Published in final edited form as:

Fam Community Health. 2019 ; 42(1): 8–19. doi:10.1097/FCH.0000000000000206.

The Role of Collective Efficacy in Reducing Health Disparities:

A Systematic Review

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Abstract

Many improvements in health equity are spearheaded by community collaborations working to change policy and social norms. But how can collective efficacy (CE), defined as the willingness and ability of a group to work toward a common good, be increased? Eight articles reporting on interventions aiming to reduce health disparities by improving CE were found for this systematic literature review. All studies showed improvements in CE and most found reduction in disparities, but operationalization of CE varied. Findings support a model of how CE can address health disparities, which can guide standardization of CE interventions and measures.

Keywords

assessment tools; collective efficacy; health disparity; systematic review

ACHIEVING health equity, the highest level of health for all people, requires addressing the social, economic, and environmental disadvantages experienced in vulnerable communities.¹ Societal-level action is needed to realize the changes in law, organizational policy, and social systems needed to reduce community health disparities. Facilitating multilevel change requires collaboration, broadly defined as the working together of multiple individuals and/or organizations to accomplish some form of systems change.^{1–6}

Investigators have shown interest in measuring collaboration (or coalition function), with a goal of learning how to increase the collective efficacy of the collaboration,^{6,7} and there is evidence suggesting that “collective efficacy” is a mediating factor in community health outcomes.^{4,5} Per Bandura,⁸ self-efficacy is the belief in one’s ability to act to produce desired results, and collective efficacy is the shared belief that actions by a group will influence the future they seek. Sampson et al⁹ expanded the collective efficacy concept from groups to neighborhoods, defining *neighborhood* collective efficacy as “social cohesion among neighbors combined with their willingness to intervene on behalf of the common good.” We used Sampson’s definition.

Social cohesion depends on social networks and social trust.⁸ In neighborhood collective efficacy, social networks are defined as loose connections among people. Social networks

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The authors declare no conflict of interest.

integrate the community and establish social resources by bringing together disconnected groups. Social trust is the expectation of consistent, honest, and cooperative behavior among community members.¹⁰ The willingness of a group to intervene or act for the common good involves informal social control. Social control, in collective efficacy, is defined as “the capacity of a group to regulate its members according to desired principles.”⁹

The study of neighborhood collective efficacy has its roots in sociology and crime, and studies have shown a strong link between low collective efficacy and high neighborhood crime rates.⁹ Research also suggests that communities and neighborhoods with higher collective efficacy have lower prevalence of obesity, depression, and risk-taking behaviors and lower rates of morbidity and mortality when compared with similar communities with low collective efficacy.^{11–14} Collective efficacy also has been linked to better community-level health outcomes, health-promoting behaviors, and school attendance.^{15,16} In addition to neighborhoods, the concept has been analyzed for diverse social systems, including educational systems,⁸ business organizations,¹⁷ and athletic teams.¹⁸

Interventions to address health disparities by increasing neighborhood or community collective efficacy have been recommended and encouraged.¹⁹ Yet, operationalizing the construct as a focus of change and a unit of measure in intervention research is difficult, and strategies to increase collective efficacy have not been well described.²⁰

There is research suggesting that building social capital (which includes social bonding, social bridging, and social leveraging) can increase social cohesion and willingness to act/intervene, which are key components of collective efficacy.^{21–23} Research also suggests that empowerment (the capacity of communities to make choices and transform choices into desired outcomes) is a factor in the ability to intervene, which impacts collective efficacy.^{24,25} Civic engagement also has been linked to collective efficacy, as those who are more civically engaged report higher levels of collective efficacy.²¹ Intervention activities such as education, skills training, and discussion groups, along with involving group members in formative research, community projects, volunteering, and advocacy, can build social capital, civic engagement, and feelings of empowerment.²⁶

However, these “building blocks” of collective efficacy are differentially studied and operationalized across investigators.²⁷ Literature reviews have looked at collective efficacy as a component of psychosocial risk factors affecting community health,²⁸ the extent to which obesity-related interventions target social networks and collective efficacy to realize change (very little),²⁹ and the role of network mechanisms (including collective efficacy) in improving chronic disease management.³⁰ However, no reviews were found that focused on interventions that aimed to reduce community health disparities by first improving collective efficacy.

Based on our review of the literature,^{21–27,31,32} a “mechanism of action” model was postulated to show how social capital (social bonding, social bridging, social leveraging), empowerment, and civic engagement can increase a group’s social cohesion and willingness to act, which can increase its collective efficacy, which can lead to improved health outcomes and reductions in health disparities (Figure 1). Intervention activities (eg, skills

building, discussion groups, and community projects) were categorized by level of the targeted audience (individual, group, and community) and by the building blocks of collective efficacy (social capital, empowerment, and civic engagement) they addressed.

Thus, this systematic literature review addressed 4 questions. In interventions aiming to increase collective efficacy, what intervention activities were provided to affect necessary building blocks (ie, social bonding, bridging, leveraging, empowerment, and engagement)? How were changes in collective efficacy measured? Were improvements in collective efficacy linked to reduced community health disparities? How rigorous were the study designs used to test the interventions? Answers to these questions should inform measurement and intervention approaches to positively impact collective efficacy.

METHODS

A systematic literature review was conducted to identify articles about community-level interventions aiming to reduce a community health disparity by first improving collective efficacy. Community was defined as a group of people residing in a set geographical location, rather than a sports or educational team, as community health disparities have been identified by geographical location.^{9,11–14}

A Boolean search strategy was used, and PubMed, PsycInfo, ERIC, Cochrane, CINAHL, and Academic Search Complete databases were searched in January 2016 and again in July 2017 using combinations of the terms “collective efficacy” AND “intervention” OR “program evaluation” AND “communit*” OR “neighborhood*” OR “group*.” Two authors (J.B. and K.L.B.) reviewed the articles for eligibility. For each study, one author extracted and assessed the data (J.B.), while the other reviewer verified the accuracy (K.L.B.).

Peer-reviewed articles were sought that reported: (1) intervention activities to increase collective efficacy; (2) a quantitative measure of collective efficacy; and (3) a measure of a health disparity. After duplicate articles were removed, the titles and abstracts were reviewed and excluded based on these criteria: *wrong topic* (the article was unrelated to collective efficacy); *wrong population* (the target population was a sports team, teachers’ group, business team, or other group rather than a community); *no intervention* (the article focused on collective efficacy theory rather than activities to increase collective efficacy or reported on epidemiological studies using collective efficacy as a variable); *no measure* (collective efficacy was not measured); *wrong language* (the article was written in a language other than English); and *no results* (the intervention addressed collective efficacy but did not report any results). The remaining articles were read in full, and the exclusion criteria were reapplied.

Abstracted information included: (1) whether or not formative research was used to develop the intervention, (2) community members targeted (including sex distribution and mean age), (3) the theory or model cited in the article, (4) the collective efficacy strategies and intervention activities, (5) the collective efficacy measure and results, and (6) the health-related measures and results.

The quality of the study was measured using the 6 criteria established by Megens and Harris³³: (1) inclusion/exclusion criteria articulated, (2) program well described, (3) reliable

measures used, (4) valid measures used, (5) assessors blinded, and (6) attrition tracked and revealed. For each criterion addressed in the article, a point was given, for a maximum of 6 points. For reliability, however, a point was given only if there was a citation of an established collective efficacy scale and/or stating a Cronbach α score of greater than 0.70. Validity of the outcome measure was determined by comparing stated health outcome with the health items measured. To look at study rigor, study design also was considered, (ie, randomized controlled trial, quasiexperimental design, or nonexperimental design).

RESULTS

The searches in January 2016 and again in July 2017 yielded 470 articles, and 264 duplicates were removed. Two more articles were identified by citation chasing. Applying exclusion resulted in 8 articles (Figure 2).

Characteristics of included studies

Study authors, locations, and targets are shown in Table 1. All of the studies were located in communities with health disparities. Of the 8 articles, 3 reported on studies targeting youth,^{34–36} 3 targeted adults,^{37–39} 1 targeted families,⁴⁰ and 1 targeted a community.⁴¹ The health outcome of interest varied across articles. Of the 3 studies targeting youth, one looked at risk-taking behaviors (alcohol, marijuana, and sexual partners) of 87 urban youth in Connecticut,³⁴ another looked at HIV and menstrual restrictions in 504 female students in Nepal,³⁶ and the third asked 60 community adults about problems of youth in their neighborhood in Tanzania.³⁵ Condom use was measured in 2 ($n = 400$ and $n = 1986$) of the adult studies, both conducted in India.^{37,39} Another study measured neighborhood participation of adults ($n = 28$) in Southern California.³⁸ Child aggression was measured by adult participants ($n = 282$) in the family-focused study.⁴⁰ The community-level intervention measured child abuse in South Carolina in 2 waves 3 years apart—in 2004 ($n = 229$) and in 2007 ($n = 326$).⁴¹

Intervention activities

Information on the intervention activities and use of formative research and theory is shown in Table 2. All studies reported multiple intervention activities. Activities were categorized by target population level of the activity, yielding 6 individual-level activities, 6 group-level activities, and 3 community-level activities. For example, trainings targeting individuals were categorized as individual-level activities, while activities that targeted groups, such as family-to-family support, were categorized as group-level activities. Community-level activities were activities that targeted the community as a whole, such as a community educational campaign. Training was implemented most often, followed by communication skills development, group discussion, and community engagement activities, such as writing and presenting public service announcements, writing letters to the editor of local newspapers, presenting to the local city council,³⁴ and sponsoring youth to write and enact miniplays about an issue to stimulate community discussion.³⁵

Together, 23 activities were targeted at the individual level (eg, providing training and building communication skills), 17 targeted the group (eg, facilitating self-help groups), and

9 targeted community (eg, campaigns and discussions). Knox et al⁴⁰ trained an established community organization to conduct intervention activities. McDonnell et al⁴¹ strove to build collective responsibility by mobilizing community support. It is of interest to note that these activities spanned the individual, group, and community levels. Berg et al³⁴ stressed the engagement of the participants in multilevel community settings to “attack multiple levels simultaneously.”³⁴

Four studies used formative research in their interventions to design or tailor intervention activities and to build trust,^{34,36,41} and, in 1 case, to build capacity to deliver intervention activities.⁴⁰ All studies reported at least 1 guiding theory or framework for the study, including 2 that identified collective efficacy as a theory^{35,36} and 1 that identified social capital as a theory.³⁷ Five reported being guided by multiple theories. For example, Berg et al³⁴ based the intervention on several theories that address empowerment and decision-making in youth, along with ecological theory to inform the intervention approach in working with individuals in groups that “focus on bringing about multi-level changes.”^{34(p346)}

The activities were linked to the 5 building blocks identified in the literature as necessary prerequisites for increasing collective efficacy: social bonding, social bridging, social leveraging, empowerment, and civic engagement (Table 3). As noted, definitions of these building blocks were used to categorize activities. When the purpose of an activity was not explicated in the article, the authors used best judgment to link the activity to a construct.

Most intervention activities were deemed to impact more than 1 construct. For example, communication skills workshops should increase social bonding, bridging, and leveraging and also address empowerment. Also, several different activities could promote a single construct. For example, discussions, reflections, and self-help groups can all promote social bonding. The implementation of a variety of activities resulted in building blocks being addressed multiple times. Overall, empowerment was the construct that was most impacted by intervention activities, as it was embedded in many of the intervention activities. Few intervention activities were aimed at increasing civic engagement, and 3 interventions did not appear to employ any activities aimed to increase it.

Collective efficacy measures

A variety of scales were used to evaluate the impact of the intervention on collective efficacy (Table 4). Two of the articles reported using Sampson’s neighborhood collective efficacy scale.⁴ This scale was used in its entirety (10 items) in one study⁴¹ and was modified in another to only look at the 3-item component “willingness to intervene.”³⁵ Berg et al³⁴ modified a community collective efficacy scale developed by Israel et al,⁴² and O’Connor et al³⁸ used a 6-item collective efficacy scale developed by Perkins and Long.⁴³ The remaining 4 studies^{36,37,39,40} did not indicate the modification of existing collective efficacy scales. One study³⁷ only used 1 item to measure collective efficacy (eg, “If there were a problem that affected all or most of the sex worker community, how many sex workers would work together to deal with the problem?”). Kuhlmann et al³⁹ used 4 items to measure collective efficacy for certain goals, with 1 item specific to willingness to mobilize. Reliability indices of the measures (ie, Cronbach α) were reported in all studies but one.³⁷ The Cronbach α for

Carlson et al's³⁵ child collective efficacy measure was 0.66; the rest were greater than 0.70, indicating good reliability.^{34–41}

Close examination of the survey items used to measure collective efficacy suggested that each item could be categorized into the following collective efficacy domains: social cohesion, social trust, social control, willingness to intervene, and empowerment (Table 5). When the author(s) did not explicitly report which component an item aimed to measure, the assignment was determined by the authors. Two studies used items that measured only one component of collective efficacy, with Carlson et al³⁵ measuring only willingness to act/intervene and Guha et al³¹ measuring only social cohesion. Two studies measured 2 components, 1 measured 3 components, and 3 studies measured 4 components. The willingness to act/intervene was evaluated in all but 1 intervention. Again, it is of note that most interventions measured more than 1 component of collective efficacy. This is to be expected, as intervention activities addressed several collective efficacy components.

Health measures

All 8 studies reported improvement in at least 1 measure of collective efficacy postintervention. Six of the 8 studies reported that improvements in community collective efficacy were linked to improved community health outcomes. Five of the interventions reported statistically significant outcomes, and 2 articles^{35,41} reported effect size. Of the 8 articles reviewed, 7 measured health outcomes by self-report surveys created for the study, such as the neighborhood problems scale,³⁵ or established surveys, such as the Social and Health Assessment Instrument.³⁴ McDonnell et al⁴¹ measured child abuse by state report statistics and *International Classification of Diseases, Ninth Revision (ICD-9)* codes.

In Table 5, the number of intervention activities (indicated with checks), grouped by construct, is juxtaposed with indicators of improvement (or not) in each study's collective efficacy measure and community health outcome measure. Of the articles reviewed, it appears that the 5 interventions that offered activities to improve civic engagement also improved community health, whereas 2 of the 3 that did not include civic engagement activities did not show improvement in the community health outcomes. One intervention did not address the social bonding variable and, although this intervention showed improved outcomes in child abuse, the survey item of self-reported parenting practices scores did not improve.⁴⁰ Of the studies with improved health outcomes, activities that addressed empowerment were most often implemented.

Study rigor

Findings from the quality rating of each study using the Megens and Harris³³ quality measure are shown in Table 6,³⁸ along with each study's design. Two of the interventions were tested using a randomized trial design, and one scored a perfect 6 and the other 5. Two were tested using a quasiexperimental design, and both scored 5. Four were tested using a preexperimental design, with a score of 5 in 2 of these studies. In all 8 studies, sample inclusion and exclusion criteria were well described, the interventions were well described, and the reliability of outcome measures was reported. The quality measure least often

reported was the blinding of the assessors, reported as being done in only 2 of the 8 articles. Thus, 6 of the 8 studies received scores of 5 or 6 for quality.

DISCUSSION

This review led to 4 conclusions: (1) improvements in collective efficacy may reduce health disparities; (2) intervention activities impacting all 5 building blocks of collective efficacy yielded better health outcomes; (3) interventions intervening on multiple social ecological levels achieved better health outcomes; and (4) there is lack of conceptual clarity and operationalization of the collective efficacy process model.

Improvements in collective efficacy may reduce health disparities

Although studies addressed a wide variety of health outcomes, 6 of the 8 studies reported improvements in the desired health outcome(s). All articles reported increased collective efficacy. This supports prior literature that “collective efficacy” is a mediating factor in community health outcomes.^{5,6} The broad and diverse intervention activities that were implemented to address collective efficacy building blocks demonstrate the flexibility and adaptability of the collective efficacy process. The use of collective efficacy to effectively address a variety of health outcomes adds further support to its influence in reducing health disparities. Caution needs to be taken in linking collective efficacy to reductions in health disparities because (1) the review included only 8 studies, (2) none included a direct measure of health disparities, and (3) there is lack of conceptual clarity and agreement on how to change collective efficacy among researchers. Further research is needed to establish a link between collective efficacy and health disparities.

Intervention activities impacting all 5 building blocks realized better health outcomes

Our model, developed from the literature, suggests that interventions need to target all 5 building blocks—social bonding, social bridging, social leveraging, empowerment, and civic engagement—to improve collective efficacy and affect health outcomes. Our analysis suggested that each study tested an intervention addressing at least 4 of the 5 building blocks. The least-often addressed was civic engagement, and 2 of the 3 interventions that did not address it did not show improvements in the health outcomes of interest. While this is gratifying, our “mechanism of action” model needs further examination. To test the theoretical assumptions that all building blocks must be addressed, future studies should test interventions that explicitly aim to affect all 5 building blocks individually and in combination. Examination of which activities could impact all building blocks would aid in more thoughtful incorporation of collective efficacy intervention into health disparities research and action.

Interventions intervening on multiple social ecological levels achieved better health outcomes

This review found the studies employed a variety of activities that targeted individuals, groups, and communities. To improve the understanding and usability of collective efficacy as a means to improve community health and well-being, this review supports others’ recommendations to incorporate intervention activities that address multiple social

ecological levels.⁴⁴ Intervening at multiple social ecological levels requires a comprehensive coordinated approach to enhance behavior change and influence health outcomes.⁴⁵ Although intervention activities targeted multiple levels, only 1 of the articles⁴¹ engaged the community by recruiting multiple levels (volunteers, community organizations, and institutions) to implement intervention activities.

Lack of conceptual clarity and operationalization of model

The articles demonstrated a lack of clarity in operationalizing collective efficacy and linking intervention activities to building blocks. In fact, 3 of the articles in this review mentioned the lack of research on how to operationalize collective efficacy concepts in interventions.^{34,38,39} This coincides with findings of a meta-review by Egan and associates who noted a “lack of consensus regarding the definitions and usage of [these] psychosocial concepts in the research literature.”^{28(pp238)} The review conducted by Leroux et al concluded that incorporating social relational constructs beyond the individual level was “dauntingly complex and inaccessible among researchers.”^{29(pp8)} This could be the result of the broad and inclusive definition of collective efficacy and its building blocks. Lack of conceptual clarity also could be linked to lack of clarity around collective efficacy theory, and only 2 interventions^{35,36} used collective efficacy theory to guide intervention activities. Other researchers have noted a lack of consensus on differences between psychosocial concepts, social capital, and collective efficacy^{27,28} and have recommended that social capital variables and collective efficacy components be integrated into existing behavioral theories.²⁰ Thus, our model may be useful for theory development as well as intervention development.

Overall, this review found only 8 peer-reviewed articles reporting on community-level interventions using collective efficacy as a mediating factor to address health disparities. Excluded from this review were a number of articles reporting on research that measured collective efficacy and associated the findings with health and community statistics but did not test interventions to improve collective efficacy or health disparities.^{5,6} This is consistent with results found in other literature reviews that have looked at general social constructs and interventions.^{28,29} The lack of community-level interventions targeting collective efficacy and/or components of collective efficacy was also noted by the authors of 4 articles included in this review.^{34,37–39} Although there was not a date limit in this literature review, all the articles were published within the last 6 years, indicating that the application of collective efficacy in interventions is a new area of study.

There are several limitations of this systematic literature review. First, only peer-reviewed articles were included. There may have been reports of interventions addressing collective efficacy and health disparities that were not published, subjecting this review to publication bias. The literature review may have missed peer-reviewed articles based on the search terms used. For example, interventions may have measured a component of collective efficacy but not included the specific term “collective efficacy” in the title or abstract. This limitation links to the unclear definition, process, and measurement of collective efficacy. Also, the studies in this review were conducted in various countries with a variety of target populations in different contexts, which may have impacted how collective efficacy was

considered. Finally, this review was not intended to be a theoretical examination of collective efficacy, but more of a translational review of how to put the concept of collective efficacy into practice in intervention delivery and evaluation.

This review found that interventions that utilize collective efficacy hold the promise to reduce health disparities in communities. The findings also point to the importance of better understanding how collective efficacy works to reduce health disparities. This is especially relevant as the decrease in prevention funding requires more collaborative, grassroots initiatives to affect community change.

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Figure 1.
Collective efficacy mechanism of action model.

Figure 2.
Systematic review flowchart. CE, collective efficacy.

Table 1.

Overview of Studies

Author	Number of Participants	Population Surveyed	Population Receiving Intervention Activities	Location	Health Outcome of Interest
Berg et al ³⁴	87	Youth (in program) ^a	Youth (age 14–17 y, urban, predominately Caribbean and African American and Latino)	The United States	Alcohol, marijuana, sexual partners
Carlson et al ³⁵	60	Adults (in community) ^a	Youth (age 9 – 14 y in the Kilimanjaro Region)	Tanzania	Neighborhood problems
Posner et al ³⁶	504	Youth (in program) ^a	Youth (females, aged 11 –24 y from all castes)	Nepal	HIV, menstrual restrictions
Guha et al ³⁷	400	Adults (in program) ^a	Adults (female sex workers)	India	Condom use
O'Connor et al ³⁸	28	Adults (in program) ^a	Adults (Hispanic)	The United States	Neighborhood participation
Kuhlmann et al ³⁹	1986	Adults (in program) ^a	Adults (female sex workers)	India	Condom use
Knox et al ⁴⁰	282	Adults (in program) ^a	Families (Mexican-born parents with US-born children)	The United States	Child aggression
McDonnell et al ⁴¹	229 (wave 1) 326 (wave 2)	Adults (in community) ^b	Communities (urban and rural in South Carolina)	The United States	Child abuse

^a,"in program" indicates the populations surveyed were participants in the intervention program.

^b,"in community" indicates the populations surveyed were residents in the community and not directly involved in the program.

Table 2.

Intervention Activities by Target Group

Author and Health Outcome of Interest	Theory and/or Model used	Individual-Level Activities						Group-Level Activities					Community-Level Activities				
		Formative Research	Communication/Skills Workshops	Trainings	Train the Trainer	Research Training	Reflection	Volunteering	Discussion	Community Project	Neighborhood Assessment	Self-Help Groups	Family-to-Family Connections	Train the Trainer	Support Organizations/Setting	Strengthening Community Norms	Engagement
Berg et al ³⁴ (alcohol, sex partners, and marijuana use in youth)	Ecological theory; identity theory; learning and instructional theories; critical, transformative theories																
O'Connor et al ³⁸ (neighboring participation)	Sense of community theory																
Posner et al ³⁶ (HIV knowledge and menstrual restrictions)	Self-efficacy and collective efficacy theory (Bandura ⁸)																
Carlson et al ³⁵ (neighborhood problems)	Capability theory; communicative action theory; collective efficacy theory (Bandura ⁸ and Sampson et al ⁹); ecological theory																
McDonell et al ⁴¹ (child abuse)	Theory of change																
Guha et al ³⁷ (condom use)	Collectivism; social capital theory																
Knox et al ⁴⁰ (child aggression)	Social ecological theory; family stress theory;																

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Author and Health Outcome of Interest	Theory and/or Model used	Individual-Level Activities					Group-Level Activities					Community-Level Activities					
		Formative Research	Communication/ Skills Workshops	Trainings	Train the Trainer	Research Training	Reflection	Volunteering	Discussion	Community Project	Neighborhood Assessment	Self-Help Groups	Family-to-Family Connections	Train the Trainer	Support Organizations/ Setting	Strengthening Community Norms	Engagement
Kuhlmann et al ³⁹ (condom use)	family systems theory																
	Community mobilization theory																
total for each activity	8	4	5	7	3	4	2	2	5	3	1	2	3	3	1	3	5

Table 4.

Collective Efficacy Measurement Tools

Author	Number of Items	Response Options	Cronbach α	Social Cohesion	Social Trust	Social Control	Willingness to Act/ Intervene	Empowerment
Berg et al ³⁴	11 items (modified Israel et al ⁴²)	4-point Likert scale	0.72					
Carlson et al ³⁵	Child—4 items Neighborhood—6 items	4-point Likert scale 4-point Likert scale	0.77 0.73					
Guha et al ³⁷	1 item	5-point Likert scale	NR					
Knox et al ⁴⁰	Adult—3 items (Sampson et al ⁹) Child—NR (Sampson et al ⁹)	4-point Likert scale 4-point Likert scale	0.70 0.66					
Kuhlmann et al ³⁹	4 items (certain goals) 1 item (willingness to mobilize)	4-point Likert scale 4-point Likert scale	0.73 NA					
McDonnell et al ⁴¹	10 items (Sampson et al ⁹)	4-point Likert scale	0.88					
O'Connor et al ³⁸	6 items (Perkins and Long ⁴³)	3-point Likert scale	0.93					
Posner et al ³⁶	6 items	4-point Likert scale	0.79					

Abbreviations: NA, not applicable; NR, not rated.

TABLE 5.
Number of Activities Associated by Block With Outcome and Collective Efficacy Indicator^a

Author	Building Block With Outcome and Collective Efficacy					Outcome
	Empowerment	Social Bonding	Social Leveraging	Social Bridging	Civic Engagement	
Berg et al ³⁴					+	+
O'Connor et al ³⁸					+	+
Posner et al ³⁶					+	+
Carlson et al ³⁵					+	^b +
McDonnell et al ⁴¹					+	^b +
Guha et al ³⁷					+	^c ±
Knox et al ⁴⁰					^d ±	–
Kuhlmann et al ³⁹					+	–

^aEach checkmark represents activity implemented addressing the antecedent variable.

^bSmall effect size reported.

^cPositive outcome not seen in all groups.

^dChild collective efficacy improved, but parent collective efficacy did not.

TABLE 6.

Intervention Quality Measure

Intervention	Study Design	Inclusion/ Exclusion Criteria Articulated	Program Well Described	Reliable Collective Efficacy Measures Used	Valid Outcome Measures Used	Assessors Blinded	Attrition Tracked and Revealed	Total Score	Health Outcome
Carlson et al ³⁵	RCT							6	^a +
Knox et al ⁴⁰	RCT							5	–
Berg et al ³⁴	Quasiexperimental design with matched comparison group							5	+
McDonnell et al ⁴¹	Quasiexperimental design with comparison group							5	^a +
Posner et al ³⁶	Pre- and posttest design, no control							5	+
O'Connor et al ³⁸	Retrospective design, no control							5	+
Guha et al ³⁷	Pre- and posttest design, no control							3	^b ±
Kuhlmann et al ³⁹	Cross-sectional dose-response design							4	–

Abbreviation: RCT, randomized controlled trial.

^aSmall effect size.

^bPositive outcome not seen in all groups.