681	
Gender***			0.02
Male	15886	15119	
Female	15319	15498	
Hispanic/Latino***			0.03
Yes	1663	2088	
Race***			0.04
Black	4237	5049	
White	25429	23727	
Other	1156	1202	
Who do you live with?***			0.02
Both Parents	16422	15598	
One Parent	6736	7014	
Parent and Stepparent	5806	5600	
Other	2412	2590	
Where are you living now***			0.04
City	14938	13704	
Country	8428	8127	
Suburb	4420	4627	
Eligible for free or reduced lunch program			0.06
Yes	9114	10158	

* $p < .05$; ** $p = .01$; *** $p < .01$; V = Cramér's phi

to .08. Due to such small differences, these potential covariates were excluded from statistical models to promote parsimony.

Analytic Approach

Capacity analyses. To examine the extent to which capacity scores changed over the course of this study, a set of one-way repeated measures ANOVAs was used to test the equality of Wave 1 and Wave 2 means within each county. These analyses were conducted using SPSS (version 22).

To prepare the data for analyses, capacity scores were aggregated to the county level. Since multiple stakeholders completed the Stakeholder Capacity Survey, an average of respondents' subscale scores was calculated for each county. Therefore, each county had one score for each of the four capacity subscales at each wave (Awareness, Commitment, Skills, and Home Organization Support). In most instances each county's coalition coordinator was the sole respondent who completed the Coalition Capacity Survey. As such, most counties only had one score for each subscale of this survey at each wave. However, there were instances where more than one respondent completed this survey. In these instances the scores from the multiple respondents were averaged so each county had one score for each subscale at a given wave (Structure, Formal Linkages, Expertise & Champions, and Policies & Procedures).

Adolescent substance use analyses. Because adolescent substance use data were collected in 27 different counties, estimates were vulnerable to bias introduced from the common influence of the county in which a given student was living. In other words there may be shared variance between students who lived in the same county. When county-level bias occurs, resulting observations would not meet requirements of nearly all

statistical techniques that observations are independent. Since substance use data in this study were nested within the county students lived in, hierarchical generalized linear modeling (HGLM) was used to adjust for dependence among observations. Because the binary outcomes in this study violated assumptions of basic linear models, the models were generalized with a link function – in this case logit – to transform the binary outcome variables so they could be predicted from a regular regression. These generalized models estimate the expected log-odds of the outcome as a linear function of the covariates.

Since this was a repeated cross-sectional design where student data were anonymous and individual students were unable to be followed over time, it was a three-level model with students (level one) nested within wave (level two) nested within county (level three) (Duncan, Jones, & Moon, 1998). A county-level grouping variable was created with 27 levels that correspond to nominal county codes. Counties were assigned a number 1 through 27, and each student living in that county when data were collected was assigned that number in the dataset. The county-level grouping variable was included in all models. Its intercept was defined as a random effect in all analyses to account for variability among participating counties. Student-level demographic covariates were added as linear predictors to improve the precision of estimated effects.

All analyses were conducted with the ‘lme4’ package version 1.1-10 (Bates, Maechler, Bolker, & Walker, 2015) in the statistical program R. ‘lme4’ fits HGLM models via Laplace approximation. The Laplace method approximates maximum likelihood estimation (ML). ML requires that data are sampled from a multivariate normal distribution, so it is not appropriate for the binary outcomes in this study.

Although a drawback of Laplace approximation is that it demands a larger number of repeated measurements for good approximations, its computational accuracy has been demonstrated (Raudenbush, Yang, & Yosef, 2000).

Separate models were estimated for each type of student-reported substance use outcome. There are a total of four student substance use outcomes related to past 30-day prevalence of: (1) alcohol use, (2) tobacco use, (3) marijuana use, and (4) use of other drugs (i.e., cocaine, inhalants, and methamphetamines). Also, because exposure to prevention services is assumed to differ across grade levels, analyses were conducted separately for middle school (6th- and 8th-grade cohorts) and high school students (10th- and 12th-grade cohort). This aligns with findings that indicate outcomes vary in a nonlinear fashion across grades (Feinberg et al., 2007).

Minimizing effects of missing data. The package ‘Amelia’ version 1.7.4 (Honaker, King, & Blackwell, 2011) for the statistical software R was used to impute missing values. This package imputes missing values using expectation-maximization with a bootstrapping algorithm to produce multiple output datasets for analysis. This reduces bias in parameter estimates. Missing data were assumed to be missing at random. For variables in the imputation model the average percent of missing data was calculated at 2%. For variables in the analysis model, the average percentage of missing data was calculated at 3%. White, Royston, and Wood (2011) argue that the number of imputations should be at least greater than the percentage of the missing data in the analysis (e.g. for 30% missing data at least 30 imputations should be performed), so a total of six imputations was performed.

Diagnostics of the imputation were conducted by comparing densities of the imputed values. This is one way to check on the plausibility of the imputation model by plotting the distribution of imputed values over the distribution of observed values. The imputed curve plots the density of the mean imputation over the six imputed datasets. After inspecting these densities, imputed values were deemed to make logical sense since no values were beyond expected bounds (e.g., no binary variables had values outside of 0 or 1).

An implication of running six imputations is that each HGLM model needed to be run six times. Once all had been run, estimates were pooled across the six imputations. All estimates reported herein are the resulting pooled estimates.

CHAPTER 3

RESULTS

Capacity Building Outcomes

A repeated measures ANOVA determined that the difference in Stakeholder Capacity scores between time points was statistically significant, $F(4, 23) = 16.18, p = .00, \eta_p^2 = .74$. Table 3.1 presents mean Stakeholder Capacity subscale scores at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009). Post hoc tests using Bonferroni correction revealed that subscale scores for Awareness, Commitment, and Skills significantly increased between Wave 1 and Wave 2. However, increases in Home Organization Support subscale scores did not reach a statistically significant level. Table 3.1 also includes mean differences between waves and confidence intervals. Table 3.2 presents each individual county's scores on the Stakeholder Capacity subscales at both waves.

For Coalition Capacity, a repeated measures ANOVA determined that the difference in scores between time points did not reach statistical significance, $F(4, 23) = 2.03, p = .12, \eta_p^2 = .26$. Table 3.3 includes Coalition Capacity subscale scores at both waves, mean differences between these scores, and confidence intervals. Reviewing this table shows that the 95% confidence interval for Policies & Procedures does not overlap zero, however this is not interpreted as an effect given that the overall F test was not statistically significant. Table 3.4 presents each individual county's scores on the Coalition Capacity subscales at both waves.

Table 3.1

Stakeholder Capacity Subscale Scores at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009) Across All Counties

Factor	Wave 1	Wave 2	Change	95% CI
	<i>N</i> = 27	<i>N</i> = 27		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Awareness	2.59 (.44)	3.18 (.48)	.59*	[.36, .82]
Commitment	3.40 (.30)	3.59 (.19)	.19*	[.06, .32]
Skills	3.08 (.17)	3.29 (.19)	.21*	[.11, .31]
Home Organization Support	3.53 (.18)	3.60 (.28)	.07	[-.07, .21]

**p* < .01

Table 3.2

County-Level Stakeholder Capacity Subscale Scores at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009)

County	Awareness		Commitment		Skills		Home Org. Support	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
1	2.42 (1.01)	3.31 (.61)	3.38 (.48)	3.58 (.59)	3.09 (.54)	3.35 (.45)	3.28 (.45)	3.83 (.35)
2	2.73 (.67)	2.81 (.89)	3.42 (.54)	3.65 (.41)	3.34 (.46)	3.05 (.73)	3.72 (.42)	3.43 (.94)
3	1.75 (.12)	2.64 (.56)	2.20 (.28)	3.67 (.52)	2.60 (.00)	3.04 (.51)	3.20 (.28)	3.71 (.40)
4	3.14 (.67)	3.50 (.66)	3.60 (.45)	3.80 (.40)	3.33 (.34)	3.51 (.29)	3.63 (.44)	3.67 (.37)
5	2.10 (.87)	2.94 (.90)	3.20 (.58)	3.58 (.63)	2.95 (.80)	3.30 (.69)	3.39 (.53)	3.75 (.46)
6	2.67 (.94)	2.94 (.94)	3.50 (.71)	3.51 (.58)	3.30 (.42)	3.40 (.41)	3.50 (.71)	3.55 (.53)
7	2.22 (.67)	1.17 (N/A)	3.43 (.43)	3.00 (N/A)	3.05 (.31)	3.20 (N/A)	3.50 (.47)	2.46 (N/A)
8	4.00 (N/A)	3.37 (.51)	4.00 (N/A)	3.75 (.50)	3.20 (N/A)	3.35 (.41)	4.00 (N/A)	3.25 (1.50)
9	2.48 (.93)	3.54 (.58)	3.49 (.42)	3.85 (.35)	3.01 (.34)	3.53 (.47)	3.57 (.38)	3.68 (.55)
10	2.33 (1.10)	3.19 (.82)	3.42 (.50)	3.45 (.49)	3.04 (.62)	3.00 (.48)	3.40 (.43)	3.63 (.47)
11	2.01 (1.09)	3.30 (.30)	3.40 (.53)	3.56 (.52)	2.90 (.42)	3.60 (.37)	3.15 (.34)	3.64 (.43)
12	2.60 (.85)	3.32 (.66)	3.46 (.48)	3.36 (.91)	2.94 (.65)	3.35 (.47)	3.56 (.49)	3.65 (.41)
13	2.74 (.52)	3.11 (1.00)	3.43 (.51)	3.63 (.50)	3.04 (.54)	3.17 (.43)	3.51 (.67)	3.73 (.43)
14	2.80 (1.09)	3.36 (.86)	3.39 (.47)	3.50 (.59)	3.13 (.47)	3.41 (.47)	3.83 (.34)	3.63 (.48)
15	2.13 (.85)	3.83 (.31)	3.57 (.51)	3.73 (.43)	2.85 (.36)	3.53 (.51)	3.41 (.38)	3.67 (.45)
16	2.50 (.90)	3.07 (.68)	3.22 (.62)	3.30 (1.02)	3.18 (.55)	2.97 (.66)	3.60 (.41)	3.45 (.49)
17	2.40 (.89)	3.75 (.33)	3.32 (.44)	3.73 (.43)	3.08 (.51)	3.47 (.47)	3.46 (.76)	3.87 (.16)
18	2.28 (.98)	3.31 (.73)	3.29 (.56)	3.73 (.33)	3.03 (.46)	3.20 (.43)	3.44 (.35)	3.69 (.36)
19	2.90 (.77)	3.05 (.69)	3.28 (.74)	3.31 (.36)	3.09 (.37)	2.97 (.24)	3.38 (.45)	3.56 (.32)
20	2.33 (.63)	3.32 (.70)	3.20 (.69)	3.63 (.47)	3.09 (.58)	3.12 (.43)	3.60 (.46)	3.66 (.47)
21	2.71 (.85)	3.40 (.63)	3.29 (.67)	3.86 (.38)	3.03 (.49)	3.48 (.72)	3.69 (.56)	3.91 (.16)

County	Awareness		Commitment		Skills		Home Org. Support	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
22	2.97 (.74)	3.12 (1.34)	3.34 (.67)	3.53 (.56)	3.20 (.45)	3.45 (.51)	3.60 (.52)	3.62 (.46)
23	2.33 (.92)	3.27 (.84)	3.44 (.47)	3.61 (.57)	2.94 (.53)	3.33 (.62)	3.47 (.44)	3.66 (.44)
24	2.74 (.90)	3.27 (.94)	3.75 (.42)	3.58 (.60)	3.17 (.44)	3.23 (.74)	3.62 (.50)	3.75 (.46)
25	2.78 (.76)	3.37 (.32)	3.53 (.66)	3.45 (.68)	3.05 (.40)	3.24 (.33)	3.52 (.62)	3.36 (.41)
26	3.13 (.75)	3.23 (.90)	3.54 (.57)	3.67 (.50)	3.40 (.45)	3.56 (.47)	3.57 (.42)	3.50 (.95)
27	2.85 (.60)	3.46 (.40)	3.63 (.47)	3.87 (.30)	3.24 (.53)	3.11 (.44)	3.66 (.43)	3.89 (.20)

N/A = Not applicable as only one respondent provided ratings at that wave.

Table 3.3

*Coalition Capacity Subscale Scores at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009)
Across All Counties*

Factor	Wave 1	Wave 2	Change	95% CI
	<i>N</i> = 27	<i>N</i> = 27		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Structure	4.33 (2.08)	4.35 (2.08)	.02	[-.79, .82]
Formal Linkages	2.22 (2.26)	3.19 (2.09)	.96	[-.25, 2.17]
Expertise & Champions	2.52 (1.19)	2.60 (2.09)	.15	[-1.22, 1.52]
Policies & Procedures	1.63 (2.19)	3.13 (2.40)	1.50	[.43, 2.57]

Table 3.4

Coalition Capacity Subscale Scores at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009)

County	Structure		Formal Linkages		Expertise & Champions		Policies & Procedures	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
1	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00
2	6.00	6.00	0.00	6.00	5.00	2.80	0.00	4.00
3	6.00	3.00	0.00	2.00	2.00	6.00	6.00	6.00
4	3.00	6.00	2.00	6.00	3.80	8.00	0.00	4.00
5	4.00	4.00	5.00	0.00	6.40	3.80	0.00	3.00
6	6.00	6.00*	1.00	4.00*	7.20	6.50*	0.00	6.00*
7	2.00	4.00	4.00	3.00	0.40	3.80	0.00	2.00
8	5.00	5.00	1.00	4.00	4.40	5.00	1.00	6.00
9	2.00	6.00*	0.00	4.00*	1.60	5.40*	1.00	3.00*
10	6.00	5.00	4.00	3.00	4.80	4.80	2.00	2.00
11	5.00	4.00	3.00	4.00	7.00	5.40	2.00	2.00
12	6.00	5.50*	6.00	5.00*	9.00	6.70*	0.00	2.00*
13	6.00	5.00	5.00	5.00	8.00	6.20	6.00	0.00
14	5.00	3.00*	0.00	2.00*	8.40	3.40*	1.00	4.00*
15	2.00	6.00	0.00	6.00	3.00	8.60	1.00	0.00
16	6.00	5.00	4.00	0.00	6.80	0.00	2.00	0.00
17	6.00	6.00	6.00	6.00	6.40	7.00	6.00	6.00
18	6.00	6.00	5.00	4.00	5.20	7.80	3.00	6.00
19	5.00	3.00*	3.00	2.00*	4.00	3.00*	0.00	1.00*
20	0.00	0.00	0.00	6.00	4.00	7.00	0.00	6.00
21	4.00*	3.00*	1.00*	3.00*	3.00*	4.90*	1.00*	2.50*
22	3.00	1.00	0.00	1.00	4.40	5.60	0.00	6.00
23	6.00	6.00	3.00	5.00	8.00	8.00	5.00	6.00
24	5.00^	4.00	0.00^	3.00	3.00^	3.00	1.00^	0.00
25	6.00	6.00	6.00	0.00	6.00	7.60	6.00	6.00
26	0.00	5.00	1.00	2.00	2.20	8.40	0.00	1.00
27	6.00	3.00	0.00	0.00	9.00	1.60	0.00	0.00

* = average of two respondents' ratings; ^ = average of three respondents' ratings

Adolescent Substance Use: Descriptive Statistics

The ultimate goal of the SPF-SIG system is to reduce prevalence rates for adolescent substance use over time. Mean prevalence rates for middle and high school students at both time points can be found on Table 3.5. All prevalence rates were calculated using pooled results from the six imputed datasets.

For middle school students, there were decreases in prevalence rates for alcohol and tobacco (-.94% and -2.54%, respectively). For marijuana, there was a slight increase between time points (+.61%). There was also a slight increase for use of other drugs (e.g., cocaine, inhalants, and methamphetamines) (+.46%). As expected, high school students had higher prevalence rates compared to middle school students. High school student prevalence rates decreased for alcohol, tobacco, and other drugs after the SPF SIG had concluded (-2.27%, -5.95%, and -2.79%, respectively). For marijuana, rates were higher for high school students at Wave 2 (+1.53%).

Mixed repeated measures ANOVAs were conducted to determine whether adolescent substance use rates differed as a function of the cohort a given county was assigned to (Cohort 2 was intended to be the control condition and thus participated in one less year of intervention). Wave was used as a within-subjects factor and cohort as a between-subjects factor for these analyses. The results indicated that there was a significant wave X cohort interaction for high school alcohol use, $F(1, 25) = 6.59, p = .02, \eta_p^2 = .21$. Estimated marginal means indicated that high school students in Cohort 1 (i.e., the cohort that participated in one additional year of intervention) reported an increase in alcohol use at Wave 2 by .04% while high school students in Cohort 2 (i.e.,

Table 3.5

Substance Abuse Prevalence Rates for Middle and High School Students at Wave 1 (2006 – 2007) and Wave 2 (2008 – 2009)

Substance	Middle School				High School			
	Wave 1		Wave 2		Wave 1		Wave 2	
	<i>n</i> = 16,936		<i>n</i> = 16,555		<i>n</i> = 14,909		<i>n</i> = 14,740	
	Use	Rate	Use	Rate	Use	Rate	Use	Rate
Alcohol	5786	34.16%	5500	33.22%	10204	68.44%	9754	66.17%
Tobacco	4856	28.67%	4326	26.13%	8402	56.36%	7429	50.40%
Marijuana	1444	8.53%	1512	9.13%	5203	34.90%	5370	36.43%
Other drugs	2656	15.68%	2673	16.15%	2765	18.55%	2322	15.75%

the cohort that participated in one less year of intervention) reported a decrease in alcohol use at Wave 2 by -.05%. All other wave X cohort interactions were non-significant.

Mixed repeated measures ANOVAs were also conducted to determine whether adolescent substance use rates differed as a function of whether a given county implemented at least one evidence-based prevention service. Adoption of an evidence-based program has been shown to mediate outcomes for middle school youth (Brown, et al. 2014). Of the 26 counties that provided descriptive data about preventive services they implemented, 21 reported implementing at least one evidence-based intervention and 5 reported implementing only non-evidence-based interventions. Wave was used as a within-subjects factor and whether a county reported implementing at least one evidence-based prevention service was used as a between-subjects factor. There were no significant interactions between county-level adolescent substance use rates and whether a county implemented at least one evidence-based prevention service.

Adolescent Substance Use: Model Specification

For each set of analyses, model specification began by first fitting a null (unconditional) model. This model served as a baseline with which to compare deviance statistics against subsequent nested models. The only variable added to the null model was the level-3 grouping variable (i.e., county indicator variable). This helped determine if the outcome variable, by level-3 group, was different than zero. It was also used to determine whether HGLM was needed.

To determine the appropriateness of HGLM the null model was used to calculate median odds ratios (MORs). While this is often done using intraclass correlation coefficients in HLM, these coefficients cannot be calculated for binomial distributions

since binary outcomes do not have residual variance. MORs translate the area level variance in the consistent and intuitive odds ratio scale, which aids in interpretation (Merlo et al., 2006). If MORs are very low the HGLM may not yield different results from a traditional analysis. All of the null models revealed MORs that provided a rationale for continuing with HGLM. MORs ranged from 1.25 to 1.68.

Next, a random intercept/fixed predictor model was fit. These models only included the level-3 grouping variable and the predictor of interest (i.e., wave) to see if it is related to the outcome. A likelihood ratio test between this model and the null model was conducted to compare their respective deviance statistics. Deviance statistics follow a chi-square distribution, and if the resulting value is significant the model with the lower deviance value fits the data significantly better. If the likelihood ratio test is not significant between these models, the model with the predictor does not fit any better than the null model. Based on all likelihood ratio tests, the random intercept/fixed predictor models had superior fit compared to null models ($p < .01$).

Next, level-1 covariates related to student demographics were entered into each model. The resulting models were utilized to analyze change in adolescent substance use between waves. The results of these analyses are described in the section below.

Change in Alcohol Use

Middle school students. The wave variable was used to predict alcohol use as reported by middle school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was significant, OR = .91, 95% CI [.86 - .95]. This indicates that middle school students at Wave 2 were 1.09 times less likely to use alcohol.

High school students. The wave variable was used to predict alcohol use as reported by high school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was significant, OR = .86, 95% CI [.82 - .91]. This indicates that high school students were 1.16 times less likely to use alcohol at Wave 2.

Change in Tobacco Use

Middle school students. The wave variable was used to predict tobacco use as reported by middle school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was significant, OR = .82, 95% CI [.78 - .86]. This suggests that middle school students at Wave 2 were 1.22 times less likely to use tobacco.

High school students. The wave variable was used to predict tobacco use as reported by high school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was significant, OR = .77, 95% CI [.73 - .81]. This suggests that high school students at Wave 2 were 1.30 times less likely to use tobacco.

Change in Marijuana Use

Middle school students. The wave variable was used to predict marijuana use as reported by middle school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was not significant.

High school students. The wave variable was used to predict marijuana use as reported by high school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was not significant.

Change in Use of Other Drugs

Middle school students. The wave variable was used to predict use of other drugs (i.e., cocaine, inhalants, and methamphetamines) as reported by middle school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was not significant.

High school students. The wave variable was used to predict other drug use as reported by high school students. Confidence intervals pooled across the six imputed datasets indicated that the relation between these variables was significant, OR = .80, 95% CI [.75 - .85]. This suggests that high school students at Wave 2 were 1.25 times less likely to use cocaine, inhalants, and/or methamphetamines.

CHAPTER 4

DISCUSSION

The ability of coalitions to influence change has been empirically linked to their level of capacity (Foster-Fishman et al., 2001). The SPF SIG program funded by CSAP is an infrastructure grant program that assists communities throughout the United States in building such capacity. Communities participating in this program aim to build solid foundations for delivering and sustaining effective prevention services to reduce substance abuse problems and their onset. In this project, diverse organizations, community sectors, and constituencies were part of community coalitions that leveraged resources and coordinated efforts to collectively affect the type of change they wanted to see in their county.

Important mechanisms for change in the SPF SIG include conducting a community needs assessment, building prevention capacity, developing a strategic plan, targeting specific substances, and implementing evidence-based interventions to reduce use of those substances. The focus of the present study was to investigate two research questions related to: (1) the extent to which participating coalitions increased needed capacity for accomplishing the five steps of CSAP's Strategic Prevention Framework and (2) the extent to which adolescent substance use changed over the course of the project.

In regard to the first research question, this study demonstrated that the prevention capacity of coalition stakeholders increased after completion of the five SPF Steps. Specifically, coalition stakeholders demonstrated increased capacity in their awareness,

commitment, and skills for advancing through the Strategic Prevention Framework. These are important outcomes since coalitions rely extensively on the extent to which their individual members have the capacity to perform needed tasks and collaborate with each other (Foster-Fishman et al., 2001; Knoke & Wood, 1981). Demonstrating support for the hypothesis that stakeholder capacity can increase after completing the SPF Steps is also important because there are no peer-reviewed published studies to date that have documented the extent to which members of SPF SIG-funded coalitions can increase such capacities.

Although increases in the capacity of participating coalitions as a whole did not reach statistical significance, there was evidence to suggest that policies and procedures in place for promoting high quality prevention increased during the course of this project. While this cannot be interpreted as an intervention effect, it relates to prior correlational research conducted with SPF SIG funded coalitions which found that higher levels of coalition capacity were related to increased hours dedicated to policy change (Nargiso et al., 2013). At the state-level, increases in capacity achieved through the SPF SIG across 26 states have been found to continue to enhance one year after funding ended (Edwards et al., 2015). However, evidence for its impact at the coalition-level remains nascent.

Capacity was operationalized by both the Stakeholder Capacity Survey and the Coalition Capacity Survey. These measures were designed to assess intermediate outcomes in the SPF SIG. Confidence in the construct validity of these measures was strengthened through confirmatory factor analytic techniques used in this study. Results of separate CFAs conducted for these measures indicated that the hypothesized factor structures were supported. For the Stakeholder Capacity Survey, all items had strong and

statistically significant standardized loadings (.78 and above) and fit indices provided evidence for good model fit. While the Coalition Capacity Survey also had statistically significant standardized loadings (.49 and above) and the model demonstrated good fit, these results should be interpreted with caution due to small sample size. While the psychometric properties of these measures had been explored before using principal component analyses, the CFAs conducted as part of this study build upon these previous analyses and provide further support for their use in SPF SIG funded communities to measure important aspects of capacity.

A primary goal of the SPF SIG is to reduce adolescent substance use. However, this study cannot provide a valid test of the SPF SIG's impact on adolescent substance use in these counties. While aspects of the research design limit this study's ability to link any effects to the SPF SIG (e.g., lack of a comparison group, only one year of implementing prevention services, lack of valid implementation data), it is still important to understand changes in these county-level substance use rates. The second research question in this study aimed to document the extent to which substance use rates changed over the course of the project, and this information can be used to help coalitions continuously improve and tailor their approach for reducing substance use at the county level.

Reductions in alcohol use across these counties was observed for both middle and high school students. Although these reductions were modest (middle school students were 1.09 times less likely to report using alcohol at Wave 2 and high school students were 1.16 times less likely), 46% of participating counties targeted alcohol use as a priority for prevention. Alcohol was the most frequently targeted substance in this study,

which highlights the importance of reductions in these prevalence rates. However, these reductions cannot be attributed to the SPF SIG.

There were also reductions in tobacco use observed at the conclusion of this project. Middle school students were 1.22 times less likely to report using tobacco at the end of this study and high school students were 1.30 times less likely. Although these positive results are encouraging, it is interesting that only 4% of participating counties targeted tobacco use as a priority for prevention. Although reductions in tobacco were not a high priority in these communities – nor can these reductions be attributed to the SPF SIG – it is a positive finding that students reported significantly less use.

Students in participating counties also reported reduced rates of other drug use over time (i.e., cocaine, inhalants, and methamphetamines). Reductions were observed for high school students as they were 1.25 times less likely to report using these drugs at the conclusion of this study. Since only 15% of participating counties targeted other drugs such as cocaine, inhalants, and methamphetamines, it was not as high of a priority as reducing the rate of other substances (e.g., alcohol).

Although reductions in these substance use rates are positive findings for these counties, this study is unable to provide evidence that these reductions were beyond what would be expected from reductions related to secular trends. Data from the Monitoring the Future study provide context for the changes in substance use prevalence rates reported in this study. Monitoring the Future is an ongoing national study that analyzes trends in drug use among American adolescents and adults. The national report from the year this study concluded indicated that adolescent reported use of alcohol, tobacco, marijuana, cocaine, inhalants, and methamphetamines were all on a general decline

(Johnston et al., 2010). This makes it even more unclear as to whether the SPF SIG could have accounted for reductions in adolescent substance use in these counties or if the reported changes were related to national secular trends. These types of secular changes have been identified as potentially limiting the ability to identify intervention effects in community trials (Bauman, Suchindran, & Murray, 1999).

One surprising finding from this study is that not all counties implemented evidence-based prevention services. Descriptive data were available from 26 of the 27 counties, and five reported use of only non-evidence-based prevention services. A recent systematic review of capacity-building interventions found that they can be effective at increasing adoption and implementation of evidence-based interventions (Leeman et al., 2015). Despite participating in a capacity-building intervention designed to help counties build infrastructure to implement evidence-based prevention services, it is unclear as to why there were counties who participated in this study that did not do so. Given the SPF SIG's emphasis on use of evidence-based strategies this issue warrants further investigation.

Strengths and Limitations

A strength of this study was its use of process and outcome measures that have had their psychometric properties investigated over time. The Student Survey that was used was based on an instrument with established reliability and validity. For the capacity measures, support for their validity and reliability have been demonstrated through both exploratory and confirmatory factor analysis. A critical next step is to use these measures to a greater degree in SPF SIG communities seeking to build similar capacities. In fact, the small sample size for this study's CFA for the Coalition Capacity Survey ($n = 35$)

warrants further investigation into its factor structure to ensure the stability of these findings.

This study's ability to assess whether changes in substance use could be attributed to the SPF SIG was severely limited by the lack of a comparison group. The original study design was to implement the SPF SIG in 15 of these counties and then to have a group of 14 comparison counties implement a delayed version of the intervention. However, state-level decisions required all counties to implement the intervention. Without this comparison group, this study's ability to rule out other intervening variables that could have accounted for the changes in adolescent substance (e.g., secular trends) use was severely diminished.

Another limitation of this study is that participating counties engaged in planning and capacity building for the majority of the SPF SIG grant period and only implemented prevention services during the last year of the project. Implementing prevention services for only one year greatly reduces the possibility of achieving county-level outcomes. For example, the well-established Communities That Care (CTC) theory of change suggests that it takes 2 to 5 years of implementing tested, effective prevention services before community-level impact on risk and protective factors can be expected, and 4 to 10 years before community-level impact on adolescent substance use, delinquency, and violence can be expected (Hawkins & Catalano, 2010). In fact intervention effects of the CTC model were observed after four years of implementing evidence-based prevention services (Hawkins et al., 2009).

Unfortunately, data were not available related to the quality with which prevention services were implemented. Neither information related to the number of

students targeted and reached through these services nor the duration and intensity of the prevention services were available for these analyses. Without knowing how many students were targeted and reached, it is unclear whether it was appropriate to expect county-level reductions in adolescent substance use. Future evaluations would benefit from collecting richer data around the implemented prevention services, how well they were implemented, and how many students participated in these services. Having access to this type of data would allow for a more thorough analysis of the effects of this project and whether outcomes can be attributed to these services.

Another possible limitation of this study is that student outcome data were collected anonymously. This meant this study was only able to assess changes in groups of individuals over time – rather than change within specific individuals. While anonymity prevents the examination of within-individual change, it may increase the validity of self-report for youth (Feinberg, Jones, Greenberg, Osgood, & Bontempo, 2010). Without being able to track individual students longitudinally, this study was a repeated cross-section design. Given good participation rates, repeated cross-sectional samples can be representative of a given community at each study wave (Murray, 1998). However, it is possible that participants in a repeated cross-sectional sample entered the community late in the study and therefore received less exposure to the intervention. This could lead to attenuation of intervention effects. In addition, cross-sectional analyses tend to have less power to detect intervention effects compared to analyses of longitudinal data (Liang, Zeger, & Qaqish, 1992). This was empirically demonstrated by Rhew et al. (2015) who found that treatment effects observed using longitudinal analyses were not

evident when analyzing data from the same study with a repeated cross-sectional design instead.

Sample size may have also limited the ability to find effects at the county level. Although there were over 60,000 students who participated, conducting analyses that account for county-level variance limits statistical power. This is compounded when measures at the county-level lack sufficient variability. Given the inherent difficulty in coalition research around assembling a large sample size (because the unit of analysis is the community), sample sizes of 21 communities have been described as an “important database” (Feinberg, Greenberg, Osgood, Anderson, & Babinski, 2002). While the current study drew upon data from 27 counties, the sample size is relatively small when the statistical power afforded is considered.

Conclusion

The SPF SIG is an innovative model for community-centered prevention that is designed to reduce risk factors, enhance protective factors, and prevent adolescent substance use. Developing and sustaining community systems so they can best support planning and implementation of effective prevention services in communities has become a central issue for prevention science. Community prevention systems in counties participating in this study demonstrated increased capacity of stakeholders who were part of those coalitions. Although there were promising findings in this study related to reduced rates of reported adolescent substance use, the role the SPF SIG played in those reductions could not be tested. Moreover, the role of the community prevention systems as a whole could not be investigated and reductions in adolescent substance use are most likely best explained by secular trends. Future evaluations would benefit from

incorporating a comparison group into the research design, collecting longitudinal data on individual students, collecting valid and reliable data about the implementation process, and implementing more than a single year of prevention services. These enhancements to the research design would allow for a more thorough analysis of the effects of the SPF SIG and whether outcomes can be attributed to this approach. These enhancements would also allow for an investigation into the link between stakeholder and coalition capacity and adolescent substance use at the county-level.

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APPENDIX A – STAKEHOLDER CAPACITY SURVEY ITEMS

Item	Scale	Response options
How much do you know about a project (called the SPF SIG) designed to significantly reduce substance abuse and related problems among 12 to 24 year olds in your county through a comprehensive prevention plan?	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know
How much do you know about efforts through the SPF SIG to develop a county-level substance abuse prevention comprehensive plan to ASSESS NEEDS AND RESOURCES, AND TO PLAN, IMPLEMENT AND EVALUATE PREVENTION PROGRAMS, PRACTICES OR STRATEGIES?	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know
How much do you know about efforts through the SPF SIG to develop substance abuse PREVENTION CAPACITY (FOR EXAMPLE, SECURING ADDITIONAL PREVENTION STAFF OR FUNDING) BY KEY ORGANIZATIONS IN YOUR COUNTY?	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know
6. How much do you know about efforts through the SPF SIG to incorporate CULTURAL COMPETENCE into prevention services (for example, by respecting beliefs, languages, interpersonal styles, and behaviors of people receiving services as well as staff)	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know
How much do you know about efforts through the SPF SIG to SUSTAIN increases in substance abuse PREVENTION CAPACITY by key organizations in your county?	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know
How much do you know about efforts through the SPF SIG to SUSTAIN evidence-based substance abuse prevention PROGRAMS, PRACTICES OR STRATEGIES?	Awareness	1=None; 2=A little; 3=Some; 4=A lot; 5=Don't know

Item	Scale	Response options
How likely is it that you WILL commit to actively participate in developing a county-level substance abuse prevention comprehensive plan to ASSESS NEEDS AND RESOURCES, AND TO PLAN, IMPLEMENT AND EVALUATE PREVENTION PROGRAMS, PRACTICES, OR STRATEGIES?	Commitment	1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely; 5=Don't know
How likely is it that you WILL commit to actively participate in developing substance abuse prevention CAPACITY BY KEY ORGANIZATIONS IN YOUR COUNTY?	Commitment	1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely; 5=Don't know
How likely is it that you WILL commit to actively participate in incorporating CULTURAL COMPETENCE into prevention services in your county?	Commitment	1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely; 5=Don't know
How likely is it that you WILL commit to actively participate in SUSTAINING increases in substance abuse prevention CAPACITY BY KEY ORGANIZATIONS IN YOUR COUNTY?	Commitment	1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely; 5=Don't know
How likely is it that you WILL commit to actively participate in SUSTAINING evidence-based substance abuse prevention programs, practices or strategies?	Commitment	1=Very unlikely; 2=Unlikely; 3=Likely; 4=Very likely; 5=Don't know
How would you rate your own skill level (overall) for ASSESSING NEEDS AND RESOURCES, AND FOR PLANNING, IMPLEMENTING AND EVALUATING PREVENTION PROGRAMS, PRACTICES OR STRATEGIES in your county?	Skills	1=Very poor; 2=Poor; 3=Good; 4=Very good; 5=Don't know
How would you rate your own skill level (overall) for helping to develop substance abuse prevention CAPACITY BY KEY ORGANIZATIONS IN YOUR COUNTY?	Skills	1=Very poor; 2=Poor; 3=Good; 4=Very good; 5=Don't know
How would you rate your own skill level (overall) for helping to incorporate CULTURAL COMPETENCE into prevention services in your county?	Skills	1=Very poor; 2=Poor; 3=Good; 4=Very good; 5=Don't know

Item	Scale	Response options
How would you rate your own skill level (overall) for helping to SUSTAIN increases in substance abuse prevention CAPACITY BY KEY ORGANIZATIONS IN YOUR COUNTY?	Skills	1=Very poor; 2=Poor; 3=Good; 4=Very good; 5=Don't know
How would you rate your own skill level (overall) for helping to SUSTAIN evidence-based substance abuse prevention programs, practices or strategies?	Skills	1=Very poor; 2=Poor; 3=Good; 4=Very good; 5=Don't know
How much do you think your home organization is supportive of efforts to develop a county-level substance abuse prevention comprehensive plan to ASSESS NEEDS AND RESOURCES, AND TO PLAN, IMPLEMENT AND EVALUATE PREVENTION PROGRAMS, PRACTICES OR STRATEGIES	Home Organization Support	1=Very unsupportive; 2=Unsupportive; 3=Supportive; 4=Very supportive; 5=Don't know
How much do you think your home organization is supportive of efforts to develop substance abuse prevention CAPACITY BY KEY ORGANIZATIONS IN YOUR COUNTY?	Home Organization Support	1=Very unsupportive; 2=Unsupportive; 3=Supportive; 4=Very supportive; 5=Don't know
How much do you think your home organization is supportive of efforts to incorporate CULTURAL COMPETENCE into prevention services in your county?	Home Organization Support	1=Very unsupportive; 2=Unsupportive; 3=Supportive; 4=Very supportive; 5=Don't know
How much do you think your home organization is supportive of efforts to sustain increases in CAPACITY FOR PREVENTION BY KEY ORGANIZATIONS IN YOUR COUNTY?	Home Organization Support	1=Very unsupportive; 2=Unsupportive; 3=Supportive; 4=Very supportive; 5=Don't know

Item	Scale	Response options
How much do you think your home organization is supportive of efforts to SUSTAIN evidence-based substance abuse prevention programs, practices or strategies?	Home Organization Support	1=Very unsupportive; 2=Unsupportive; 3=Supportive; 4=Very supportive; 5=Don't know

APPENDIX B – COALITION CAPACITY SURVEY ITEMS

Item	Scale	Response options
Does your coalition currently have a committee for conducting resource & needs assessments related to substance abuse prevention?	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition currently have a committee for developing or updating a county level written plan to prevent substance abuse?	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition currently have a committee to oversee implementation of evidenced-based prevention programs, practices or strategies?	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition currently have a committee to evaluate evidence-based programs, practices, or strategies	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition currently have a committee to sustain evidence-based programs, practices or strategies?	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition currently have a committee to ensure cultural competence in prevention activities?	Structure	1=Yes; 2= No; 3=Don't know
Does your coalition have a formal agreement for assessing substance abuse prevention needs & resources?	Formal Linkages	1=Yes; 2= No; 3=Don't know
Does your coalition have a Formal agreement for developing or updating a county plan written to prevent substance abuse?	Formal Linkages	1=Yes; 2= No; 3=Don't know
Does your coalition have a formal agreement for implementing evidence-based prevention programs, practices, and strategies?	Formal Linkages	1=Yes; 2= No; 3=Don't know
Does your coalition have a Formal agreement for evaluating evidence-based prevention programs, practices, and strategies?	Formal Linkages	1=Yes; 2= No; 3=Don't know
Does your coalition have a Formal agreement for sustaining evidence-based prevention programs, practices, and strategies?	Formal Linkages	1=Yes; 2= No; 3=Don't know

Item	Scale	Response options
Does your coalition have a Formal agreement for ensuring cultural competence in prevention activities?	Formal Linkages	1=Yes; 2= No; 3=Don't know
Please rate your coalition's current level of expertise for... Assessing substance abuse prevention needs and resources?	Expertise & Champions	1=Poor; 2= Fair; 3= Good; 4=Excellent; 5=Don't know
Please rate your coalition's current level of expertise for... Developing or updating a county-level written plan to prevent substance abuse.	Expertise & Champions	1=Poor; 2= Fair; 3= Good; 4=Excellent; 5=Don't know
Please rate your organization's current level of expertise for . . . Implementing evidence-based prevention programs, practices, strategies.	Expertise & Champions	1=Poor; 2= Fair; 3= Good; 4=Excellent; 5=Don't know
Please rate your organization's current level of expertise for . . . Evaluating evidence-based prevention programs, practices, strategies. (EC4)	Expertise & Champions	1=Poor; 2= Fair; 3= Good; 4=Excellent; 5=Don't know
Please rate your organization's current level of expertise for . . . Developing and implementing sustainability plans for evidence-based prevention programs, practices or strategies (EC5)	Expertise & Champions	1=Poor; 2= Fair; 3= Good; 4=Excellent; 5=Don't know
Since May, 2008, has there been one or more champions who advocated for prevention needs or resource assessment in your community? (EC6)	Expertise & Champions	1=Yes; 2= No; 3=Don't know
Since May, 2008, has there been one or more champions who advocated for DEVELOPMENT or updating of a county level written plan to prevent substance abuse?	Expertise & Champions	1=Yes; 2= No; 3=Don't know
Since May, 2008, has there been one or more champions who advocated for IMPLEMENTATION of evidence-based prevention programs, practices, or strategies?	Expertise & Champions	1=Yes; 2= No; 3=Don't know
Since May, 2008, has there been one or more champions who advocated for EVALUATION of evidence-based prevention programs, practices, or strategies?	Expertise & Champions	1=Yes; 2= No; 3=Don't know

Item	Scale	Response options
Since May, 2008, has there been one or more champions who advocated for SUSTAINING evidence-based prevention programs, practices, or strategies?	Expertise & Champions	1=Yes; 2= No; 3=Don't know
Since May, 2008, has there been one or more champions who advocated for ensuring cultural competence in prevention activities?	Expertise & Champions	1=Yes; 2= No; 3=Don't know
Does your coalition have a written policy or procedures for conducting prevention needs assessments?	Policies & Procedures	1=Yes; 2= No; 3=Don't know
Does your coalition have a written policy or procedures for conducting prevention resources assessments?	Policies & Procedures	1=Yes; 2= No; 3=Don't know
Does your coalition have a written policy or procedures specifying that implementation of prevention programs, practices or strategies must be monitored?	Policies & Procedures	1=Yes; 2= No; 3=Don't know
Does your organization have a written policy or procedures specifying that prevention programs, practices or strategies must have outcome evaluation conducted?	Policies & Procedures	1=Yes; 2= No; 3=Don't know
Does your organization have a written policy or procedures specifying that prevention programs, practices or strategies incorporate cultural competence?	Policies & Procedures	1=Yes; 2= No; 3=Don't know
Does your organization have a written policy or procedures specifying that prevention programs, practices or strategies be sustained?	Policies & Procedures	1=Yes; 2= No; 3=Don't know