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ARTICLE

Improving community readiness for change through coalition capacity building: Evidence from a multisite intervention

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Abstract

Often, community coalitions are facilitators of community-level changes when addressing underage drinking. Although studies have shown that enhancing coalition capacity is related to improved internal functioning, the relationship between enhanced capacity and community readiness for change is not well established. The present study used a pretest–posttest design to examine whether enhancing coalition capacity through training and technical assistance was associated with improved community readiness and coalition-facilitated community-level changes. Seven Kansas communities engaged in an intensive capacity building intervention through implementation of the Strategic Prevention Framework. The results indicated strong correlations between increased coalition capacity, changes in community readiness stages, and the number of community changes facilitated. The results suggest that strengthening coalition capacity through training and technical assistance may improve community readiness for change and enable the implementation of community-wide program and environmental changes.

1 | INTRODUCTION

Although underage drinking has declined over the past 20 years (Chen, Yi, & Faden, 2013), alcohol is still the most commonly used substance among youth (Centers for Disease Control and Prevention, 2012). In fact, almost 40% of youth have reported using alcohol at least once in their lives, and more than 20% reported binge drinking at least once (Centers for Disease Control and Prevention, 2011; Eaton et al., 2012). Underage drinking is linked to risky sexual behavior, sexually transmitted infections, and violence (Blitstein, Murray, Lytle, Birnbaum, & Perry, 2005; Kodjo, Auinger, & Ryan, 2004; Miller, Naimi, Brewer, & Jones, 2007; Shafer et al., 1993; Swahn, Simon, Hammig, & Guerrero, 2004). Certain environmental and social factors have been associated with underage drinking, such as poor enforcement of existing underage drinking laws, social availability of alcohol, and social norms that support underage drinking

(Hawkins, Catalano, & Miller, 1992). To reduce underage drinking, prevention coalitions often facilitate community-wide behavior changes to address the problem. For instance, a prevention coalition may include community partners from diverse sectors such as law enforcement, schools, businesses, and media to coordinate strategies to improve the enforcement of underage drinking policies.

1.1 | Building Coalition Capacity

In recent years, federal, state, and local agencies have sought to understand how to enhance coalition capacity and effectiveness in bringing about change and improvements in underage drinking (Chervin et al., 2005; Keene Woods, Watson-Thompson, Schober, Markt, & Fawcett, 2014; Orwin, Stein-Seroussi, Edwards, Landy, & Flewelling, 2014; Watson-Thompson, Keene Woods, Schober, & Schultz, 2013; Williams et al., 2012). Capacity building is the process of enhancing a coalition's collective skills, capabilities, and resources to facilitate changes related to a prioritized problem or goal over time and across contexts (Watson-Thompson et al., 2013). Coalition capacity is one indicator of how well coalitions are equipped to facilitate environmental changes related to improving targeted behaviors. Building coalition capacity results in community changes, or new programs, policies, and practices that systematically modify the environment in which underage drinking occurs (Watson-Thompson et al., 2013; Zakocs & Edwards, 2006).

Previous research has cited several dimensions that strengthen coalition capacity, including skills and resources available to the coalition, participation and leadership, and social and organizational networks (Liberato, Brimblecombe, Ritchie, Ferguson, & Coveney, 2011). Some of the most common conditions that enable capacity building include strong leadership, clear governing procedures, active participation, diverse membership, and multisectoral engagement (Zakocs & Edwards, 2006). These dimensions, often delivered through training and technical assistance, have been shown to enhance both coalition functioning and implementation of evidence-based strategies (Brown, Feinberg, & Greenberg, 2010; Riggs, Nakawatase, & Pentz, 2008; Wandersman et al., 2008).

1.2 | Community Readiness Model

Community readiness is an important component of building coalition capacity. Community readiness is defined as the level at which individuals and groups are willing to accept and support the implementation of new programs or activities in the community (Donnermeyer, Plested, Edwards, Oetting, & Littlethunder, 1997). Coalition capacity and functioning are indicators of readiness to address a problem through the implementation of community-based interventions (Zakocs & Edwards, 2006).

Since the 1990s, core researchers at the Tri-Ethnic Center for Prevention Research have promoted the Community Readiness Model (CRM), which was developed to foster community implementation of alcohol prevention interventions. The CRM, influenced by the transtheoretical model for behavior change, is a framework used for developing and supporting community-based initiatives. The model has demonstrated improved readiness for change across multiple contexts (Kesten, Griffiths, & Cameron, 2014; Oetting, Jumper-Thurman, Plested, & Edwards, 2001; Ogilvie et al., 2008; Plested, Smitham, Jumper-Thurman, Oetting, & Edwards, 1999). However, studies have also shown that communities may experience constraints in improving readiness to support change (Sliwa et al., 2011; Son, Shinew, & Harvey, 2011). For example, communities may not be sufficiently empowered to improve their readiness, even when knowledge of the problem and available resources are present. Thus, similar to building coalition capacity, factors that influence community readiness may differ across communities.

In recent studies, the CRM has supported communities in identifying strategies to effect widespread behavior change. For example, a Nebraska community used the CRM to guide its work in developing a youth advocacy program to address childhood obesity within an underserved Latino community (Frerichs et al., 2012, 2015). Other studies in Seattle (Buckner-Brown, Sharify, Blake, Phillips, & Whitten, 2014) and Wisconsin (Paltzer, Black, & Moberg, 2013) used the model to improve the built and social environment and to reduce alcohol consumption. By capitalizing on multisectoral partnerships and implementation of evidence-based strategies, the communities used the CRM to effect

substantial environmental changes, such as improved air quality, pedestrian-friendly streets, and walking groups. Overall, the literature suggests that community readiness may be beneficial in not only enhancing coalition capacity but also engaging multiple community sectors to support efforts that facilitate positive behavior change.

Despite the considerable interest in enhancing coalition capacity, the extant literature is limited in examining the relationship between community readiness and environmental changes. There has been limited research conducted to enhance understanding of the relationship between community readiness and the facilitation of community change activities to support improved outcomes such as with respect to underage drinking. To address gaps in the literature, the present study examines associations between coalition capacity, community readiness, and the implementation of community change interventions (i.e., new programs and environmental strategies) aimed to reduce and prevent underage drinking. The research questions addressed in the study are as follows: (1) To what extent did training and technical assistance improve community readiness for change? (2) Did training and technical assistance result in increased rates of community-level changes facilitated by the coalitions? (3) Was there an association between increased collaborative partnerships and levels of community changes facilitated by coalitions?

2 | METHOD

2.1 | Background and Participating Communities

The present study was part of a broader initiative funded through the Kansas Strategic Prevention Framework State Incentive Grant (SPF-SIG), which was awarded to the Kansas Social and Rehabilitation Services by the Substance Abuse and Mental Health Services Administration. The study was part of a larger research project approved and overseen by a university Institutional Review Board. The Strategic Prevention Framework (SPF) comprises five phases (i.e., assessment, building capacity, planning, strategy implementation, and evaluation) that enable prevention-oriented coalitions to facilitate community change. The present study focuses on the first two phases (i.e., assessment and building capacity) of the SPF model, which guides evidence-based strategy implementation.

Because the Kansas SPF-SIG funded county-level coalitions, for the purposes of this study, geographical counties were the unit of analysis. The communities were geographically distributed across Kansas and comprised both urban and rural communities. The coalitions, established between 2002 and 2007, implemented community-based prevention interventions to reduce underage drinking (Table 1). Coalition representatives who served as survey respondents were from multiple sectors, including business, local government, families, media, law enforcement, and schools.

2.2 | Conceptual Model for Capacity Building and Community Readiness

Figure 1 presents a conceptual model used in the present study for understanding capacity building in the context of enhancing community readiness for change. The components of the dynamic and iterative model support coalitions' efforts to bring about change and includes (a) assessing community readiness and capacity for change, (b) implementing appropriate training and technical assistance (TTA), (c) building coalition capacity, (d) increasing community readiness, and (e) facilitating community change to support improvements in prioritized outcomes, such as underage drinking.

As shown in the model, it is important to support an assessment of coalition capacity and community readiness. The initial level of community readiness helps to inform the coalition and TTA providers of the type and level of capacity to be fostered in the community. Then, based on the assessment, training and technical assistance (TTA) is provided to enable coalitions to increase their capacity to engage multiple community sectors and coordinate activities related to the identified issue. Based on the CRM, enhanced coalition capacity should improve the community's readiness, which then creates conditions for coalitions to facilitate community changes that address the prioritized problem or goal.

TABLE 1 Demographics of SPF-Funded Coalitions

Coalition characteristics		2010 population characteristics				
Geographic location	Year established	Population	% Youth population	% White	% African American	% Hispanic/ Latino
North Kansas	2006	8,531	23.5	91.9	1.1	4.4
West Kansas	2000	37,200	31.9	44.9	2.9	47.7
South central Kansas	2000	7,863	23.7	94.5	0.2	2.7
Northeast Kansas	2007	10,132	25.6	95.9	0.6	1.5
East Kansas	2002	16,142	24.3	94.7	0.4	2.3
South central Kansas	2003	64,438	23.4	85.6	3.2	8.5
South central Kansas	2005	23,674	25.4	90.9	1.1	5.0
Coalition Aggregate	–	415,856	25.3	76.6	5.0	14.7
Total Counties	–	2,885,905	25.1	77.5	6.2	11.0

Note. SPF = Strategic Prevention Framework.

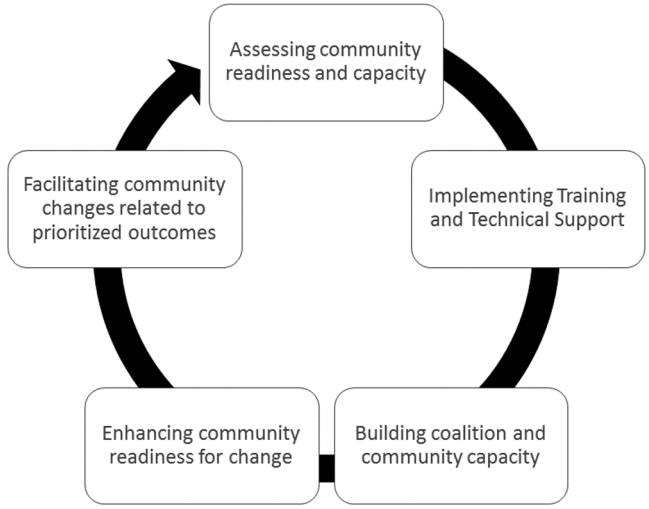

FIGURE 1 Conceptual model of coalition capacity and community readiness for change.

2.3 | Kansas SPF-SIG Coalition Capacity Building

2.3.1 | Community readiness and capacity assessment

As part of the SPF implementation, participating coalitions completed a comprehensive assessment identifying the severity of adolescent alcohol use in their communities, factors that influenced alcohol use, and community assets that can be used to address the problem behavior. Additionally, between four and six key informants from each community participated in 30–60-minute interviews to assess the community's readiness for change. Interviews were conducted in January 2008 during the baseline condition, and again in April 2012 toward the end of the intervention. Key informants included individuals within the community who were knowledgeable about the community in relation to underage drinking, such as parents, teachers, and clergy members. Not all key informants were members of the coalition. Rather, they represented members of the community who were in positions to influence the support and

implementation of the SPF strategy (i.e., teachers, school administrators, business owners). Whereas coalition collaboration and capacity focuses on the extent to which risks, rewards, and resources are shared throughout the community (and among coalition members), community readiness examines the extent to which a community recognizes the problem and is (or will be) receptive to the proposed/planned changes.

2.3.2 | Training, technical assistance, and capacity building

The coalitions engaged in TTA provided by the state prevention team, which comprised the Kansas SPF-SIG director, two technical assistance trainers, and the evaluators. In total, the coalitions participated in 1,925 hours of direct training and technical support across 300 TTA sessions from January 2009 to June 2012. On a monthly basis, representatives from each coalition participated in at least one hour of individualized technical assistance calls with the Kansas SPF state prevention team to guide action plan development and strategy implementation.

The coalitions developed action plans to specifically enhance coalition and community capacity based on the results of the Tri-Ethnic Community Readiness Coalition Survey and the Collaboration and Capacity Survey. Additionally, the community coalitions developed action plans to support the implementation of evidence-based strategies addressing underage drinking. The coalitions worked with the TTA providers to build capacity to support high quality implementation of their prevention strategies within their respective communities. TTA guided coalitions through the selection of appropriate strategies, the development of strategic plans, and the recruitment of key community partners to support implementation of prevention activities.

The coalitions were trained to document community change activities related to implementation of the action plans, as well as critically reviewing evaluation data. The communities also participated in four annual evaluation technical assistance conference calls facilitated by the evaluation team. These teleconferences provided a space for coalitions to collaboratively discuss successes and challenges related to strategy implementation and to examine their interventions' contributions to underage drinking outcomes.

The coalitions also engaged in cross-site evaluation and additional learning opportunities to enhance their readiness and build capacity to address underage drinking. Coalition representatives were encouraged to collaborate as communities of practice to address underage drinking. Communities of practice included (a) multisectoral collaboration to address underage drinking; (b) collaboration with prevention practitioners implementing the same evidence-based strategy; and (c) collaboration across similar sectors (i.e., law enforcement, schools, social service organizations, youth-serving organizations) in different geographical communities (Anderson-Carpenter, Watson-Thompson, Jones, & Chaney, 2014). The goal of sector collaboration was to encourage colearning and support, particularly regarding implementation of evidence-based prevention strategies to address underage drinking.

2.3.3 | Implementing evidence-based strategies and facilitating community changes

After receiving TTA, coalitions then engage in activities to enhance community readiness to support implementation of evidence-based strategies targeting influencing factors related to underage drinking. While implementing strategies, coalition representatives leveraged partnerships with multiple and diverse community sectors to facilitate community changes. Based on the SPF model, coalitions were responsible for engaging 12 sectors of the community in coalition efforts to support strategy implementation.

The 12 sectors that minimally supported coalition efforts included youth (individuals younger than 18 years of age), parents, businesses, media, schools, youth-serving organizations, law enforcement agencies, religious organizations, civic organizations, healthcare, government agencies, and other groups that may contribute to reducing and preventing underage drinking locally. Throughout the study period, coalition representatives documented their activities in an online documentation system. The documented activities included detailed information on discrete coalition activities or community changes, which persons or sectors facilitated the activity or change, and what resulted from the effort.

2.4 | Dependent Variable and Measurement

Levels of community readiness were measured using the Tri-Ethnic Survey of Community Readiness, which has been previously used to measure community readiness for change (Donnermeyer et al., 1997; Plested et al., 1999; Scherer, Ferreira-Pinto, Ramos, & Homedes, 2001). The survey identifies six dimensions of community change: (a) efforts, (b) community knowledge of efforts, (c) leadership, (d) community climate, (e), community knowledge of the issue, and (f) resources. Each dimension was rated on a 9-stage scale ranging from 1 (*no awareness*) to 9 (*community ownership*) (see Table 2 for a description of community readiness stages).

Thirty-seven key informants completed the Tri-Ethnic Survey in person or via phone, with an average of five informants per community. The Tri-Ethnic Survey comprised 36 questions (Cronbach's $\alpha = .81$) administered in an interview format, with interviews lasting between 30 minutes and 60 minutes each.

2.5 | Independent Variables and Measurement

There were two measures used to examine implementation of the training and technical support capacity-building intervention including the documentation of coalition-facilitated community changes and the Collaboration and Capacity Survey. Community change was defined as new or modified programs, policies, or practices facilitated by the coalition. An example of a community change is a first-time partnership between a coalition and the Alcohol Beverage Control to host training sessions for retailers regarding the proper procedure for checking identification. To be scored as a community change, the documented activity or event was required to (a) address underage drinking reduction as an outcome; (b) describe an instance of a new or modified program, policy, or practice; and, (c) be facilitated by coalition members or partners acting on behalf of the coalition.

Coalition collaboration and capacity was measured using the Kansas SPF-SIG Coalition Collaboration and Capacity Survey. The assessment was a 23-item online survey designed to measure how various sectors in the communities worked together to address underage drinking. As part of the survey, informants identified the types of capacity building activities supported during the baseline and TTA intervention. In addition, they reported the number of community sectors the coalition engaged with prior to and during the study period. Although there were four or five enforcement strategies implemented, they all focused on reducing youth access/availability to alcohol. Youth, as well as representatives from the other key 12 prioritized sectors, were directly involved in some strategies (e.g., retail compliance checks/controlled buys). In addition, youth were directly invited to participate in the Coalition Collaboration and Capacity Survey.

Approximately, 76 community representatives participated in the Collaboration and Capacity Survey in the baseline condition, representing diverse community sectors such as youth, parents, schools, law enforcement, and local policy makers. On average, 11 representatives responded per coalition. In the TTA intervention phase, there were 111 participating representatives, with on average 16 representatives per coalition completing the survey. To ensure a diverse representation in responses, at least one representative from the 12 key community sectors participated in the survey. Five survey items were related to demographics; 11 assessed collaboration efforts (e.g., use of organizational and community networks, coordinating activities with other organizations, and sharing information with community sectors); and seven items related to types of capacity building activities (e.g., community mobilization, increasing community awareness of underage drinking, and increasing facilitation skills). The survey was administered electronically in June 2008 and April 2012.

2.6 | Data Analysis

2.6.1 | Interobserver agreement

After completing the key informant interviews for the Tri-Ethnic Community Readiness Survey, two scorers from the respective community coalitions independently reviewed and categorized each of the interview responses by community readiness dimension. The scorers rated each dimension on a scale from 1 (*no awareness*) to 9 (*community*

TABLE 2 Description of Tri-Ethnic Assessment of Community Readiness Stages

Community readiness stage (stage rating)	Characteristics of community readiness stage	Tri-Ethnic illustrative example statement of community readiness stage
No Awareness (1)	• No knowledge of local efforts • Issue is not a concern • No resources available to address the issue	"Kids get drunk and stay drunk."
Denial/Resistance (2)	• Little widespread concern about the issue • Few have knowledge about the issue • Lack of support for using resources	"We can't—or shouldn't—do anything about it."
Vague Awareness (3)	• No immediate motivation to act • Vague knowledge of the issue • Limited resources to address the issue	"Something should be done, but what? Maybe someone else will address this issue."
Preplanning (4)	• Acknowledgement of issue as a concern • Acknowledgement that action is required • Some resources exist to further efforts	"This is important. What can—or should—we do?"
Preparation (5)	• Active support of improving current efforts • Community has basic knowledge of issue • Some resources exist to further efforts	"We will meet with key stakeholders this week."
Initiation (6)	• Community has basic knowledge of issue • Leadership plays a role in supporting efforts • Allocated resources to address the issue	"This is our responsibility. Let's do something to address this issue."
Stabilization (7)	• More than basic knowledge of the issue • Leadership actively involved in ensuring long-term viability of efforts • Considerable resources allocated for continued support	"We have taken responsibility."
Confirmation/Expansion (8)	• Community has considerable knowledge of the issue and local efforts • Leadership plays a key role in expanding efforts • Most community members strongly support efforts	"How well are our current programs working and how can we make them better?"
Community Ownership (9)	• Most community members have considerable knowledge of issue and efforts • Leadership continually reviews evaluation findings • Diversified resources are secured with ongoing support	"These efforts are an important part of our community."

Note. Adapted from the *Community Readiness for Community Change Handbook*, by Tri-Ethnic Center for Prevention Research (2nd ed.), 2014, Fort Collins, CO, Colorado State University.

TABLE 3 Overall Changes in Community Readiness Stages Across Communities

Community readiness dimension	Mean community readiness stage score		Improvement in community readiness stages		
	Baseline (*SD*)	Intervention (*SD*)	Absolute	Adjusted[a]	*p*-value[b]
Efforts	3.9 (1.05)	6.4 (0.88)	+2.5	+3	<.001
Community knowledge of efforts	3.4 (0.46)	5.1 (0.55)	+1.7	+2	.001
Leadership	3.7 (0.49)	5.4 (0.96)	+1.7	+2	.010
Community climate	3.4 (0.42)	4.2 (0.92)	+0.8	+1	.045
Community knowledge of the issue	3.5 (0.60)	5.1 (1.03)	+1.9	+2	.021
Resources	3.4 (0.56)	5.6 (1.06)	+2.2	+2	.004
Overall community readiness	3.6 (0.58)	5.3 (0.74)	+1.7	+1	.003

SD = standard deviation.
[a]Improvement in community readiness stage calculations were rounded down in accordance with the Community Readiness Handbook (Tri-Ethnic Center for Prevention Research, 2014).
[b]Significance level was at alpha = .05.

ownership). After completing independent scoring, the scorers obtained consensus on scores for each key informant interview. After reaching consensus, independent scores were combined into an aggregate score for each dimension, and an overall community readiness score was then calculated using the average of the six dimension scores.

Two coders from the Kansas SPF-SIG evaluation team independently scored documented community changes using an agreed-upon codebook. Interobserver agreement (IOA) for community changes was conducted on 50% of the documented community changes by dividing the number of agreements by the sum of agreements plus disagreements. The quotient was multiplied by 100%. Acceptable IOA was determined to be at least 80%, and the achieved IOA was 92.3%.

2.6.2 | Statistical analysis

Community readiness scores were analyzed as a continuous variable and descriptive statistics were used to measure differences in community readiness between 2008 and 2012. To classify the overall and dimension-specific community readiness scores into stages, each mean score was rounded down. For example, a community that obtained a continuous readiness score of 3.7 was categorized in Stage 3 (Vague Awareness).

Paired samples *t*-tests were used to examine where there were significant differences in community readiness scores between study conditions. Paired-samples *t*-tests were also used to analyze differences in coalition activities. Two-tailed Pearson correlations were conducted to determine whether associations existed between community changes, collaborative sector partnerships, and improvements in community readiness. Because the distribution of community changes showed a substantial positive skew, a logarithmic transformation was used for the number of community changes to normalize the distribution; a square root transformation was used to normalize the distribution for the increase in collaborative sector partnerships from an initial moderately positive skew. Alpha levels of .05 were used for all statistical tests.

3 | RESULTS

3.1 | TTA and Community Readiness for Change

Table 3 shows the reported community readiness scores between baseline and the TTA intervention. Both the mean community readiness score for each dimension and the overall score are reported across conditions, as well as the

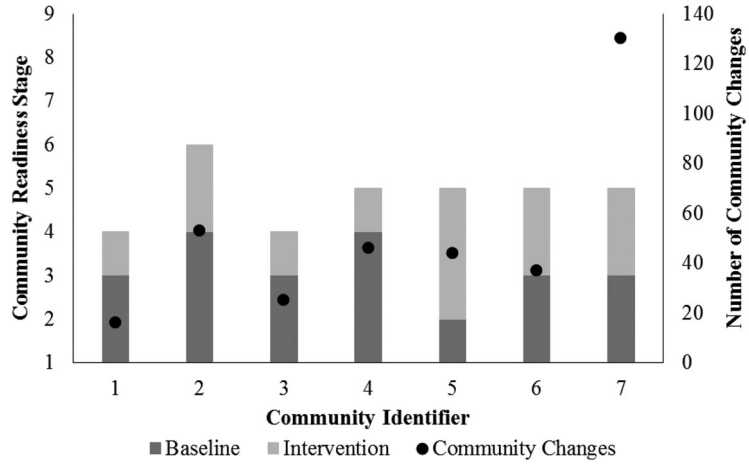

FIGURE 2 Relationship between mean improvement in community readiness stages across dimensions and the number of community changes.

overall score. There was a statistically significant improvement in overall community readiness, $t(6) = -4.92$, $p = .003$, $d = -2.53$. Six communities increased their readiness by one to two stages, and one community increased its readiness by three stages (Figure 2). Prior to implementing the intervention, 71% of respondents reported either Denial/Resistance or Vague Awareness of the problem behavior and of local coalition efforts to address underage drinking, with community readiness stages ranging from Denial/Resistance to Preplanning. In the TTA intervention, 57% of the community informants reported that community readiness for change improved to the Preparation stage, with overall readiness stages ranging from Preplanning to Initiation. Strong correlations were also found between community changes and improvement in community readiness, $r(5) = .72$, $p = .066$, and between increased collaborative partnerships and improvement in community readiness, $r(5) = .74$, $p = .056$.

With respect to changes in community readiness dimensions, the greatest improvement was in community efforts to address underage drinking (Table 3). The smallest improvement was in community climate, defined as the prevailing attitude of the community toward underage drinking. Readiness for change in community climate increased from a mean baseline rating of Vague Awareness (*range* = Vague Awareness–Preplanning) to a mean intervention rating of Preplanning (*range* = Vague Awareness–Preparation). Conversely, the communities reported the most substantial increase in community efforts to bring about change, increasing from a mean baseline stage of Vague Awareness (*range* = Denial/Resistance–Preparation) to Initiation (*range* = Preplanning–Stabilization).

3.2 | Number and Type of Community Changes Facilitated by Coalitions

During the study period, the communities implemented 18 evidence-based strategies related to enforcement of underage drinking laws. As the priority population, youth were directly involved in supporting the implementation of some strategies (e.g., retail compliance checks/controlled buys). The communities facilitated an aggregated total of 351 distinct community changes (*mean* = 50, *standard deviation* = 37.44).

Illustrative examples of community changes facilitated due to increased community readiness and collaboration are as follows: (a) for the first time, coalition representatives collaborated with local elementary school staff to implement Strengthening Families (new program); (b) sector representatives met with the county commissioners to sign a Memorandum of Agreement to begin countywide enforcement of social hosting laws (new policy); and (c) for the first time, community coalition representatives partnered with law enforcement and business sectors to implement the Sticker Shock campaign, which raises awareness for the consequences of underage drinking. Youth, along with local retailers, were involved in implementing the Sticker Shock campaign, which entailed applying stickers to containers with alcoholic beverages indicating the consequence of providing alcohol to minors.

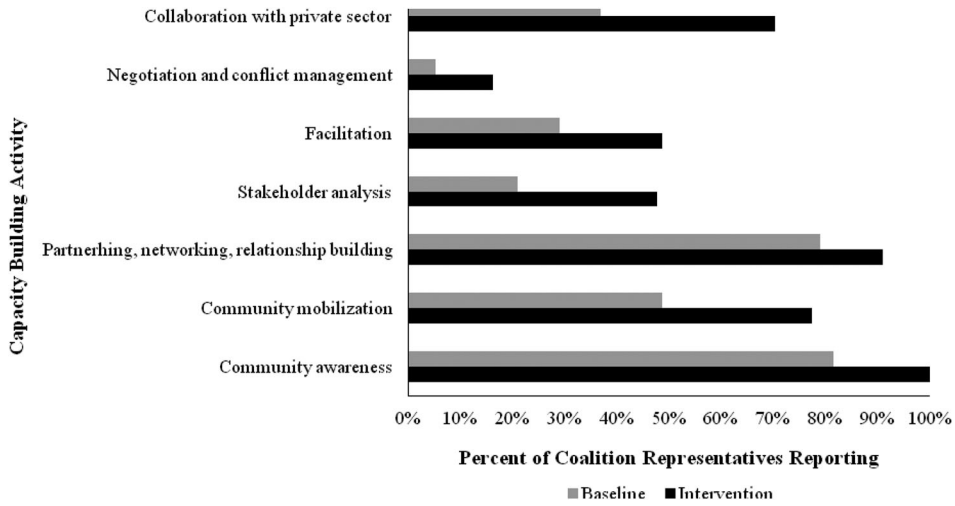

FIGURE 3 Distribution of coalition capacity building efforts. A total of 76 coalition representatives responded in the baseline condition and 111 coalition representatives responded in the intervention condition.

3.3 | Collaborative Partnerships and Facilitated Community Changes

Figure 3 shows the types of capacity building activities and the percentage of communities that supported each activity. During both the baseline and TTA intervention, more than 80% of the communities reported raising community awareness and establishing relationships with community partners. Conversely, fewer than 50% of the communities engaged in conflict management, facilitation, or stakeholder analysis in both study conditions. The most substantial improvement in coalition capacity-building activities was in collaborating with private community sectors.

During the intervention, partner coalitions collaborated with 15 community agencies and sectors to address underage drinking, which represented an 88% increase in community engagement from baseline. The most frequently cited collaboration in both study conditions was with the media sector, followed by healthcare professionals, law enforcement, schools, and other prevention groups. A strong and significant positive correlation was observed between the number of community changes and the increase in collaborative partnerships over time, $r(5) = .80$, $p = .031$. In sum, the findings suggest that partnering with multiple community sectors to build coalition capacity is correlated with enhanced community readiness to address issues related to underage drinking, as evidenced by the implementation of community changes.

4 | DISCUSSION

The present study examined whether coalition capacity building was associated with increased community readiness and facilitation of community changes in the context of underage drinking. The findings provide support for the conceptual model grounding the present study. In particular, there was a strong correlation between increased collaborative partnerships and improved community readiness. Of the six community readiness dimensions (i.e., efforts, community knowledge of the efforts, leadership, community climate, community knowledge of the issue, and resources), the communities showed greatest improvements in community efforts related to planning and implementing community changes, which was also the main focus of the training and technical supports. Overall, a majority of the coalitions reported both increased knowledge and implementation of evidence-based prevention strategies related to improving underage drinking outcomes. These findings, when considered in totality, provide some support to the conceptual model, which suggests that building capacity through multisectoral collaboration and training and technical support is related to improved community readiness over time.

The correlation between improvement in community readiness and the number of coalition-facilitated community changes provide empirical support to the conceptual grounding of the present study. Previous research has described the importance of multisectoral collaborations to support evidence-based strategy implementation and facilitating community changes to improve prioritized community outcomes (Anderson-Carpenter et al., 2014; Lawthom, 2011; Zakocs & Edwards, 2006). It should be noted, however, that Community 7 was an outlier, in that it showed the greatest relative improvement in readiness for change in the dimensions of community efforts and leadership, which relates to the type of readiness and capacity that needed to be enhanced. For instance, during the study period, Community 7 enhanced its organizational capacity to support community efforts by receiving designation a 501(c)(3) organization by the Internal Revenue Service, which allowed the coalition to receive charitable contributions from individuals, business, corporations, and foundations. Increasing readiness through enhanced organizational capacity and functioning is critical to enhance the ability to support community efforts.

Additionally, establishing and maintaining leadership across sectors of the community is key in creating buy-in from community stakeholders and facilitating community-level changes. Consistent with the literature, the present study found that establishing partnerships with multiple community sectors was correlated with community readiness, increased knowledge of the targeted problem, and participation in community efforts to address prioritized goals.

The training and technical assistance component supported enhanced coalition capacity, which is consistent with previous studies (Nargiso et al., 2013; Riggs et al., 2008; Schultz, Pandya, Sims, Jones, & Fischer, 2013; Watson-Thompson et al., 2013). The association between overall community readiness and facilitated community changes suggests that the coalition and community partners increased their capacity to support program, policy, and practice changes. The findings from this study are consistent with previous research on improving community readiness for change (Ogilvie et al., 2008).

The empirical literature has previously demonstrated an adjusted 0- to 2-stage categorical improvement in community readiness for change (Ogilvie et al., 2008); however, coalitions in the present study reported a 1- to 3-stage categorical improvement. Compared to previous research in community readiness, coalitions in the present study achieved higher levels of change in readiness scores, which may have been attributable to the comprehensive prevention support system at the state level. The comprehensive support system may have provided the infrastructure and technical supports necessary to facilitate coalition expansion to diverse sectors and capacity building to improve community readiness for change.

Additionally, the prevention system infrastructure may have provided resources and contingencies such as funding allocations based on the completion of capacity-building activities. Such funding allocations could then support coalitions' continued efforts in engaging multiple sectors and communities of practice to build capacity, which was likely necessary to improve community readiness for change in a timely manner. In sum, intensive TTA supported coalitions' development and relationships with key partners, which in turn improved communities' readiness for change to address and support implementation of prevention interventions to address underage drinking.

4.1 | Limitations

The present study comes with several limitations to be considered when interpreting the findings. The lack of a comparison group reduces the degree to which improvement in community readiness can be attributed to the coalitions' capacity building efforts. Relatedly, the small sample size limits the extent to which the findings can be generalized to other communities. The Tri-Ethnic Community Readiness Survey and the Coalition Collaboration and Capacity Survey were not necessarily completed by the same individuals across each of the study conditions. In particular, there were substantially more participants who completed the assessments during the TTA intervention than in baseline. Although the state prevention team attempted to assure that the same individuals who completed the baseline survey also participated in the survey during the TTA intervention, this may not have happened because of changes in the engagement of coalition members and partners within each community during the study.

Similarly, the number of key informants recruited for survey assessments in the community may not have been fully representative of the members within each community. Similarly, the recommendation by the developers of the

Tri-Ethnic Community Readiness Survey is to engage minimally six representatives in completing the key informant interview. However, some of the study communities did not meet this recommended level.

Another limitation is that while efforts were made to collect permanent products of facilitated community changes (e.g., meeting minutes, written policies, newspaper articles), it is possible that not all community changes were documented fully. Furthermore, because grantees had strong incentives (e.g., funding allocations) to engage in prescribed capacity-building activities, the outcomes of this study may not be generalizable to coalitions with fewer resources. Therefore, the findings may overestimate a coalitions' efforts to enhance capacity and facilitate community changes.

4.2 | Implications for Future Research and Practice

Despite the limitations, the present study provides evidence that enhancing coalition capacity through multisectoral partnerships and TTA is linked to improvements in community readiness to bring about program, policy, and practice changes. Additionally, the findings suggest that mobilizing community sectors to engage in implementing interventions may enhance community capacity to facilitate program and environmental changes over time. Given the findings of the present study, future research should further examine what types of capacity building efforts best predict improvement in community readiness and facilitated community changes.

Relatedly, future research is needed to identify whether training/technical assistance and multisectoral engagement are sufficient to increase community readiness for change, or if it should be complemented by other types of capacity-building activities. Additional studies may also examine why, and under what conditions, some communities increase their readiness more, which may likely relate to the initial or starting level of readiness for the coalition. For instance, a coalition that may already have high levels of readiness during the preassessment may be better prepared to implement more community changes. However, the coalition may not necessarily experience a substantial improvement in readiness scores. The differential levels of community readiness suggest that communities with greater initial readiness for change may be better equipped to facilitate more community changes; likewise, communities with lower readiness levels may need more support structures to facilitate necessary changes. However, because community readiness is dynamic, future research should develop more sensitive methods to account for within-community fluctuations in community readiness.

Further, the differential improvement may be because of a regression toward the sample mean, or because communities with a lower readiness rating received a greater frequency of coalition TTA compared to communities with higher ratings. Although tailoring the amount of TTA delivered to coalitions based on identified need is appropriate from a practice perspective, it may reduce the ability to measure the true effect of TTA on community readiness and coalition capacity. Thus, future research should use stronger designs to control for these potential confounders.

Although not fully in the scope of the present study, future research should also investigate the degree to which postintervention community readiness affects the effect of facilitated organizational and related community changes. Studies addressing the readiness-community change relationship may consider quantifying the magnitude of facilitated community changes by behavior change strategy, community change duration, population reach, and type of prevention strategy employed. Furthermore, research could employ follow-up assessments of community readiness and its association with facilitated changes. Overall, findings from these types of studies could help coalitions concentrate their resources on activities that are more likely to increase their readiness to support the implementation of changes in the community.

4.3 | Conclusion

The current study examined whether coalition capacity building was associated with improved community readiness. The strong correlations revealed in the study suggest that increasing community readiness through capacity building does result in the facilitation of new programs, policies, and practice changes. The present study's findings highlight the importance of understanding how improving coalition functioning is linked to programmatic and environmental

changes that address underage drinking. By integrating training and technical assistance into their efforts, coalitions can facilitate systematic improvements in their capacity to support community readiness for change and reduce the prevalence of underage drinking.

REFERENCES

Anderson-Carpenter, K. D., Watson-Thompson, J., Jones, M., & Chaney, L. (2014). Using communities of practice to support implementation of evidence-based prevention strategies. *Journal of Community Practice*, *22*(1–2), 176–188. doi:10.1080/10705422.2014.901268

Blitstein, J. L., Murray, D. M., Lytle, L. A., Birnbaum, A. S., & Perry, C. L. (2005). Predictors of violent behavior in an early adolescent cohort: Similarities and differences across genders. *Health Education and Behavior*, *32*(2). http://doi.org/10.1177/1090198104269516

Brown, L. D., Feinberg, M. E., & Greenberg, M. T. (2010). Determinants of community coalition ability to support evidence-based programs. *Prevention Science*, *11*, 287–297. http://doi.org/10.1007/s11121-010-0173-6

Buckner-Brown, J., Sharify, D. T., Blake, B., Phillips, T., & Whitten, K. (2014). Using the community readiness model to examine the built and social environment: A case study of the High Point Neighborhood, Seattle, Washington, 2000–2010. *Preventing Chronic Disease*, *11*. http://doi.org/10.5888/pcd11.140235

Centers for Disease Control and Prevention. (2011). National high school YRBS data files, 1991–2011. Retrieved from http://www.cdc.gov/healthyyouth/yrbs/data/index.htm

Centers for Disease Control and Prevention. (2012). Fact sheets–underage drinking. Alcohol and Public Health. Retrieved from http://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm

Chen, C. M., Yi, H., & Faden, V. B. (2013). *Trends in Underage Drinking in the United States*, 1991–2011 (No. Surveillance Report #96). Rockville, MD: NIAAA, Division of Epidemiology and Prevention Research, Alcohol Epidemiologic Data System. Retrieved from http://pubs.niaaa.nih.gov/publications/surveillance96/Underage11.pdf

Chervin, D. D., Philliber, S., Brindis, C. D., Chadwick, A. E., Revels, M. L., Kamin, S. L., … Valderrama, L. T. (2005). Community capacity building in CDC's community coalition partnership programs for the prevention of teen pregnancy. *Journal of Adolescent Health*, *37*(3), S11–S19. http://doi.org/10.1016/j.jadohealth.2005.06.001

Donnermeyer, J. F., Plested, B. A., Edwards, R. W., Oetting, G., & Littlethunder, L. (1997). Community readiness and prevention programs. *Journal of the Community Development Society*, *28*(1), 65–83.

Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J., … Wechsler, H. (2012). Youth Risk Behavior Surveillance–United States, 2011. *Morbidity and Mortality Weekly Report Surveillance Summary*, *61*(4), 1–162.

Frerichs, L., Brittin, J., Robbins, R., Steenson, S., Stewart, C., Fisher, C., & Huang, T. T.-K. (2015). SaludABLEOmaha: Improving readiness to address obesity through healthy lifestyle in a Midwestern Latino community, 2011–2013. *Preventing Chronic Disease*, *12*(E20). Retrieved from http://origin.glb.cdc.gov/pcd/issues/2015/14_0328.htm

Frerichs, L., Brittin, J., Stewart, C., Robbins, R., Riggs, C., Mayberger, S., … Huang, T. T.-K. (2012). SaludableOmaha: Development of a youth advocacy initiative to increase community readiness for obesity prevention, 2011–2012. *Preventing Chronic Disease*, *9*. http://doi.org/10.5888/pcd9.120095

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, *112*(1), 64–108.

Keene Woods, N., Watson-Thompson, J., Schober, D. J., Markt, B., & Fawcett, S. (2014). An empirical case study of the effects of training and technical assistance on community coalition functioning and sustainability. *Health Promotion Practice*, *15*(5), 739-749. doi:10.1177/1524839914525174

Kesten, J. M., Griffiths, P. L., & Cameron, N. (2014). A critical discussion of the Community Readiness Model using a case study of childhood obesity prevention in England. *Health & Social Care in the Community*. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/hsc.12139/full

Kodjo, C. M., Auinger, P., & Ryan, S. A. (2004). Prevalence of, and factors associated with, adolescent physical fighting while under the influence of alcohol and drugs. *Journal of Adolescent Health*, *35*(4), 346.e311–346.e316.

Lawthom, R. (2011). Developing learning communities: Using communities of practice within community psychology. *International Journal of Inclusive Education*, *15*(1), 153–164.

Liberato, S. C., Brimblecombe, J., Ritchie, J., Ferguson, M., & Coveney, J. (2011). Measuring capacity building in communities: A review of the literature. *BMC Public Health*, *11*(1), 850.

Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, *119*, 76–85.

Nargiso, J. E., Friend, K. B., Egan, C., Florin, P., Stevenson, J., Amodei, B., & Barovier, L. (2013). Coalitional capacities and environmental strategies to prevent underage drinking. *American Journal of Community Psychology*, *51*(1–2), 222–231. http://doi.org/10.1007/s10464-012-9536-4

Oetting, E. R., Jumper-Thurman, P., Plested, B., & Edwards, R. W. (2001). Community readiness and health services. *Substance Use & Misuse*, *36*(6&7), 825–843.

Ogilvie, K. A., Moore, R. S., Ogilvie, D. C., Johnson, K. W., Collins, D. A., & Shamblen, S. R. (2008). Changing community readiness to prevent the abuse of inhalants and other harmful legal products in Alaska. *Journal of Community Health*, *33*, 248–258. http://doi.org/10.1007/s10900-008-9087-7

Orwin, R. G., Stein-Seroussi, A., Edwards, J. M., Landy, A. L., & Flewelling, R. L. (2014). Effects of the Strategic Prevention Framework State Incentives Grant (SPF SIG) on state prevention infrastructure in 26 states. *The Journal of Primary Prevention*, *35*(3), 163–180. http://doi.org/10.1007/s10935-014-0342-7

Paltzer, J., Black, P., & Moberg, D. P. (2013). Evaluating community readiness to implement environmental and policy-based alcohol abuse prevention strategies in Wisconsin. *Journal of Alcohol and Drug Education*, *57*(3), 27.

Plested, B., Smitham, D. M., Jumper-Thurman, P., Oetting, E. R., & Edwards, R. W. (1999). Readiness for drug use prevention in rural minority communities. *Substance Use & Misuse*, *34*(4&5), 521–544.

Riggs, N. R., Nakawatase, M., & Pentz, M. A. (2008). Promoting community coalition functioning: Effects of Project STEP. *Prevention Science*, *9*(2), 63–72. http://doi.org/10.1007/s11121-008-0088-7

Scherer, J. A., Ferreira-Pinto, J. B., Ramos, R. L., & Homedes, N. (2001). Measuring readiness for change in two northern border Mexican communities. *Journal of Border Health*, *6*(1), 22–30.

Schultz, J. A., Pandya, S., Sims, M., Jones, J. A., & Fischer, S. (2013). Participatory monitoring and evaluation within a statewide support system to prevent adolescent substance abuse. *Journal of Prevention & Intervention in the Community*, *41*(3), 188–200. http://doi.org/10.1080/10852352.2013.788347

Shafer, M. A., Hilton, J. F., Ekstrand, M., Keogh, J., Gee, L., DiGiorgio-Haag, L., … Schacter J. (1993). Relationship between drug use and sexual behaviors and the occurrence of sexually transmitted diseases among high-risk male youth. *Sexually Transmitted Diseases*, *20*(6), 307–313.

Sliwa, S., Goldberg, J. P., Clark, V., Collins, J., Edwards, R., Hyatt, R. R., … Economos, C. D. (2011). Using the community readiness model to select communities for a community-wide obesity prevention intervention. *Preventing Chronic Disease*, *8*(6). Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3221589/

Son, J., Shinew, K. J., & Harvey, I. S. (2011). Community readiness for leisure-based health promotion: Findings from an underserved and racially diverse rural community. *Journal of Park and Recreation Administration*, *29*(2), 90–106.

Swahn, M. H., Simon, T. R., Hammig, B. J., & Guerrero, J. L. (2004). Alcohol-consumption behaviors and risk for physical fighting and injuries among adolescent drinkers. *Addictive Behaviors*, *29*(5), 959–963. http://doi.org/10.1016/j.addbeh.2004.02.043

Tri-Ethnic Center for Prevention Research. (2014). *Community readiness for community change* (2nd ed.). Fort Collins, CO: Colorado State University.

Wandersman, A., Duffy, J., Flaspohler, P., Noonan, R., Lubell, K., Stillman, L., … Saul, J. (2008). Bridging the gap between prevention research and practice: The interactive systems framework for dissemination and implementation. *American Journal of Community Psychology*, *41*(3–4), 171–181. http://doi.org/10.1007/s10464-008-9174-z

Watson-Thompson, J., Keene Woods, N., Schober, D. J., & Schultz, J. A. (2013). Enhancing the capacity of substance abuse prevention coalitions through training and technical assistance. *Journal of Prevention and Intervention in the Community*, *41*(3), 176–187. doi:10.1080/10852352.2013.788345

Williams, R. J., Kittinger, D. S., Ta, V. M., Nihoa, W. K., Payne, C., & Nigg, C. R. (2012). An assessment of community capacity to prevent adolescent alcohol consumption. *Health Promotion Practice*, *13*(5), 670–678. http://doi.org/10.1177/1524839911432927

Zakocs, R. C., & Edwards, E. M. (2006). What explains community coalition effectiveness? *American Journal of Preventive Medicine*, *30*(4), 351–361. http://doi.org/10.1016/j.amepre.2005.12.004