Advancing the Measurement of Collective Community Capacity to Address Adverse Childhood Experiences and Resilience

July 14, 2016







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Advancing the Measurement of Collective Community Capacity
To Address Adverse Childhood Experiences and Resilience

July 14, 2016

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Suggested citation:
Hargreaves, Margaret, B., Natalya Verbitsky-Savitz, Brandon Coffee-Borden, Lexie Perreras, Peter J. Pecora, Catherine Roller White, Geoffrey B. Morgan, Theresa Barila, Andi Ervin, Lyndie Case, Renee Hunter, and Kathy Adams. *Advancing the Measurement of Collective Community Capacity to Address Adverse Childhood Experiences and Resilience*. Gaithersburg, MD: Community Science. June 2016.

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ACKNOWLEDGMENTS

The creation of the ACEs and Resilience Collective Community Capacity (ARC^3) survey was made possible through the contributions of many individuals and organizations. The evaluation team thanks the ACEs Public-Private Partnership Initiative (APPI) leadership team and five APPI sites for their time and effort providing direction and feedback on the survey: the Skagit County Child and Family Consortium, the Whatcom Family & Community Network, the Okanogan County Community Coalition, the Coalition for Children and Families of North Central Washington, and the Walla Walla County Community Network and Children's Resilience Initiative.

We are also grateful to the Cowlitz County Community Network, Kitsap County Commission on Children and Youth/Kitsap Strong, and Thurston Council for Children and Youth, for their participation in the pilot testing of the survey. We thank Catherine Roller White, an independent research consultant, for her analysis of the pilot survey. We also thank Laura Porter at the Foundation for Healthy Generations for the information she provided regarding the Family Policy Council's Community Capacity Development model.

The creation of the ARC^3 survey would not have been possible without the generosity and financial support of Casey Family Programs, the Empire Foundation, and the Thomas V. Giddens, Jr. Foundation. In particular, we thank the Bill & Melinda Gates Foundation for supporting the development of the survey and the writing of this paper.

Finally, we would like to thank Community Science staff: David Chavis (for guiding and reviewing this report); Lexie Perreras (for programming the ARC^3 survey web instrument and analyzing survey data) and Kumbie Madondo (for performing the factor analysis of the ARC^3 index). We also thank Mathematica staff: Lisa Klein Vogel (for helping us to improve the survey instrument) and Matthew Stagner (for providing comments throughout the evaluation).

A. Introduction

In 2012, the ACEs Public-Private Initiative (APPI), a Washington State consortium of public agencies, private foundations, and local networks, was formed to study effective interventions to prevent and mitigate adverse childhood experiences (ACEs) and facilitate statewide learning and dialogue on these topics. In 2013, APPI sponsored a rigorous, three-year mixed-methods evaluation of multifaceted community-based initiatives across the state. The final report, *Preventing and Mitigating the Effects of ACEs by Building Community Capacity and Resilience: The APPI Cross-Site Evaluation Findings*, presents the evaluation's findings, including the results of the evaluation's ACEs and Resilience Collective Community Capacity (ARC^3) survey (Verbitsky-Savitz et al. 2016).

This report describes the development, design, implementation, and results of the APPI evaluation's ACEs and Resilience Collective Community Capacity (ARC^3) survey. The survey was created to measure the APPI sites' collective community capacity to address ACEs and increase resilience in their communities. The report includes an introduction (Section A), background information about the APPI evaluation and survey (Section B), and a conceptual framework of collective community capacity and reviews key collective capacity building concepts and measures (Section C). In Section D, the report describes the development, pilot testing, revision, and fielding of the final survey instrument. The report ends with an assessment of the survey's validity and reliability, and a discussion of the survey's advantages, limitations, and next steps for survey development (Section E). The report's appendices include the ARC^3 survey instrument and tables of the sources of survey measures and results.

1. Significance of Adverse Childhood Experiences and Resilience

ACEs—commonly defined as 10 types of child abuse, neglect, and family exposure to toxic stress[1]—are a complex population health problem with significant detrimental outcomes. The seminal ACE study, conducted among adult members of a health maintenance organization in Southern California in the late 1990s, had two major findings. First, exposure to ACEs is related to a range of poor adult outcomes, including increased risk of alcohol and drug use, mental health problems, poor physical health, and risky behaviors (Felitti et al. 1998). Subsequent research demonstrated that toxic stress, associated with exposure to ACEs, disrupts neurodevelopment and leads to (a) impaired decision making, impulse control, and resistance to disease; (b) increase in adoption of risky behaviors; and (c) early onset of disease, disability, and death (Center of the Developing Child at Harvard University 2016) (see Figure 1).

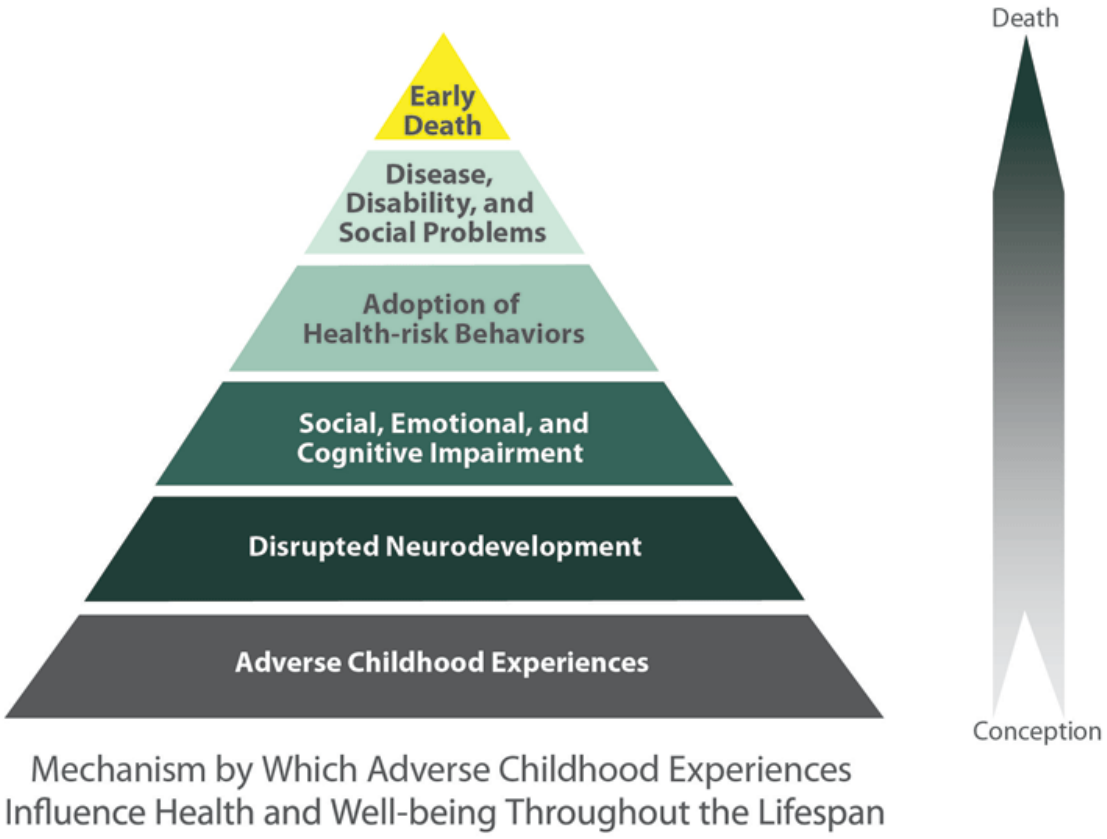
Second, the ACE study found that ACEs are very common in the general population, with about one in four adults reporting three or more ACEs. The Centers for Disease Control and Prevention (CDC) confirmed these findings in their 2009 five-state study, (CDC 2010).[2] Later research found that ACEs are even more prevalent among children living in nonparental care and children who had contact with child welfare system (Bramlett and Radel 2014; Stambaugh et al. 2013).

[1] ACEs are (1) emotional abuse, (2) physical abuse, (3) sexual abuse, (4) emotional neglect, (5) physical neglect, (6) mother treated violently, (7) household substance abuse, (8) household mental illness, (9) parental separation or divorce, and (10) incarcerated household member. See https://www.aap.org/en-us/Documents/ttb_aces_consequences.pdf

[2] These findings are based on a large representative sample of adults in Arkansas, Louisiana, New Mexico, Tennessee, and Washington states using the 2009 Behavioral Risk Factor Surveillance System (BRFSS), ACE module data.

Because ACEs pose a significant public health problem, national leaders in health care, public health, and child development have identified ACEs as "the single greatest unaddressed public health threat facing our nation today" (Harris 2014). In response, more national and state government leaders, foundations, researchers, social service agencies, and concerned communities are working (a) to increase awareness and understanding of the impact of ACEs, (b) to develop effective strategies to prevent ACEs, increase resilience, alleviate trauma, break the complex cycle of intergenerational transfer of ACEs from parents to their children, and (c) support communities as they promote healthy child and adult development (Robert Wood Johnson Foundation 2015). These initiatives include broad dissemination of ACEs-related research, science-based prevention, early intervention, treatment interventions, and public health initiatives focusing on community-based solutions (Center on the Developing Child at Harvard University, 2016; CDC 2014; Foundation for Healthy Generations 2014).

Figure 1. Adverse childhood experiences pyramid



Source: CDC (2016)

There is an allied movement to increase resilience at both individual and community levels (Pinderhughes et al. 2015, p. 5). In general terms, resilience can be defined as the capacity of a dynamic system to anticipate and adapt successfully to challenges. In relation to ACEs, resilience is defined more narrowly; "in the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain

their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways." (Ungar 2011, p. 1742)

Current strategies to increase community resilience in places other than Washington state include (1) cross-sector collaborations, such at the *100 Resilient Cities Network* pioneered by the Rockefeller Foundation (2016); (2) convenings to develop a common agenda, such as the *Resilience Roundtable* convenings hosted by the Robert Wood Johnson Foundation in collaboration with RAND Corporation (2016); and (3) community mobilization efforts, such as the *Los Angeles County Community Disaster Resilience Project*, a community collaborative led by the Los Angeles County Department of Public Health (2016). New interventions are also being developed to increase individual resilience. "A rapidly growing knowledge base from the biological and behavioral sciences, combined with practical, on-the-ground knowledge from working with adults and families, points to more effective solutions … in helping individuals develop more effective skills for coping with adversity" (Center on the Developing Child at Harvard University 2016, p. 16).

2. Washington State Family Policy Council Networks

In 1992, the state of Washington enacted legislation creating an interagency Family Policy Council (FPC) to carry out "principle-centered systemic reforms to improve outcomes for children, youth, and families." Additional legislation in 1994 authorized the FPC to create local networks to address specific issues: child abuse and neglect, domestic violence, youth violence, youth substance abuse, dropping out of school, teen pregnancy, youth suicide, and out-of-home placements of children in the child welfare system. In 2002, FPC initiated a series of statewide network training sessions on the impact of early trauma and toxic stress on brain development in children. The trainings emphasized the roles that nurturing environments, protective factors, and resilience can play in preventing or mitigating the effects of childhood trauma (Biglan et al. 2012; Brownlee at al. 2013; Cohen et al. 2010; O'Connell et al. 2009).

The FPC encouraged local community networks to attend the trainings, disseminate ACEs and resilience information in their communities, and develop communitywide responses to the problem using a public health approach that included assessing community strengths and challenges, researching effective strategies, and building on local assets to develop and implement solutions to local concerns. After the FPC was defunded in 2011 and the networks lost their FPC funding in 2012, 18 out of the 42 networks continued their work supported by funding from other sources, including other grants from federal, state, and local agencies as well as private foundations.

B. APPI Evaluation and ARC^3 Survey

In 2012, APPI, a Washington State consortium of public agencies, private foundations, and local networks, was formed to study effective interventions to prevent and mitigate ACEs and facilitate statewide learning and dialogue on these topics. APPI sponsored a rigorous, mixed-methods evaluation of multifaceted community-based initiatives across the state (APPI 2013). Using a competitive process, APPI selected five communities throughout the state to participate in the evaluation, awarding them three-year grants to help offset the costs of participating in the evaluation process: the Skagit County Child and Family Consortium; the Whatcom Family & Community Network; the Okanogan County Community Coalition; the Coalition for Children and Families of North Central Washington (NCW); and the Walla Walla County Community Network.

Four of the five APPI sites share a history as former FPC community networks. The fifth site (Okanogan) is a community mobilization coalition funded by the federal Drug-Free Communities Support Program. Although the sites vary in context, structure, funding, and scope, they all use community capacity building strategies to drive community change (through new programs, policies, practices, and community norms) that can reduce ACEs, increase resilience, and promote health child development (Verbitsky-Savitz et al. 2016).

In 2013, APPI contracted with Mathematica Policy Research to conduct an independent evaluation of the efforts of the five communities. The evaluation addressed a central question: "Can a multifaceted community-based empowerment strategy focused on preventing and mitigating ACEs succeed in producing a wide array of positive outcomes in a community, including reduction of child maltreatment and improvement of child and youth development outcomes?" The evaluation was conducted in two phases. The first phase (2013-2014) was led by Mathematica and included expert consultants Dr. Anthony Biglan, Patricia Bowie, Dr. Pennie Foster-Fishman, and Aimee White. The evaluation methods used in the first phase included two rounds of site visits and interviews, a review of site documents, and analysis of county-level trends in 30 ACEs-related county-level indicators that compared the sites to the rest of Washington.

The second phase of the evaluation (2015-2016) was led by Mathematica with collaboration with Community Science, which led the survey task. The evaluation team assessed the extent to which the sites developed sufficient capacity to achieve their goals and examined the relationship of the sites' capacity to selected site efforts and their impact on ACEs-related outcomes. The methods used included designing and implementing a survey to assess the collective community capacity of each site to address ACEs and increase resilience; reviewing site documents; interviewing key stakeholders; and conducting quantitative analyses of individual-, program-, and organization-level changes associated with 11 selected activities.

The APPI evaluation assessed: (1) the APPI sites' contexts, goals, strategies, and theories of change; (2) the sites' capacity to develop effective coalitions and collaborative networks of community partners targeting ACEs, (3) the collective actions of the sites to implement programs, policies, and practices to reduce ACEs, increase resilience, and support healthy child development; and (4) the impacts of the sites' efforts at the county and sub-county (program, organization, neighborhood, and community) levels. The findings from the first phase of the evaluation are presented in the evaluation's interim report (Hargreaves et al. 2016). The findings from the second phase of the evaluation are presented in the evaluation's final report (Verbitsky-Savitz et al. 2016).

C. ARC^3 Concepts and Measures

The ARC^3 survey is grounded in community capacity building theory and practice. More communities and policymakers are recognizing the value of using community capacity building and empowerment strategies to improve the health and well-being of their residents. "Support for capacity building is important because well-organized and empowered communities are highly effective in determining their own health and are capable of making governments and the private sector accountable for the health consequences of their policies and practices" (World Health Organization and Thai Ministry of Health 2005, p. 2). Community capacity is commonly defined as "the interaction of human, organizational, and social capacity existing within a given community that can be leveraged to solve

collective problems and improve or maintain the well-being of a given community" (Chaskin 1999, p. 4). However, there are conceptual and technical challenges to defining and measuring community capacity:

- **The concept of community capacity is complex**, involving "myriad elements, including the ability of community organizations to collaborate, advocate, communicate, and collect and use data to implement programs and practices that are effective for their community" (Grantmakers for Effective Organizations 2014, p. 9).
- **At the coalition level, capacity is mutable and dynamic**; while it can be enhanced through capacity building and technical assistance, it can also be affected by shifts in coalition membership, developmental stage, and focus (Foster-Fishman et al. 2001, p. 242).
- **Community capacity is multilayered, developed over time through a scaffolding process** that shifts community norms and larger-level policies to support changes made at the program and organizational levels (Barila et al. 2015, p. 3).
- **The concept of community capacity is often confused with other terms**. "Capacity building," "community capacity building," "community development," and "community mobilization" are often used interchangeably with "community capacity" (Morgan 2015, p. 22).
- **Different capacity building models define community capacity differently**. These models include prevention coalitions, community collaboratives, collaborative networks, comprehensive community initiatives, and collective impact processes.
- **Community capacity is also difficult to measure for technical reasons**; including the scarcity of empirically validated instruments, the lack of differentiation between coalition-, network-, and community-level capacity measures; hard to measure capacity outcomes, and the length of time typically required for capacity building efforts to affect community-wide outcomes (Bush 2002, pp. 3 and 7; MacLellan 2007, p. 300; Marek et al. 2015, p. 68).

Many APPI sites are using different models and terminology for their capacity building activities:

- The APPI sites are not using the same capacity building model. Differences in the sites' community capacity building language reflects the different capacity building models and combinations of models they are using as prevention coalitions, service consortia, FPC networks, community organizers, and participants in collective impact processes.
- The APPI sites are building community capacity in different ways in four general areas: (1) creating organizational structures; (2) building ACEs-focused networks of community partners; (3) developing community problem-solving processes; and (4) implementing a wide range of ACEs- and resilience-informed policies and practices.

In measuring community capacity, it is particularly important to differentiate between coalitions, networks, and communities. "Many collaborative capacity measurement tools have mistakenly conceptualized community organizations as a single entity with one goal, when it is more accurate to describe them as a network of many agencies working on many related objectives" (Cross et al. 2009, p. 313). In contrast to *networks*, which may be defined as "loose-knit, nonhierarchical groups of individuals and organizations with flexible roles, and low-key leadership and decision-making" — *coalitions* are "formal alliances of organizations that come together to work for a common goal" (Butterfoss 2007, pp. 29-30).

According to Butterfoss's Community Coalition Action Theory, coalitions contribute to systems- and community-level change by "creating a context for organizations to develop relationships, forming a collaborative, inter-organizational network that extends beyond the coalition" (Butterfoss 2007, p. 212).

Coalitions are thus "embedded in a broader network that acts as an intervention system, creating opportunities for increased network collaboration and capacity building" (Bess 2015, pp. 382-383). From this perspective, "community capacity building can be considered as work that is done to develop the capacity of a network of individuals, groups and organizations that share or have the potential to share common concerns, interests and goals" (Bush, Dower, and Mutch 2002, p. 4). Indeed, "in many communities, organizational networks have become an important mechanism for building the capacity to recognize complex health and social problems, systematically planning for how such problems might best be addressed, and delivering services" (Provan et al. 2005, p. 603).

1. Collective Community Capacity Concepts

To address the technical and conceptual challenges of developing community capacity measures for the ARC^3 survey, the evaluation team worked with the APPI leadership and APPI sites to identify collective community capacity concepts and measures that met five criteria. The survey measures needed to (1) differentiate between coalition-, network-, and community-wide levels of capacity; (2) be shared by multiple capacity building models; (3) be associated with positive outcomes; (4) relevant to ACEs and resilience; and (5) be measured through valid and reliable survey instruments. To identify community capacity concepts and measures that fit these criteria, the evaluation team reviewed the research literature from five community capacity building models that were common across the APPI sites. The models are listed in the order of their development; the newest model (collective impact) is listed last: (1) prevention coalitions, (2) community collaborations, (3) comprehensive community initiatives, (4) community capacity development, and (5) collective impact.

Prevention coalitions. Prevention refers to the practices, programs, and processes that communities use to prevent, mitigate, or treat social or health problems. Since the 1960s, prevention coalitions have been mobilizing communities to address tobacco use, substance abuse, cancer, community violence and other public health issues. "Many prevention initiatives use community capacity building models and frameworks to achieve their goals" (Morgan 2015, p. 25). Since the 1990s, the use of local, state, and federal prevention coalitions for health promotion, disease prevention, and health care access and treatment has become particularly widespread (Butterfoss 2007, p. 17). Defined as "formal alliances of organizations that come together to work on a common goal," prevention coalitions are seen as developing two kinds of capacity: *general capacity* and *innovation-specific capacity* (Flaspohler et al. 2008, p. 182). General capacity refers to overall functioning, whereas implementation-specific capacity refers to the ability to implement or improve an innovation. At a community level, "implementation-specific capacity is the capacity to not only sustain a particular program, project, or initiative, but to identify new community problems as they arise and develop new ways of addressing them" (Flaspohler et al. 2008, p. 185).

Past researchers have identified 10 domains of community capacity in the field of prevention (Flaspohler et al. 2008, p. 190):

1. leadership (pluralistic leadership);
2. participation (opportunities for citizen participation);
3. resources (resource mobilization);
4. connections among people and organizations (inter-organizational networks and social support);
5. connections between outside communities and institutions (the role of outside agents);
6. sense of community (community trust);
7. community norms and values;

8. commitment (willingness to convene for the common good);
9. community power; and
10. community knowledge and skills (problem assessment, critical assessment of causes of inequalities, including knowledge of existing prevention efforts, communication, and conflict accommodation).

Community collaborations. Community agencies and organizations have also recognized the value of working collaboratively to "develop more innovative solutions to complex issues, reduce service duplication, combine human and organizational resources, improve the quality of local services, develop more integrated and comprehensive systems of care, and increase social capital for children, youth, and families and communities" (Marek et al. 2015, p. 67). Based on a qualitative analysis of over 80 articles, chapters, and practice guides on collaboration and coalition functioning published since 1975, Foster-Fishman and colleagues developed an integrative framework of collaborative capacity, which defines collaborative capacity as "the conditions needed for coalitions to promote effective collaboration and build sustainable community change" (Foster-Fishman et al. 2001, p. 242.) The framework focuses on the collective or relational aspect of collaborative capacity. "While capable members are needed to build collaborative capacity, collaboration is ultimately about developing the social relationships needed to achieve desired goals" Foster-Fishman et al. 2001, p. 251).

This integrative framework identified seven domains of relational capacity: (1) positive internal working climate (cohesive, cooperative, trusting, open and honest, where conflict is handled effectively); (2) members uniting around a shared vision (with superordinate goals, shared solutions, and a common understanding of problems); (3) an empowering culture with power sharing (with participatory decision-making and shared power, minimization of differences in member status); (4) valuing diversity (where individual and group differences are appreciated and multiple perspectives coexist); (5) positive relationships with external stakeholders (multiple sectors are included in the coalition, expanding the network structure); (6) community residents engaged in planning and implementation processes; and (7) strong links to other coalitions targeting similar problems and links to key community leaders and policy makers (Foster-Fishman et al. 2001, p. 253).

Comprehensive community initiatives. In the 1990s, a new model of large-scale, place-based cross-sector initiatives—comprehensive community initiatives (CCIs)—was created to address the needs of residents in poor communities. CCIs typically utilize intermediary organizations and are organized around community building principles of resident engagement, integrating community development and human service strategies, working across sectors, strengthening networks, and concentrating resources to catalyze the transformation of distressed neighborhoods (Trent and Chavis 2009, p. 96). Over a 15-year period, new forms of public and philanthropic funding have become available, which have expanded the range of connections, leverage, and capacity available to poor communities (Kubisch et al. 2010, p. vi).

To assess the evidence of what CCIs have accomplished, and identify keys lessons about the factors that support its success, Kubisch and colleagues at the Aspen Institute conducted a review of 48 major CCIs and related community initiatives. The study's report presented eight lessons regarding the strategies and capacities needed to achieve successful community-wide change (Kubisch et al. 2010, pp. 120–133):

1. be clear about goals, the definition of success, and the theory of change;
2. invest in intentional strategies for achieving these goals;
3. make sure that investments are proportional to the type and scale of desired outcomes;

4. be willing to invest in capacity building to ensure successful implementation;
5. treat comprehensiveness as a principle, not as a goal;
6. embrace community building as a core strategy;
7. expand evaluation to assist in planning, management, and learning; and
8. rethink and increase the role of philanthropy in community change.

In 2015, Chavis and colleagues at Community Science conducted a review of 13 CCI projects for the Annie E. Casey Foundation. In addition to developing evidence-based principles regarding the role of foundations in building CCI capacity, the study report identified five research-based community capacity building principles (increase community-wide capacity for developing initiative plans, pay attention to race and culture, strengthen the ability to access and use data, institutionalize the ability to manage the community change process, and identify and maintain focus on meaningful results). The review identified two systems change principles (target larger systems changes that align with community change goals, and develop integrated place-based systems of services and care). The study also created two community context principles (be aware of and responsive to community histories and relations, and select communities based on prior experience with successful collaborations that mobilized residents and stakeholders around improvement efforts) (Community Science 2001, p. 7-8).

Community capacity development (CCD). In 2009, the Washington State FPC developed its own intermediary model for supporting the work of its community networks. Three APPI sites (Skagit, Walla Walla, and Whatcom) have adopted elements of this CCD model. The CCD model's implementation guide and resource documents highlight three important features: (1) its focus on ACEs; (2) its conceptualization of local FPC sites as networks; and (3) the scale of its intended outcome—reduced population-level prevalence of ACEs. The model hypothesized, "Strong, self-directed community networks have the potential to bring together government, private, and public agencies, citizens, and resources to build supports for families and communities. Building community capacity may be an effective strategy to reduce the prevalence of ACEs and related risk behaviors" (Hall et al. 2012, p. 327).

The CCD model identified four elements of community capacity: (1) a shared focus (on inter-related child and family problems); (2) community leadership (collaborative community leadership with resources leveraged through partnerships, grants, and sustainable research-based projects); (3) learning (analyzing data and making changes based on experience); and (4) results (tracking measurable intermediate and long-term outcomes of the reduction of at-risk/problem behaviors, which are used to develop service systems and improve programs) (Hall et al. 2012, p. 327; Porter 2011, p. 1).

The model also identified 10 core team competencies (Porter 2011, p. 5):

1. operations (managing the administration of the network organization);
2. volunteer and board management (using volunteers to move ideas into action);
3. community collaboration (combining divergent views into a common focus);
4. problem behaviors, antecedents, and known practice (following the science to develop credible theories of change);
5. civic engagement and public policy (fostering the public will to act, and translating local ideas into actionable policy recommendations);
6. public health (understand public health science and use surveillance data to illuminate local realities and support decision-making);
7. data analysis (select, gather, understand, make meaning, and disseminate findings);

8. outcomes and evaluation (monitoring actions to establish continuous improvement strategies for the system as a whole);
9. systems thinking (developing and using systems thinking and skills); and
10. evaluating programs and recommending legislative changes to improve child and family outcomes, improve systems responsiveness, and decategorize projects.

Collective impact. In 2011, the Stanford Social Innovation Review published an article about a new model of cross-sector collaboration called collective impact. The model proposed five domains or conditions of an effective community change process (Kania and Kramer 2011, p. 40):

1. common agenda (all participants have a shared vision for change);
2. shared measurement (collecting data and measuring results consistently across all participants);
3. mutually reinforcing strategies (participant strategies are differentiated but coordinated through a mutually reinforcing plan of action);
4. continuous and open communication across the players to build trust and assure mutual objectives; and
5. backbone support (a separate organization to create and manage the collective impact project).

Subsequent articles published in 2012, 2013, and 2015 provided more details, including three preconditions of success (having an influential champion, willing funders, and a sense of urgency or crisis) and three phases of activity (forming a governance structure, creating the backbone organization, and sustaining the action) (Hanleybrown et al. 2012; Kania and Kramer 2013, 2015). To understand current use of the collective impact model, education researchers conducted a national scan of 182 place-based, multisector, collaborative leadership efforts that focused on educational outcomes. The 2016 study's results reported that two-thirds of the cross-sector education initiatives that started after 2011 were using the term "collective impact" in their projects. Many of the initiatives reported using at least some collective impact features, such as creating high-level leadership boards and working to collect and track shared measures of community needs, services, and outcomes (Henig et al. 2016, p. v).

2. Collective Community Capacity Survey Measures

The evaluation team sought to develop an online survey instrument to accomplish three goals:

- Describe the characteristics of the individuals and organizations working with APPI sites to reduce ACEs, increase resilience, and promote healthy child development;
- Document the sites' efforts to reduce ACEs, increase resilience, and promote healthy child development; and
- Gather data on the collective community capacity of the sites to reduce ACEs, increase resilience, and promote healthy child development.

Initially, the evaluation team planned to achieve these goals using an existing survey instrument. The evaluation team looked for valid and reliable survey measures that were able to (1) differentiate between coalition-, network-, and community-wide levels of capacity; (2) be shared by multiple capacity building models; (3) be associated with positive outcomes; and (4) relevant to ACEs and resilience. While we found no survey instruments that met all of these criteria, we did find five survey instruments that fit some criteria. The five instruments are (1) the Washington DBHR Coalition Assessment Tool, (2) the Wilder Collaboration Factors Inventory, (3) the Collaboration Assessment Tool developed by Marek and colleagues, (4) the Public Health Agency of Canada survey, and (5) the Community Capacity Index from

Queensland, Australia. Three of the survey instruments have been evaluated for their validity and reliability; the other two data collection tools include measures that are relevant to the APPI evaluation. We selected and adapted items from these five tools to create the ARC^3 survey. The rest of this section describes these tools and measures in more detail.

Coalition Assessment Tool. The Coalition Assessment Tool was developed by the Performance Based Prevention System in the Washington State Department of Social and Health Services (DSHS) Division of Behavioral Health and Recovery (DBHR 2011, pp. 1-3). The 76-item tool is designed to assess 14 aspects of a coalition's operation and capacity: (1) vision, mission, and goals; (2) coalition structure and membership; (3) coalition leadership; (4) outreach and communication; (5) coalition meetings and communications; (6) opportunities for member growth and responsibility; (7) effectiveness in planning and implementation; (8) relationship with local government and other community leaders; (9) partnerships with other organizations; (10) coalition members' sense of ownership and participation; (11) ability to collect, analyze, and use data; (12) understanding of and commitment to environmental change strategies; (13) cultural competence; and (14) funding and sustainability. As DBHR grantees, three APPI sites—Okanogan, NCW, and Whatcom—are required to complete this survey periodically. Several DBHR survey items that measured domain-specific collective capacity concepts were selected and adapted for the ARC^3 survey.

Wilder Collaboration Factors Inventory. The Amherst H. Wilder Foundation Collaboration Factors Inventory, an online tool developed in 2001, measures 20 factors associated with successful collaboration. The 40-item inventory includes several factors relevant to the APPI evaluation: (1) collaborative group seen as a legitimate leader in the community; (2) appropriate cross-section of members; (3) ability to compromise; (4) members sharing a stake in both process and outcome; (5) open and frequent communication; (6) established informal relationships and communication links; (7) concrete attainable goals and objectives; (8) shared vision; (9) sufficient funds, staff, materials, and time; and (10) skilled leadership. Two evaluations found that the inventory factors were moderately to highly reliable, with Cronbach's alpha scores ranging from 0.58 to 0.92 across the scales (Derose et al. 2004, p. 58; Townsend and Shelley 2008, p. 111). Some inventory items that measured domain-specific collective capacity concepts were selected and adapted for the ARC^3 survey.

Collaboration Assessment Tool. Using the Wilder Collaboration Factors Inventory as a foundation, Virginia Tech researchers created the Collaboration Assessment Tool (CAT) in 2015 to test and validate a seven-factor model of effective collaboration. The CAT consists of 69 items related to seven factors (context, members, process, communication, function, resources, and leadership) (Marek et al. 2015, p. 72). The factor loadings had positive correlation coefficients (ranging from 0.52 to 0.89), with the exception of two context factor items, which were later eliminated. The study authors recommended future uses of the tool reduce the number of items to limit respondent burden. The study also recommended conducting a longitudinal study to test the association between factor scores and intermediate outcomes (such as systems change, program implementation, and policy reform) (Marek et al. 2015, p. 79). The evaluation team identified and adapted for the ARC^3 survey several items from this tool that measured domain-specific collective capacity concepts.

Community Capacity Assessment Scale. A 2007 Public Health Agency of Canada (PHAC) study reported on the development and testing of a 26-item scale that measures nine community capacity domains: (1) participation; (2) leadership; (3) community structures; (4) role of external supports; (5) "asking why"; (6) resource mobilization; (7) skills, knowledge, and learning; (8) links with others; and (9) a sense of community. The study's purpose was to develop a valid and reliable scale to track changes in community

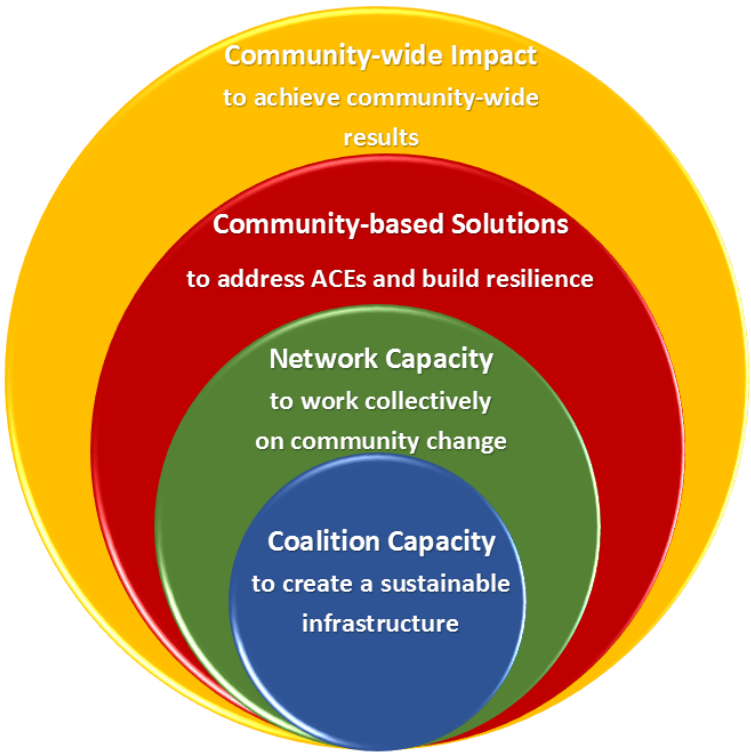
capacity to address health issues (MacLellan et al. 2007, p. 300). The project developed and piloted a draft survey instrument. An analysis of the reliability of the draft instrument showed that the component loadings ranged between 0.60 and 0.92. Internal scale internal consistency was considered acceptable with alpha coefficients between 0.72 and 0.86. The evaluation team selected and adapted for use in the ARC^3 survey several survey items that measured domain-specific collective capacity concepts.

Community Capacity Index. The Community Capacity Index (CCI) was created by researchers at the University of Queensland in Brisbane, Australia to identify and measure existing capacity available in a local network of organizations and groups. The 2002 version of the tool was designed to establish baseline indicators of a network's capacity to introduce and finance a health program and to work with others to implement and sustain the program's operations. The tool includes indicators in four domains: (1) network partnerships (14 items), (2) knowledge transfer (9 items), (3) problem solving (10 items), and infrastructure (9 items). Not meant to be used as a quantitative survey instrument, the tool is designed as a qualitative data collection tool. It can be used to interview individual key informants, conduct a focus group of network organizations, facilitate a workshop with network members, or ask members to complete the index as a self-reflective tool for group discussion (Bush et al. 2002, p. 9). The overall strategy to measure network capacity and several index indicators that measured domain-specific collective capacity concepts were selected and adapted for the ARC^3 survey.

3. ARC^3 Survey Conceptual Model

The ARC^3 survey was not intended to be a population survey that collected information from a representative sample of community residents. It was designed to gather data at four nested levels or layers of capacity: (1) coalition capacity to develop and sustain a strong infrastructure; (2) network capacity to work collectively across sectors on community change; (3) capacity to plan and implement community-based solutions addressing ACEs and resilience; and (4) community-wide capacity to empower the entire community to work at scale to achieve community-wide results. These capacity levels are shown in Figure 2.

Figure 2. ACEs and Resilience Collective Community Capacity Conceptual Model



These levels of capacity map onto 11 ARC^{3}capacity domains, as shown in Table 1. The next sections of the report describe in more detail the ARC^3 capacity levels and domains.

- At the core team or coalition level, the survey collects information about the strength and sustainability of the site's leadership, infrastructure, and communications functions.
- At the network level, the survey collects information about the site's ability to develop a network structure of community partners who can work collectively across sectors on community change.
- The survey measures the community's capacity to address ACEs through community problem solving processes that focus on equity and are informed by data.
- At the level of community-wide impact, the survey collects information about site-specific strategies to empower the community to work at multiple levels at sufficient scale (breadth) and scope (depth) to achieve community-wide results.

Table 1: 2016 ARC^3 survey capacity levels and measurement domains

Capacity Levels	Measurement Domains
Coalition Capacity	Leadership and infrastructure
	Communications
Network Capacity	Goal-directed networks
	Community cross-sector partnerships
	Shared goals
Community-based Solutions	Community problem-solving processes
	Focus on equity
	Data use for improvement and accountability
Community-wide Impact	Multilevel strategies
	Diverse engagement and empowerment
	Scale of work

Note: Ten of the domains are measured using the Collective Community Capacity Index, part 2 of the ACEs and Resilience Collective Community Capacity (ARC^3) survey. Goal-directed networks—the remaining domain—is measured using the Extent of Collaboration questions located in the part 3 of the ARC^3 survey.

4. ARC^3 Sustainable Infrastructure Indicators

With input from the APPI leadership group and APPI sites, the evaluation team selected coalition-level capacity measures in two domains: (1) leadership and infrastructure and (2) communications. Sustainable infrastructure is considered fundamental to transformative community change: "The expectation that collaboration can occur without a supporting infrastructure is one of the most common reasons why it fails" (Kania and Kramer 2011, p. 40).

Leadership and infrastructure. Building a sustainable infrastructure for community change requires several kinds of collective capacity, including: (1) creating a "backbone" structure to organize network activities, (2) recruiting effective network leaders, (3) finding the resources and staff to support network efforts, and (4) training network members to carry out the work. "Successful comprehensive community initiatives have a single individual, intermediary organization, or governance body responsible for keeping the initiative on track and making sure the capacity is there to take on the goals of the

initiative" (Fawcett et al. 2010, p. 5; Trent and Chavis 2009, p. 98). "Place-based intermediaries are important to civic infrastructure because they sustain efforts, build relationships, generate knowledge, and maintain accountability" (Blair and Kopell 2015, p. 2).

Additional skills and resources are important. "We have consistently seen the importance of dynamic leadership in catalyzing and sustaining collective impact efforts" (Hanleybrown et al. 2012, p. 3). "Infrastructure refers to both tangible and intangible investments, such as investment in policy and protocol development, social capital, human capital, and financial capital" (Bush et al. 2002, p. 16). This includes "paid staff who have the interpersonal and organizational skills to facilitate the collaborative process, improve coalition functioning, and make collaborative synergy more likely" (Butterfoss 2007, p. 74). "Coalitions can provide team, staff, and leadership training as well as consultation on community, organizational, and programmatic issues and strategies. Training on those topics would also expand the capacity to organize and develop the community" (Chavis 2001, p. 317).

The ARC^3 survey used four indicators to measure leadership infrastructure capacity: (1) *We have organized a strong network of formal institutions and informal connections to carry out this work*, (2) *We have enough resources (such as funding and volunteers) to carry out this work*, (3) *Coalition leaders have the authority and community standing to bring people and organizations together to carry out this work*, and (4) *Enough training and assistance is available locally for the community to gain the knowledge and skills needed to carry out this work*.

These measures were adapted from items in three surveys:

- The Washington Division of Behavioral Health and Recovery (DBHR) survey items included: C5. *Our coalition leader is skillful at building positive relationships with community leaders*; F3. *Training is provided to members on relevant topics*; and N1. *Our coalition has received funding from multiple sources*.

- The Wilder inventory items included: 38. *Our collaborative group had adequate funds to do what it wants to do*; 39. *Our collaborative group has adequate "people power" to do what it wants to accomplish;* and 40. *The people in leadership positions for this coalition have good skills for working with other people and organizations*.

- Items from the Community Capacity Index included: Network partnerships 11. *Existing community leaders have experience, knowledge, and skills in capacity building efforts*; Infrastructure 4. *Members of the network invest financial resources in the network to maintain a partnership approach to program implementation*; and Infrastructure 6. *Members of the network invest in education and training of network members to facilitate the achievement of network objectives*.

Table A.1 in Appendix A provides a summary of ARC^3 survey items, and the community capacity building models and community capacity survey measures that are linked to individual survey items.

Communications. Good communications is an essential element of coalition-level capacity. "Because collaboration is a communicative enterprise, coalitions must have a well-developed communication system that promotes information sharing and problem discussion and resolution" (Foster-Fishman et al. 2001, p. 255). "Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and create common innovations" (Hanleybrown et al. 2012; Henig et al. 2016,

p. 8). “Open and frequent communication among staff and members helps to create a positive climate, ensures that benefits outweigh costs, and makes collaborative synergy more likely” (Butterfoss 2007, p. 74). External communications capacity is also important. “Coalitions can be most effective in capacity building if they foster communications among members, the public, and larger systems… They can build a constituency for the goals of the coalition… Coalitions can also provide public recognition and awards to successful local collective efforts” (Chavis 2001, p. 317; Fawcett et al. 2010, p. 5).

To assess network and community-wide communications, the ARC^3 index identified four capacity measures: (1) *Coalition members and community partners communicate openly with each other about this area of work*; (2) *I am informed as often as I need to be about what is going on with the coalition*; (3) *Community leaders use effective measures to raise local awareness and build political will in this area of work*; and (4) *Community agencies, local residents, and political leaders are recognized in public events and local media for their contributions to this area of work*.

These measures were adapted from items in three surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included: C2. *Our coalition leader encourages open dialogue and expression of views among members*; B6. *Members communicate with one another as needed (not just as scheduled meetings)*; D1. *Our coalition keeps the community updated on its activities*; J5. *Member contributions are recognized*; and J6. *Successes are celebrated*.

- The Wilder inventory items included: 26. *People in this collaboration communicate openly with one another* and 27. *I am informed as often as I should be about what goes on in the collaboration*.

- Items from the 2007 Public Health Agency of Canada Community Capacity Assessment scale included: D4. *Open and ongoing communications*; A4. *Effective methods of communicating with target population, community members, and other stakeholders about the project*; and I1. *Increased awareness in the issues that are targeted by the project among community members*.

5. ARC^3 Community Network Indicators

With input from the APPI leadership group and APPI sites, the evaluation team selected community network capacity measures in three measurement domains: (1) goal-directed networks, (2) community cross-sector partnerships, and (3) shared goals focusing on ACEs and resilience.

Goal-directed networks. In the ARC^3 survey, the APPI sites were conceptualized as core teams or coalitions that worked with community partners to form collaborative, goal-directed networks focusing on the prevention and mitigation of ACEs and development of individual and community resilience. To create the survey sample, the evaluation included both formal coalition members and the broader network of organizations and individuals with whom the core team or coalition worked. The survey collected demographic information about respondents’ relation to the coalition and details about their roles as coalition members or network partners. The survey also collected information about the size and diversity of the network memberships. To examine the level of interaction and collaboration among network partners, and to assess the comprehensiveness and quality of those relationships, the survey

asked respondents to rate their level of interaction with each of the other network partners, on a five-point scale (Bush, Dower, and Mutch 2002, p. 14).[3]

Based on those responses, the evaluation conducted social network analyses to assess the structures of the relationships among the partners that reported having interactions with each other. The analysis measured the density, centrality, reciprocity, and transitivity (small world) properties of the network structures (Leischow and Milstein 2006, p. 403).[4] Previous research studies of substance abuse prevention coalitions have found that differences in network structure are associated with differences in coalition outcomes (Bess 2015, p. 395). Some "smart" coalition network structures with reduced density have been found to have higher performance --"possibly because of their more specialized goals and activity" (Holley 2012, p. 19) and "weak ties" to new information (Granovetter 1973, p.1378). A network's diversity is also important. "More effective coalitions result when the core group expands to include a broad consistency of participants who represent diverse groups, agencies, organizations, and institutions" (Butterfoss 2007, p. 73).

Community cross-sector partnerships. The credibility and power of the APPI sites to leverage community-wide change depends, in part, on their cross-sector collaborative capacity (Norris 2013, p. 6). Local FPC networks were encouraged to "collaborate with local service providers from multiple disciplines to best align resources and services to meet local community needs" (Porter 2011, p. 8). Cross- sector partnerships can include public service agencies (such as juvenile justice, education, and social services), private businesses and foundations, and nonprofit organizations, including advocacy and faith-based groups. Cross-sector collaboration involves the ability to: (1) make decisions and take action with other organizations within and across sectors; (2) strengthen or develop new partnerships to advocate for and influence the authorization, funding, and implementation of new policies, practices, and programs; and (3) create more effective service delivery systems through the integration and coordination of local service networks (Blair and Kopell 2015; Grantmakers for Effective Organizations 2014). "Such community initiatives build trust and reciprocity between leaders and organizations working across lines. They present a powerful force capable of delivering the political will to set good priorities; mobilize assets, change policies and practices; and make investments that are critical for population health" (Norris 2013, p. 7).

The survey used four indicators to measure the quality of community cross-sector partnerships: (1) *We have many strategic partnerships that work across sectors (such as education, health, juvenile justice, and social services)*; (2) *People have a deep trust in each other to work together when it counts*; (3) *People believe that, together, they can make a difference*; and (4) *As partners, we hold each other accountable for results*.

[3] Respondents were asked about "the extent to which you have worked with the organization in the past 12 months on projects related to ACEs, resilience, or healthy development." The response options were: 1 = "not at all," 2 = "a little," 3 = "somewhat," 4 = "quite a bit," and 5 = "a great deal,"

[4] *Centrality* scores approaching 100 percent indicate more hierarchy and less variation in the number of relationships between individuals; relationships tend to be focused on a few team members, rather than distributed across all members. Higher *density* scores reflect more collaboration, scores closer to 100 percent have more members with collaborative relationships. *Reciprocity* scores closer to 0 had few reciprocal ties (and so either had dissimilar views of their interaction or the interaction was one sided). Higher levels of *transitivity* indicate greater levels of trust and shared norms and values in a network, and also reflect more balanced relationships and potential (small world) subgroups within the network.

These measures were adapted from items in three surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included: B1. *All of the necessary sectors of the community are represented*; I2. *Our coalition collaborates with other community organizations*; and G5. *Coalition activities and progress in completing tasks are monitored and reported to the membership*.

- Wilder inventory items included: 9. *The people in our collaboration represent a cross section of those who have a stake in what we are trying to accomplish*; and 7. *People involved in our collaboration always trust each other*.

- The 2007 Public Health Agency of Canada Community Capacity Assessment scale item included: H1. *Networking with diverse actors*.

Shared goals. Many community collaboration frameworks "require all participants to have a shared vision for change" (Kania and Kramer 2011, p. 39). A key element of the Collective Impact model is "the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem" (Henig et al. 2016, p. 8). The model defines a common agenda as "all participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed-upon actions" (Hanleybrown et al. 2012). This common interest can lead to the start of a coalition. "Coalition formation usually begins by recruiting a core group of people who are committed to resolve a [specific] health or social issue" (Butterfoss 2007, p. 73).

To underscore the importance of sharing a common agenda focused on ACEs and resilience, the ARC^3 survey identified three capacity measures for the shared goals domain: (1) *Coalition members and community partners share an ongoing commitment to this area of work*;(2) *Community residents support local efforts in this area of work*; and (3) *Local political leaders share an ongoing commitment to this area of work*. To measure network members' familiarity with ACEs and resiliency, the survey also asked respondents about their familiarity with these concepts.

These measures were adapted from items in two surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) items included: A6. *Coalition members agree with the coalition's vision, mission, and goals* and N2. *Our coalition has the strong support of local government and other community organizations*.

- Wilder Inventory items included: 3. *Leaders in this community who are not part of our collaborative group seem hopeful about what we can accomplish*; 15. *The level of commitment among the collaboration participants is high*; and 34. *The people in this collaborative are dedicated to the idea that we can make this project work*.

6. ARC^3 Community-based Solutions Indicators

Successful community change efforts that target ACEs are able to use the best evidence available to (1) conduct community problem solving processes that document the local prevalence of ACEs and identify their root causes (their social, economic, structural, and cultural determinants), (2) develop and implement a community-wide plan to address childhood adversity, and (3) monitor and improve their efforts. "Coalitions can play a critical role in identifying community needs, designing innovative solutions, and mobilizing community support for those efforts" (Foster-Fishman et al. 2001, p. 256).

Community problem solving processes. All five APPI sites adopted evidence-based community mobilization and public health prevention frameworks to organize their efforts. These models included the Communities that Care (CTC) and Strategic Prevention Framework (SPF) models. Three sites (Okanogan, NCW, and Skagit) have adopted the CTC model, a community change process designed to help communities plan, implement, and evaluate prevention strategies to promote healthy youth development. All five sites are using elements from the SPF, designed by the Substance Abuse and Mental Health Services Administration (SAMHSA) to assess local needs and build capacity, as well as plan, implement, and evaluate programs.

The sites' use of these evidence-based community planning processes enhanced their ability to identify and implement community-based solutions. "Successful implementation of strategies is more likely when comprehensive assessment and planning can occur" (Butterfoss 2007, p. 74). An Aspen Institute Roundtable review of 48 comprehensive community initiatives identified several factors that improve community-based planning processes. "Be as clear as possible about goals, definitions of success, and a theory of change. Planners, managers, and funders must specify the condition that they plan to change, develop a feasible strategy (based on sound theory or evidence from research or experience) for how to affect that condition, create an action plan, implement the plan well, and track progress toward the outcome" (Kubisch et al. 2010, p. 121).

The ARC^3 survey utilized three items to measure community problem solving capacity: (1) *The coalition uses community problem-solving approaches (such as community mobilization and the strategic prevention) in this area of work*; (2) *The coalition and community partners review the best research available to inform community plans*; and (3) *The coalition has developed a clearly defined action plan that addresses community needs in this area of work*.

These measures were adapted from items in three surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included: A5. *Our coalition's vision, mission, and goals consider the needs and views of the community*) and G2. *Plans are based on review and input from community members*.

- The Australian Community Capacity Index items included: Knowledge Transfer 3. *Members of the network have reviewed and changed the initiative so that it meets local (target group) needs* and Knowledge Transfer 6. *Members of the network have revised and changed the initiative so that it is evidence-based/reflects good practices*.

- The 2007 Public Health Agency of Canada Community Capacity Assessment scale item included: E3. *Involving the target population in problem solving*.

Focus on equity. Some community problem-solving processes efforts that target ACEs are promoting the use of a "health equity lens" to create community plans that are equity focused. That is, to create community conditions that support optimal physical, mental, and emotional health across all socio-economic, racial, ethnic, and other demographic subgroups. The goal of focusing on equity is to "create the conditions that enable just and fair inclusion into a society in which all can participate, prosper, and reach their full potential" (Kania and Kramer 2015, p. 1). A notable example of this focus on health equity is the Culture of Health initiative, developed by the Robert Wood Johnson Foundation (2014). Public health agencies can play an important part in community efforts to create healthier, more equitable communities. The Association of State and Territorial Health Officers (ASTHO) issued a

Presidential Challenge in 2016 urging public health agencies to make health equity an integral part of their work, so that "public health agencies will be looked to by all sectors for consultation and guidance on data analysis and use, community engagement, narrative creation, and policy development that will advance health and overall equity" (ASTHO 2016, p. 1).

More coalitions are applying equity-based 'root cause' analyses to understand their community issues (Wolff 2016, p. 4). "Collaborative efforts increasingly seem necessary to address the complex challenges facing communities today. The root causes of many persistent problems in education and community well-being are multifaceted and thus, straightforward solutions do not exist. Flexible innovation and adaptation may be required; considerations of equity and effectiveness call for wide participation from many different kinds of stakeholders" (Henig et al. 2016, p. 4). Indeed, "without vigilant attention to equity, efforts to align and coordinate resources can inadvertently reinforce institutional patterns that promote disparities and constrain progress" (Kania and Kramer 2015, p. 1).

Equity also refers to the balance of power among the organizations that are working collectively to address inequitable conditions. In ideal cross-sector collaborations, "no single actor or agency monopolizes the power to set goals, shape agendas, and determine key policies and practices. [However, when they occur], these issues can lead to conflicts that must be resolved in order for the coalition to make progress on equity goals" (Henig et al. 2016, p. 3). "Community coalitions are by their nature dominated by paradoxes and foster conflicts. These tensions provide for larger community conflicts to emerge through the coalition. Community coalitions can create progressive community change through the transformation of those conflicts that arise within it" (Chavis 2001, p. 311).

To measure the capacity to address ACEs as a health equity issue, the evaluation team included four items in the ARC^3 survey: (1) *The [Coalition] is (not) dominated by one organization or sector (such as education, health, or social services);* (2) *Coalition members work closely with community partners, local residents, and political leaders to address the social, cultural, and economic causes of adverse childhood experiences*; (3) *Among coalition members and partners, power is shared in the community's best interests*; and (4) *The coalition effectively resolves conflicts and balances power among its members and community partners*.

These measures were adapted from items in four surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included: E6. *Conflicts are resolved in an orderly and respectful manner* and J3 *All members are treated equally and with respect*.

- The Wilder Inventory item included: 12. *People involved in our collaboration are willing to compromise on important aspects of our project*.

- The Australian Community Capacity Index item included: Problem Solving 9. *There have been demonstrations of problem solving across organizations*.

- The 2007 Public Health Agency of Canada Community Capacity Assessment scale item included: E1. *Addressing the root causes of the issue(s) targeted by the project*.

Data use for improvement and accountability. Coalitions benefit from using data to monitor and improve their efforts. "Coalitions that have a continuous learning orientation, consistently seeking and responding to feedback and evaluation data, adapting to shifting contextual conditions, discussing

problems and potential solutions, and seeking external information and expertise are more successful in their endeavors" (Foster-Fishman et al. 2001, p. 255). It is also important to implement continuous cycles of monitoring, testing, and evaluation of new and improved strategies targeting ACEs and resilience. "Transforming current practices requires a willingness to create new theories of change based on both scientific knowledge and practical knowledge in the field, taking risks driven by rigorous measurement of what works (and doesn't) for whom, in order to understand why. It also requires a continuous cycle of learning and improving" (Center on the Developing Child at Harvard University 2016, p. 16).

Development-oriented, systems-based evaluation methods with rapid feedback cycles are specifically designed for complex projects that target change at multiple levels (Hargreaves 2014a, p. 17). These new evaluation methods expand the definition and purpose of evaluation to assist in planning, managing, and learning. "Evaluators are brought in at the early stages of planning to bring discipline and rigor to the process of developing and articulating the theory of change. Evaluation is often the vehicle through which community data are gathered and then used for planning, community mobilization, and advocacy on the neighborhood's behalf. Evaluation attempts to provide real-time feedback for management decisions and mid-course corrections. And evaluation is working to track the community building dimensions of the work. This represents a significant and important evolution in the field" (Kubisch et al. 2010, p. 132).

To monitor capacity in this area, the ARC^3 survey identified four capacity measures for the data use domain: (1) *We have access to the data sources and systems needed to track our progress and identify successes and failures*; (2) *The coalition has enough staff capacity and expertise to analyze and use data for decision-making*; (3) *The coalition uses data to identify local disparities for community planning in this area of work*; and (4) *The coalition uses a range of evaluation methods to conduct rapid tests of promising programs and practices in this area of work*.

These measures were adapted from items in two surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included: A4. *We evaluate our coalition's activities in light of its mission and goals*; K1. *Our coalition has members, or a consultant, with experience in collecting and analyzing date*; K2. *Our coalition has members, or a consultant, with experience conducting evaluations and preparing evaluation reports*; K3. *Coalition members participate in reviewing data for planning and evaluation purposes*; and K4. *Our coalition has access to local data on substance abuse and consequences*.

- The Australian Community Capacity Index item was Knowledge Transfer 8. *Members of the network have in place mechanisms to obtain feedback about progress towards achieving the desired outcomes of the program*.

7. ARC^3 Community-wide Impact Indicators

With input from the APPI leadership group and APPI sites, the evaluation team selected community-wide impact measures in three domains: (1) multi-level strategies, (2) diverse engagement and empowerment, and (3) scale of work.

Multi-level strategies. Community change initiatives have started using social-ecological frameworks that target change at five levels (individual, program, organization, system, and policy) (Center on the Developing Child at Harvard University 2016a, p. 4). "Coalition capacity research has shown that coalitions are more likely to create change in community policies, practices, and environments when

they direct interventions at multiple levels. And, coalitions that are able to change community policies, practices, and environments are more likely to increase capacity and improve health and social outcomes" (Butterfoss 2007, p. 75).

The policy level has special significance: "In recent years, led by the CDC, these [public health] coalitions have moved in the direction of policy and systems change as their most powerful and desired outcome. Addressing policy change and systems change has become the gold standard of outcomes" (Wolff 2016, p. 4). However, multiple strategies need to be integrated to have the greatest impact. "Achieving the scope that makes a difference is usually a case of strategically integrating potentially synergistic programs and activities. Intentionally connecting the dots between various efforts capable of addressing the root causes of a problem is more likely to create a lasting solution than simply doing a lot of things and hoping they add up" (Trent and Chavis 2009, p. 102).

Researchers support the integration of multi-level strategies to address ACEs. "A rapidly growing knowledge base from the biological and behavioral sciences, combined with practical, on-the-ground knowledge from working with adults and families, points to more effective solutions both in the systems that provide pathways out of poverty and in helping individuals develop more effective skills for coping with adversity" (Center on the Developing Child at Harvard University 2016, p. 16). In Washington State, the Family Policy Council specifically directed its community networks to use a multi-level strategy. "Interventions based on ACEs reduction will need to be multidisciplinary, multi-level, and multi-year. The intersection and alignment of formal and informal services and resources lying within self-directed communities is a powerful intervention to reduce ACEs prevalence" (Hall et al. 2012, p. 333).

To track the sites' multi-level strategies, the ARC^3 survey index identified capacity measures at five (individual, program, organization, system, and policy) ecological levels: (1) *Children and families get the help they need to develop safe, stable, and caring relationships and improve self-regulation and other aspects of healthy development*; (2) *Organizations change their programs and practices to help families more effectively in this area of work*; (3) *Service providers combine their efforts to provide more seamless support for children and families in this area of work*; (4) *Coalition members and community partners use positive reinforcement and other strategies to change community norms in this area of work*; and (5) *Coalition members mobilize allies to advocate for policy change (through legislation, administrative rules, and funding) in this area of work*.

The ARC^3 survey also asked respondents the extent to which their coalition had influenced their ACEs activities at those five different levels: (1) improving individual staff knowledge of ACEs, (2) integrating ACEs into organizational practices, (3) collaborating with organizations in other sectors, (4) facilitating community awareness of ACEs, and (5) improving ACEs policy advocacy efforts. These measures were adapted from one item in the Washington DBHR survey: L2. *Our coalition supports environmental change strategies (e.g., policy changes, regulation, enforcement, and advocacy), in addition to approaches targeting individuals*.

Diverse engagement and empowerment. The APPI sites viewed community engagement as an essential strategy in the prevention and mitigation of ACEs. Researchers note that broad-based community engagement may have multiple benefits. First, "people are not treated as mere consumers of services but are rather engaged as producers of health, serving as leaders for a healthier culture and healthier environment" (Norris 2013, p. 8). Second, "engaging those most affected by an issue results in creating solutions that are appropriate and compatible with the population being served" (Wolff 2016, p. 2). However, researchers caution, "community coalitions need to engage both the most powerful and the

least powerful people in a community, finding ways for them to work together and address the community's priorities for action and the impediments to change in institutions and organizations serving the community" (Wolff 2016, p. 3).

Research suggests that community empowerment is not a stand-alone strategy, but one that enhances the effectiveness and impact of other community building activities. "At its best, community building changes the nature of the relationship between a community and power brokers, ensuring that neighborhood residents are at the table in corporate board meetings, city council meetings, and the like" (Kubisch et al. 2010 p. 131). This lesson extends to other community building models. "The Aspen Institute's report suggests that Collective Impact will realize its potential only when supported by a civic infrastructure that supports broad democratic participation" (Henig et al. 2016, p. 9).

Additionally Blair and Kopell (2015) point out, "Civic infrastructure enables civic capacity – the capacity to create and sustain smart collective action. In the absence of an intentional civic infrastructure designed to broaden participation and particularly, to engage those in the margins, other interests will fill the vacuum…By public participation, we mean more than people being civically active, we aim to develop a system that embodies conscious inclusion – eliciting voices of all to cultivate and reinforce a stake in civil society. By agency, we mean more than voice, we mean establishing opportunities for all to effect positive change in community life" (pp. 7-8).

To assess community mobilization, the index identified three capacity measures for the diverse engagement and empowerment domain: (1) *Community residents are actively engaged as leaders in this area of work*; (2) *We make youth leadership opportunities available in this area of work*; and (3) *Coalition members work closely with powerful allies (such as school districts and local legislators) in this area of work*.

These measures were adapted from items in three surveys:

- Washington Division of Behavioral Health and Recovery (DBHR) survey items included D3. *Our coalition engages youth to help inform its planning efforts*, H1. *Representatives from our coalition meet with local officials and community leaders*, and F2. *Our coalition makes a conscious effort to develop new leaders*.

- The Australian Community Capacity Index item was Infrastructure 5. *Members of the network invest in helping emerging leaders develop necessary skills and experience*.

- The 2007 Public Health Agency of Canada Community Capacity Assessment scale item was B3. *Nurturing informal leaders*.

Scale of work. Effective strategies cannot have a community-wide impact unless they are implemented at sufficient scale (breadth) and scope (depth) to reach their target population. Moreover, if efforts cannot be sustained over time, they are unlikely to have a lasting impact. Researchers concur: "Delivering positive impact at scale over time requires the community will and accountability to act with a "dose-sufficient" approach of reach (population), intensity (strength), and duration (time)" (Norris 2013, p.8). Systems thinking adds the dimension of system leverage (potency) to this list (Hargreaves et al. 2014b, p. 14). Systems thinking may, in fact, be indispensable to successful large-scale change. "Lack of systems knowledge and skills made it difficult for [CCI] program directors to conceptualize and strategize for scale" (Trent and Chavis 2009, p. 100).

Comprehensive community initiatives (CCIs), which were designed for community-wide impact, were generally "not able to muster the level of programmatic effort necessary to drive major improvements within the timeframe they were allotted – usually seven to ten years" (Henig at al. 2016, p. 10). Based on its review of 48 CCIs , the Aspen Institute produced a set of guidelines for addressing scale: (1) define the term scale precisely; (2) make sure the amount of funding is proportional to the effort's goals; (3) consider the question of dose in the context of the extreme disadvantage of the populations and communities that are the targets of change; and (4) if few resources are available, it makes most sense to provide high-quality programs to a well-defined population (Kubisch at al. 2010, p. 126). "Initiatives most successful in achieving broad community-level change are designed for scale, with an explicit focus on community change results and a framework for implementation that is feasible for achieving those results" (Trent and Chavis 2009, p. 104).

To assess the capacity for community-wide impact, the ARC^3 survey identified two capacity measures for the scale of work domain. These measures focus on working at sufficient scale to achieve community outcomes, in part through the institutionalization and expansion of successful local programs and practices. The measures are (1) *Local efforts are able to sustain and expand successful programs and practices in this area of work* and (2) *Local efforts are working at sufficient scale to improve community-wide trends in child development and family well-being*.

These measures were adapted from items in the Australian Community Capacity Index: Network Partnerships 14. *There is tangible evidence that a program is being maintained by the network using its own resources*), and Knowledge Transfer 9. *Members of the network have incorporated a program into the mainstream activities of each organization and group in the network*.

D. ARC^3 Survey Development and Methods

1. ARC^3 Pilot Survey Development and Testing

To develop the collective community capacity measures, as mentioned in previous sections, the evaluation team reviewed the research literature on five models of community capacity building: prevention coalitions, community collaboratives, comprehensive community initiatives, community capacity development, and collective impact. The team also researched validated data collection instruments measuring community capacity, collaboration, and development concepts. With input from the APPI leadership and the APPI sites, the evaluation team drafted the ARC^3 survey.

The initial 74-question survey was organized into two sections. The first section was organized to collect demographic information and to gather information about the respondent's participation in ACEs- and resilience-related activities. The second section was organized as a multi-scale index of collective community capacity to address ACEs, increase resilience, and promote healthy child development.

- **Background, Characteristics, and Context**, which assessed (a) the respondents' familiarity with ACEs; their relationship to the coalition and its influence on their work, their involvement in select coalition activities; (b) the respondents' or their organizations' sector of work and the populations they work with; and (c) the extent to which the respondents worked with a number of organizations during the previous 12 months on projects related to ACEs, resilience, and healthy child development.

- **Collective Community Capacity**, which consisted of questions about the community's capacity to work on the goals of reducing adverse childhood experiences, increasing resilience, and promoting healthy child development divided in 11 domains:

    1. Leadership and infrastructure
    2. Communications
    3. Goal-directed networks
    4. Community cross-sector partnerships
    5. Shared goals
    6. Community problem-solving processes
    7. Focus on equity
    8. Data use for improvement and accountability
    9. Multi-level strategies
    10. Diverse engagement and empowerment
    11. Scale of work

We tested the new survey in three pilot sites. The pilot survey was administered to members and community partners of three (non-APPI) community coalitions in Washington State: (1) Cowlitz County Community Network, (2) Kitsap County Commission on Children and Youth/Kitsap Strong, and (3) Thurston Council for Children and Youth. The sites were selected for the pilot study because (1) they were former FPC community networks; (2) their communities had characteristics comparable to one or more of the APPI sites; and (3) they were willing to participate in the pilot. To identify the pilot sample, the evaluation team asked coalition leaders to develop a list that included coalition members and community partners as described below:

- **Coalition members.** The person/organization has served as a coalition member of the site (in other words, coalition/network/consortium) within the last five years (2010-2015).

- **Community partners.** The community partner has worked with the site to reduce ACEs, increase resilience, and promote healthy child development in the community within the last five years (2010-2015).

The pilot survey was administered in October 2015. A total of 73 people completed the survey. They were asked to provide feedback on the survey through 8 close-ended and 6 open-ended questions administered at the end of the survey. The questions addressed the (a) clarity of the survey's instructions, (b) clarity of items and questions, (c) adequacy of response scales and categories, (d) overall readability and understandability of the survey and its wording, and (e) the order and flow of the questions. An analysis of the pilot survey data and pilot feedback showed the following:

- For most survey respondents (56.0 percent), the survey took between 30 and 60 minutes to complete. Nearly 4 in 10 (39.0 percent) took less than 30 minutes, and 5.1 percent took more than an hour.

- Most respondents (66.1 percent) indicated that the response scales or categories were adequate or very adequate. A smaller percentage indicated that they were somewhat inadequate (23.7 percent). In open-ended comments, numerous respondents requested additional "I don't know" or "not applicable" response options.

- Most respondents (74.6 percent) indicated that the overall survey and its wording were not difficult to read and understand. However, one in four (23.7 percent) indicated that the survey was somewhat difficult to read and understand, and 1.7 percent indicated that it was completely difficult to read and understand.

- The vast majority of respondents (91.5 percent) indicated that the questions had a logical order and were easy to follow.

- Overall, there was good variability in responses within each item. Participants typically used the full range of options on the scales provided although items on the top and bottom end of the scales tended to be used less frequently.

Additional analysis of the survey results showed that the 10 domains of the Collective Community Capacity Index ranged from acceptable to excellent internal consistency. Cronbach's alpha coefficients ranged from .69 (Community Problem-Solving Processes) to .91 (Scale of Work) across the 10 subscales. An initial principal components factor analysis with Varimax rotation was conducted, specifying 10 factors (one for each subscale above). The 10 factors explained 79.7 percent of the variance.

2. ARC³ Final Survey Design and Implementation

Based on the feedback obtained during the pilot, the evaluation team shortened the instrument to 56 questions by removing questions about specific contributions of the coalition, respondents' work with specific populations, and the length of the respondent's or organization's tenure with the coalition. The team also clarified and simplified the language of the items and added "not applicable" and "do not know" response options to the ARC³ index. The evaluation team also reviewed the survey items for their cultural and linguistic appropriateness. Finally, the survey's "level of collaboration" question was identified as a third domain of network capacity. This increases the survey's total number of capacity domains to 11. See Appendix B for the final survey instrument.

To improve the flow and sequencing of the questions, the final instrument was organized into four sections:

- **Coalition experiences**, which assessed respondents' familiarity with ACEs, their relationship to the coalition, its influence on their work, and their involvement in selected coalition activities;
- **Collective Community Capacity Index**, which consisted of questions about the community's capacity to work on the goals of reducing adverse childhood experiences, increasing resilience, and promoting healthy child development;
- **Collaboration to address ACEs, resilience, and healthy child development**, which asked about the extent to which the respondents worked with a local network of organizations during the previous 12 months on projects related to ACEs, resilience, and healthy child development;
- **Background characteristics**, which asked about the respondents' or their organizations' sector of work and the populations they worked with.

Survey sample. The evaluation team worked with the site coordinators of the five APPI sites: Skagit County Child and Family Consortium, the Whatcom Family & Community Network, the Okanogan County Community Coalition, the Coalition for Children and Families of North Central Washington (NCW), and the Walla Walla County Community Network to obtain a list of individuals who were involved in and knowledgeable of their community's efforts to reduce ACEs, increase resilience, and

promote healthy child development. The site coordinators, in turn, worked with their coalition's leadership to develop a comprehensive list of individuals that fell into two categories:

1. **Members**. Individuals (independent or representatives of organizations) that had served as an executive board or general member of the coalition within the last five years (2010–2015).
2. **Partners**. Individuals (independent or representatives of organizations) that had been involved in community efforts to increase resilience, address ACEs, address trauma, or promote healthy child development within the last five years (2010-2015).

The team reviewed the lists and compared them to 2014 coalition membership lists obtained from the sites for the evaluation's interim evaluation. The team worked with site coordinators to reconcile any discrepancies, finalize the lists, and obtain contact information for sample members.

Data collection. The web-based survey was administered over a five-week period during February and March 2015. All individuals included on the member and partner lists obtained from the sites were asked to respond to the survey. To improve response rates, the evaluation team sent email reminders to non-respondents one to two times each week. The study team also asked site coordinators to follow up with non-respondents via phone to request their participation in the survey. The survey response rates by site are listed in Table 2.

Table 2: 2016 ARC^3 survey response rates, overall and by site

APPI Sites	Sample Total	Number of responses	Response rate
Overall	276	233	84.4%
NCW	39	29	74.7%
Okanogan	42	35	83.3%
Skagit	52	42	80.8%
Walla Walla	76	69	90.8%
Whatcom	67	58	86.6%

Source: Community Science analysis of 2016 ARC^3 Survey data items, overall and by site.

E. ARC^3 Survey Results and Recommendations

Survey results. The survey results were analyzed and reported in the APPI evaluation's final report (Verbitsky-Savitz et al. 2016). Overall findings are reported in Chapter 2 of the report; tables of site-specific results are included in the final report's survey appendix. The final report found that the sites received their highest scores in five domains: (1) developing community cross-sector partnerships addressing ACEs, (2) implementing evidence-based community problem-solving processes, (3) developing shared goals targeting ACEs and resilience, (4) communicating effectively with their partners, and (5) addressing equity . The sites have moderate capacity in (1) developing a sustainable infrastructure, (2) engaging and mobilizing large numbers of community residents, (3) implementing trauma-informed programs, policies, and practices at multiple levels, and (4) increasing their capacity to use data to document and evaluate their results. The lowest score was obtained for sites' capacity to work at sufficient scale to achieve community-wide change. These capacity scores reflect the site

capacities described in the interim evaluation report and in the site profiles in the final report (Hargreaves et al. 2015; Verbitsky-Savitz et al. 2016). This corroborative evidence supports the validity of the survey's results.

Two sites (Okanogan and Skagit) with the highest collective capacity index scores, on average, were among the three top sites with demonstrated evidence of effectiveness in the final report's outcome study. Their coalition capacities, community change activities and network structures were quite different than the third site (Walla Walla). The first two sites focused more on evidence-based, universal prevention programs (such as a community norms campaign and a home visiting program) and were supported by dense partner networks. In contrast, the Walla Walla site was successful using an entirely different approach. Walla Walla operated more like an entrepreneurial business than a traditional coalition, and it created a larger, more diverse, and less dense "smart network" structure to work with community partners on a broader range of community awareness efforts and more experimental trauma-informed pilot projects (such as creating a children's resilience initiative, transforming an alternative high school, and organizing high-risk neighborhoods).

This finding suggests that there is not a one-to-one correspondence between collective community capacity and community-wide outcomes. Rather, it is the *alignment* of (1) collective community capacity, (2) network characteristics, and (3) choice of community change strategies that drives community change. Together, these factors form a *locally-based theory of change for achieving community impact*. Optimal alignment varies, based on community needs and conditions. There are thus many effective approaches, not one "best practice" for building community capacity and resilience to address ACEs.

Survey quality. Additional analysis of the survey results focused on the reliability of the index domains. The analysis showed that the internal consistency of the 10 domains of the index ranged from "acceptable" to "good." Specifically, the Cronbach's alpha scores ranged between 0.76 (for the sustained infrastructure and community problem-solving process domains) and 0.85 (for the multi-level strategies domain) across the 10 index domains (see Table A.2 in Appendix A for these results). The index was able to achieve this level of reliability with a smaller number of items than other surveys, reducing the data collection burden on respondents. The number of ARC^3 index items (36) is less than the number of items in the DBHR Coalition Assessment Tool (76 items), the Wilder Collaborative Factors Inventory (40 items), or the Collaboration Assessment Tool (69 items), while at the same time, the ARC^3 index's Cronbach's alpha scores are higher than the reliability scores reported for those other three surveys.

The ARC^3 survey can also be adapted to address other coalition goals. The instrument was constructed so that the focus of the index could be edited. The current instrument addresses the APPI sites' goals "to reduce adverse childhood experiences, increase resilience, and promote healthy child development." In other projects, this statement could be edited to list other community-wide goals.

There were also lessons learned for how to improve specific survey elements. First, the survey's sector and subsector affiliation questions should be revised to include information about the respondent's primary sector affiliation. Second, there was one equity domain item (regarding the dominance of one organization), which seemed to confuse respondents – likely because it used a "reversed" rating response scale. If that question is retained in future versions of the survey, the stem of the question or its response categories should be switched around so that they match the general pattern of the rest of the index. Third, it is important to confirm the accuracy of respondent lists, using information from

several sources. Lastly, the level of effort needed to achieve a good response rate is significant; considerable follow-up was needed to increase survey response rates.

Recommendations. Future work on this survey should continue to explore the survey's validity and reliability and enhance its utility. First, the survey was piloted and implemented in only eight sites within one state. The survey should be tested in more sites, in other types of community coalitions, and in other states or countries to confirm the general validity and reliability of the survey items. Second, it would be useful to implement the survey with a large enough sample of community sites (at least 30) to allow for a correlational study that could use regression analyses to compare the association of the sites' capacity scores, network structures, and choice of specific community change strategies with one or more community-wide outcomes. Third, it is important to develop "anchor" statements to the index response categories, to ensure that the items are scored consistently and interpreted accurately by survey respondents within and across survey sites. Finally, the average completion time of the final survey was short; respondents estimated that it took them between 15 to 20 minutes to complete the survey. This provides some potential breathing room to add a few more customized, site-specific capacity and activity questions to the survey, if desired.

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APPENDIX A: Capacity Measurement Sources and Characteristics

Table A.1. Capacity areas, concepts, and measures

ARC³ SURVEY CAPACITIES AND MEASURES	Community Capacity Development	Prevention Coalitions	Community Collaboration	Collective Impact	Comprehensive Community Initiatives	Capacity Surveys Instruments and Items
In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …						
A. CAPACITY AREA: Sustainable Infrastructure						
Leadership and Infrastructure:						
1. We have organized a strong network of formal institutions and informal connections to carry on this work.	X	X	X	X	X	DBHR I2, CAT L4
2. We have enough resources (funding and volunteers) to carry out this work.	X	X	X	X	X	DBHR N1, Wilder 38, Wilder 39, CAT R1, CAT R2, CCI I 4
3. [Coalition] leaders have the authority and community standing to bring people and organizations together to carry out this work.	X	X	X	X	X	DBHR C1, DBHR C5 Wilder 40, CAT L2, CCI NP 11
4. Enough training and assistance is available locally for the community to gain the knowledge and skills needed to carry out this work.		X			X	DBHR F3, PHAC G2 CCI I 6
Communications:						
1. [Coalition] members and community partners communicate openly with each other about this area of work.			X	X		DBHR C2, DBHR J8 Wilder 26, CAT Com5 PHAC D4
2. I am informed as often as I need to be about what is going on with the [Coalition].		X	X	X		DBHR B2, Wilder 27 CAT Com4
3. Community leaders use effective messages to raise local awareness and build political will in this area of work.	X		X			DBHR D1, CAT P9 PHAC A4, PHAC I1
4. Community agencies, local residents, and political leaders are recognized in public events and local media for their contributions to this area of work.	X					DBHR J5, DBHR J6 CAT M12

ARC[3] SURVEY CAPACITIES AND MEASURES	Community Capacity Development	Prevention Coalitions	Community Collaboration	Collective Impact	Comprehensive Community Initiatives	Capacity Surveys Instruments and Items
B. CAPACITY AREA: Community Network						
Goal-directed networks:						
1. To what extent have you worked with the following organizations during the past 12 months on one or more projects related to ACEs, resilience, and healthy child development?	X					Bess Year 3 Questionnaire Part 3
Community cross-sector partnerships:						
1. We have many strategic partnerships that work across sectors.	X	X	X	X	X	DBHR B1, Wilder 9 CAT C11, PHAC H1
2. People have a deep trust in each other to work together when it counts.		X				Wilder 7, CAT M3
3. People believe that, together, they can make a difference.		X	X	X		Wilder 34
4. As partners, we hold each other accountable for results.				X	X	DBHR G5, PHAC B2
Focus on ACEs and resilience:						
1. How familiar are you with the following concepts? (ACEs and resilience).	X					
2. To what extent has your organization integrated adverse childhood experiences (ACEs) concepts into its work?	X					
Shared goals:						
1. [Coalition] members and community partners share an ongoing commitment to this area of work.	X	X	X	X	X	Wilder 12, Wilder 35 CAT C9
2. Community] residents support local efforts in this area of work.	X		X		X	DBHR A6, Wilder 3 CAT C10
3. Local political leaders share an ongoing commitment to this area of work.			X	X	X	DBHR N2, Wilder 15, CAT C8

ARC[3] SURVEY CAPACITIES AND MEASURES	Community Capacity Development	Prevention Coalitions	Community Collaboration	Collective Impact	Comprehensive Community Initiatives	Capacity Surveys Instruments and Items
C. CAPACITY AREA: Community-based Solutions						
Community problem solving processes:						
1. The [Coalition] uses community problem-solving approaches (such as community mobilization and strategic prevention) in this area of work.	X	X		X	X	DBHR G2, CAT M6 PHAC E3
2. The [Coalition] and community partners review the best research available to inform community plans.	X	X			X	CCI KT 6
3. The [Coalition] has developed a clearly defined action plan that addresses community needs in this area of work.	X	X	X	X	X	DBHR A5, DBHR G1 CAT P4, CAT F2, CCI KT 3
Focus on equity:						
1. The [Coalition] is (not) dominated by one organization or sector (such as education, health, or social services).		X	X		X	Wilder 12, CAT M9
2. Among [Coalition] members and partners, power is shared in the community's best interests.		X	X		X	Wilder 12, CAT M9
3. The [Coalition] effectively resolves conflicts and balances power among its members and community partners.		X	X		X	DBHR E6, DBHR J3 CAT P6, CCI PS9
4. [Coalition] members work closely with community partners, local residents, and political leaders to address the social, cultural, and economic causes of adverse childhood experiences.	X	X			X	PHAC E1
Data use for improvement and accountability:						
1. We have access to the data sources and systems needed to track our progress and identify successes and failures.	X	X		X	X	DBHR K4, CCI KT 8

ARC³ SURVEY CAPACITIES AND MEASURES	Community Capacity Development	Prevention Coalitions	Community Collaboration	Collective Impact	Comprehensive Community Initiatives	Capacity Surveys Instruments and Items
2. The [Coalition] has enough staff capacity and expertise to analyze and use data for decision-making.			X	X	X	DBHR K1, DBHR K2
3. The [Coalition] uses data to identify local disparities for community planning purposes in this area of work.	X			X	X	DBHR K3, CAT P7
4. The [Coalition] uses a range of evaluation methods to conduct rapid tests of promising programs and practices in this area of work.	X		X	X	X	DBHR A4, CAT P8
D. CAPACITY AREA: Community-wide Impact						
Multi-level strategies:						
1. General need for coordinated multi-level strategies. See 1a through 1e for strategies at different levels (program, organization, system, community, policy)	X		X	X		DBHR L2, CAT C12
Diverse engagement and empowerment:						
1. [Community] residents are actively engaged as leaders in this area of work.	X	X	X		X	DBHR J7, PHAC B3
2. We make youth leadership opportunities available in this area of work.	X	X	X		X	DBHR D3, DBHR F2, CCI I5
3. [Coalition] members work closely with powerful allies (such as school districts and local legislators) in this area.		X	X	X		DBHR H1
Scale of work:						
1. Local efforts are able to sustain and expand successful programs and practices in this area of work.	X		X		X	CCI NP14
2. Local efforts are working at sufficient scale to improve community-wide trends in child development and family well-being.	X		X		X	CCI KT9

Sources: CAT Survey = (Marek et al. 2015). CCI Tool = (Bush et al. 2002). DBHR Survey = (WA DSHS DBHY 2011). PHAC Survey = (MacLellan-Wright et al. 2007). Wilder Tool = (Mattesich et al. 2001). Bess Survey = (Bess 2015). FPC CCD = Family Policy Council Community Capacity Development Model.

Table A.2. Mean community capacity index domain and item scores and domain reliabilities

ACR[3] Index Domains and Items	Mean score (SD)	Item factor loading range	Scale Alpha
Community cross-sector partnerships domain	2.80 (0.68)	0.63 - 0.84	0.82
1. We have many strategic partnerships that work across sectors (such as education, health, juvenile justice, and social services).	2.86 (0.77)	–	–
2. People have a deep trust in each other to work together when it counts.	2.79 (0.83)	–	–
3. People believe that, together, they can make a difference.	3.13 (0.72)	–	–
4. As partners, we hold each other accountable for results.	2.45 (0.93)	–	–
Shared goals domain	2.79 (0.68)	0.65 – 0.68	0.78
1. [Coalition] members and community partners share an ongoing commitment to this area of work.	3.39 (0.71)	–	–
2. [Community] residents support local efforts in this area of work.	2.59 (0.81)	–	–
3. Local political leaders share an ongoing commitment to this area of work.	2.30 (0.83)	–	–
Leadership and infrastructure domain	2.44 (0.66)	0.58 – 0.66	0.76
1. We have organized a strong network of formal institutions and informal connections to carry on this work.	2.68 (0.78)	–	–
2. We have enough resources (such as funding and volunteers) to carry out this work.	1.76 (0.86)	–	–
3. [Coalition] leaders have the authority and community standing to bring people and organizations together to carry out this work.	2.89 (0.86)	–	–
4. Enough training and assistance is available locally for the community to gain the knowledge and skills needed to carry out this work.	2.37 (0.90)	–	–
Data use for improvement and accountability domain	2.43 (0.86)	0.70 – 0.86	0.87

ACR[3] Index Domains and Items	Mean score (SD)	Item factor loading range	Scale Alpha
1. We have access to the data sources and systems needed to track our progress and identify successes and failures.	2.32 (0.94)	–	–
2. The [Coalition] has enough staff capacity and expertise to analyze and use data for decision-making.	2.27 (1.10)	–	–
3. The [Coalition] uses data to identify local disparities for community planning purposes in this area of work.	2.74 (0.91)	–	–
4. The [Coalition] uses a range of evaluation methods to conduct rapid tests of promising programs and practices in this area of work.	2.45 (1.05)	–	–
Communications domain	2.70 (0.78)	0.64 – 0.78	0.81
1. [Coalition] members and community partners communicate openly with each other about this area of work.	3.13 (0.78)	–	–
2. I am informed as often as I need to be about what is going on with the [Coalition].	3.00 (0.98)	–	–
3. Community leaders use effective messages to raise local awareness and build political will in this area of work.	2.46 (0.98)	–	–
4. Community agencies, local residents, and political leaders are recognized in public events and local media for their contributions to this area of work.	2.26 (0.98)	–	–
Community problem-solving processes domain	2.95 (0.70)	0.71 – 0.77	0.76
1. The [Coalition] uses community problem-solving approaches (such as community mobilization and strategic prevention) in this area of work.	2.96 (0.82)	–	–
2. The [Coalition] and community partners review the best research available to inform community plans.	3.06 (0.77)	–	–
3. The [Coalition] has developed a clearly defined action plan that addresses community needs in this area of work.	2.89 (0.86)	–	–
Diverse engagement and empowerment domain	2.47 (0.78)	0.66 – 0.80	0.79
1. [Community] residents are actively engaged as leaders in this area of work.	2.17 (0.85)	–	–

ACR[3] Index Domains and Items	Mean score (SD)	Item factor loading range	Scale Alpha
2. We make youth leadership opportunities available in this area of work.	2.20 (1.01)	–	–
3. [Coalition] members work closely with powerful allies (such as school districts and local legislators) in this area.	2.97 (0.85)	–	–
Focus on equity domain	2.97 (0.70)	0.64 – 0.86	0.84
1. The [Coalition] is (not) dominated by one organization or sector (such as education, health, or social services).	3.17 (1.09)	–	–
2. Among [Coalition] members and partners, power is shared in the community's best interests.	3.04 (0.79)	–	–
3. The [Coalition] effectively resolves conflicts and balances power among its members and community partners.	2.96 (0.82)	–	–
4. [Coalition] members work closely with community partners, local residents, and political leaders to address the social, cultural, and economic causes of adverse childhood experiences.	2.91 (0.80)	–	–
Multi-level strategies domain	2.41 (0.64)	0.72 – 0.87	0.85
1. Children and families get the help they need to develop safe, stable, and caring relationships and improve self-regulation and other aspects of healthy development.	2.22 (0.74)	–	–
2. Organizations change their programs and practices to help families more effectively in this area of work.	2.29 (0.72)	–	–
3. Service providers combine their efforts to provide more seamless support for children and families in this area of work.	2.36 (0.79)	–	–
4. [Coalition] members and community partners use positive reinforcement and other strategies to change community norms in this area of work.	2.74 (0.81)	–	–
5. [Coalition] members mobilize allies successfully to advocate for policy change (laws, rules, and funding) in this area of work.	2.62 (0.87)	–	–
Scale of work domain	2.22 (0.81)	0.66	0.79
1. Local efforts are able to sustain and expand successful programs and practices in this area of work.	2.26 (0.81)	–	–

ACR[3] Index Domains and Items	Mean score (SD)	Item factor loading range	Scale Alpha
2. Local efforts are working at sufficient scale to improve community-wide trends in child development and family well-being.	2.19 (0.96)	–	–

Source: Community Science analysis of 2016 ARC[3] Survey data.

Note: Spearman's correlation was performed for the Scale of work domain to establish the strength of the relationship between the two items.

APPENDIX B: ARC^3 Survey Instrument

ACES AND RESILIENCE COLLECTIVE COMMUNITY CAPACITY (ARC^3) SURVEY INSTRUMENT

PART 1. [COALITION] Experiences

This set of questions asks about your familiarity with adverse childhood experiences (ACEs) and your relationship with [COALITION].

1. What is the name of your organization?
   - ❒ My organization's name is: _____ _____
   - ❒ I am not affiliated with an organization. (Please explain your individual involvement in efforts to address ACEs, resilience, and healthy child development.) _____ [GO TO →# 8]

2. What is your organization's relationship with the [COALITION]?
   - ❒ Staff (such as executive director or program coordinator)
   - ❒ Board member (such as a member of the executive, governing, network, consortium, or policy board)
   - ❒ General member (such as voting or non-voting members, member of a standing committee, team member, or community member who attends meetings or serves on a subcommittee)
   - ❒ Non-member partner, consultant, or collaborator
   - ❒ Other (please specify): _____

3. How familiar are you with the following concepts?

	Not at all familiar	A little familiar	Somewhat familiar	Very familiar	Extremely familiar
Adverse childhood experiences (ACEs)	❒	❒	❒	❒	❒
Resilience	❒	❒	❒	❒	❒

4. To what extent has your organization integrated adverse childhood experiences (ACEs) concepts into its work?
   - ❒ Not at all
   - ❒ A little
   - ❒ Somewhat
   - ❒ Quite a bit
   - ❒ A great deal

5. To what extent have [COALITION]'s efforts **influenced** your organization in the following areas?

	Not at all	A little	Somewhat	Quite a bit	A great deal	Not applicable
WITHIN ORGANIZATION						
a. **Improved the knowledge of staff** about ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
b. **Integrated** ACEs, resilience, and healthy child development **into organizational practices and procedures**.	❒	❒	❒	❒	❒	❒
OUTSIDE ORGANIZATION						
c. **Enhanced collaboration with other organizations in multiple sectors** (such as education, criminal justice, social services, or health) related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
d. **Facilitated community awareness** related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
e. **Improved policy advocacy efforts** related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒

[REPEAT Q6 AND Q7 FOR EACH COALITION PROJECT/ACTIVITY]

NCW:
(1) ACEs Public Awareness efforts
(2) Westside High School efforts

Okanogan:
(1) Positive Social Norms Campaign
(2) Omak School District Community Truancy Board

Skagit:
(1) Nurse-Family Partnership
(2) School-based Substance Abuse Prevention/Intervention Specialist

Walla Walla:
(1) Commitment to Community Initiative
(2) Children's Resilience Initiative ACEs and Resilience Public Awareness Campaign
(3) Lincoln High School and Health Center efforts

Whatcom:
(1) Community Navigator Program
(2) Shuksan Middle School efforts

6. Has your organization been involved with the [COALITION PROJECT/ACTIVITY]?
   - ❒ Yes
   - ❒ No

7. [IF YES FOR Q6] Please describe your organization's role in [COALITION PROJECT/ACTIVITY].

_____
_____
_____

[IF THE RESPONDENT IDENTIFIED THEMSELVES AS AN INDIVIDUAL WHO IS NOT AFFILIATED WITH AN ORGANIZATION IN Q1 THEY WILL SEE THE FOLLOWING ALTERNATIVE VERSIONS OF Q2 TO Q7.]

8. What is your relationship with [COALITION]?
   - ❒ Staff (such as executive director or program coordinator)
   - ❒ Board member (such as a member of the executive, governing, network, consortium, or policy board)
   - ❒ General member (such as voting or non-voting members, member of a standing committee, team member, or community member who attends meetings or serves on a subcommittee)
   - ❒ Non-member partner, consultant, or collaborator
   - ❒ Other (please specify): _____

9. How familiar are you with the following concepts?

	Not at all familiar	**A little familiar**	**Somewhat familiar**	**Very familiar**	**Extremely familiar**
Adverse childhood experiences (ACEs)	❒	❒	❒	❒	❒
Resilience	❒	❒	❒	❒	❒

10. To what extent have you integrated adverse childhood experiences (ACEs) concepts into your work?
    - ❒ Not at all
    - ❒ A little
    - ❒ Somewhat
    - ❒ Quite a bit
    - ❒ A great deal

11. To what extent have [COALITION]'s efforts **influenced your work** in the following areas?

	Not at all	A little	Somewhat	Quite a bit	A great deal	Not applicable
a. **Improved my knowledge** about ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
b. **Enhanced my collaboration with organizations in multiple sectors** (such as education, criminal justice, social services, or health) related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
c. **Facilitated my work on community awareness-building** efforts related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒
d. **Improved my policy advocacy efforts** related to ACEs, resilience, and healthy child development.	❒	❒	❒	❒	❒	❒

[REPEAT Q12 AND Q13 FOR EACH COALITION PROJECT/ACTIVITY]

NCW:
(1) ACEs Public Awareness efforts
(2) Westside High School efforts

Okanogan:
(1) Positive Social Norms Campaign
(2) Omak School District Community Truancy Board

Skagit:
(1) Nurse-Family Partnership
(2) School-based Substance Abuse Prevention/Intervention Specialist

Walla Walla:
(1) Commitment to Community Initiative
(2) Children's Resilience Initiative ACEs and Resilience Public Awareness Campaign
(3) Lincoln High School and Health Center efforts

Whatcom:

(1) Community Navigator Program
(2) Shuksan Middle School efforts

12. Have you been involved with [COALITION PROJECT/ACTIVITY]?
    - ❒ Yes
    - ❒ No

13. [IF YES FOR Q12] Please describe your role in [COALITION PROJECT/ACTIVITY].

_____
_____
_____

PART 2. APPI COLLECTIVE COMMUNITY CAPACITY INDEX

This next set of questions asks about your community's capacity to work on the goals of reducing adverse childhood experiences, increasing resilience, and promoting healthy child development. For the purpose of this section, "community" refers to [COMMUNITY DEFINITION].

14 to 49. Please indicate the extent to which each statement reflects your community's current capacity.

	Not at all	A little bit	Some-what	A great deal	Completely	N/A	Don't know
COMMUNITY PARTNERSHIPS **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
14. We have many strategic partnerships that work across sectors (such as education, health, juvenile justice, and social services).	❒	❒	❒	❒	❒	❒	❒
15. People have a deep trust in each other to work together when it counts.	❒	❒	❒	❒	❒	❒	❒
16. People believe that, together, they can make a difference.	❒	❒	❒	❒	❒	❒	❒
17. As partners, we hold each other accountable for results.	❒	❒	❒	❒	❒	❒	❒
SHARED GOALS **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
18. [Coalition] members and community partners share an ongoing commitment to this area of work.	❒	❒	❒	❒	❒	❒	❒
19. [Community] residents support local efforts in this area of work.	❒	❒	❒	❒	❒	❒	❒
20. Local political leaders share an ongoing commitment to this area of work.	❒	❒	❒	❒	❒	❒	❒

	Not at all	A little bit	Some-what	A great deal	Completely	N/A	Don't know
LEADERSHIP AND INFRASTRUCTURE **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
21. We have organized a strong network of formal institutions and informal connections to carry on this work.	❒	❒	❒	❒	❒	❒	❒
22. We have enough resources (such as funding and volunteers) to carry out this work.	❒	❒	❒	❒	❒	❒	❒
23. [Coalition] leaders have the authority and community standing to bring people and organizations together to carry out this work.	❒	❒	❒	❒	❒	❒	❒
24. Enough training and assistance is available locally for the community to gain the knowledge and skills needed to carry out this work.	❒	❒	❒	❒	❒	❒	❒
DATA USE FOR IMPROVEMENT AND ACCOUNTABILITY **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
25. We have access to the data sources and systems needed to track our progress and identify successes and failures.	❒	❒	❒	❒	❒	❒	❒
26. The [Coalition] has enough staff capacity and expertise to analyze and use data for decision-making.	❒	❒	❒	❒	❒	❒	❒
27. The [Coalition] uses data to identify local disparities for community planning purposes in this area of work.	❒	❒	❒	❒	❒	❒	❒
28. The [Coalition] uses a range of evaluation methods to conduct rapid tests of promising programs and practices in this area of work.	❒	❒	❒	❒	❒	❒	❒

	Not at all	A little bit	Some-what	A great deal	Completely	N/A	Don't know
COMMUNICATIONS **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
29. [Coalition] members and community partners communicate openly with each other about this area of work.	❒	❒	❒	❒	❒	❒	❒
30. I am informed as often as I need to be about what is going on with the [Coalition].	❒	❒	❒	❒	❒	❒	❒
31. Community leaders use effective messages to raise local awareness and build political will in this area of work.	❒	❒	❒	❒	❒	❒	❒
32. Community agencies, local residents, and political leaders are recognized in public events and local media for their contributions to this area of work.	❒	❒	❒	❒	❒	❒	❒
COMMUNITY PROBLEM-SOLVING PROCESSES **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
33. The [Coalition] uses community problem-solving approaches (such as community mobilization and strategic prevention) in this area of work.	❒	❒	❒	❒	❒	❒	❒
34. The [Coalition] and community partners review the best research available to inform community plans.	❒	❒	❒	❒	❒	❒	❒
35. The [Coalition] has developed a clearly defined action plan that addresses community needs in this area of work.	❒	❒	❒	❒	❒	❒	❒

	Not at all	A little bit	Some-what	A great deal	Completely	N/A	Don't know
DIVERSE ENGAGEMENT AND EMPOWERMENT **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
36. [Community] residents are actively engaged as leaders in this area of work.	❒	❒	❒	❒	❒	❒	❒
37. We make youth leadership opportunities available in this area of work.	❒	❒	❒	❒	❒	❒	❒
38. [Coalition] members work closely with powerful allies (such as school districts and local legislators) in this area.	❒	❒	❒	❒	❒	❒	❒
FOCUS ON EQUITY **In [COMMUNITY DEFINITION]…**							
39. The [Coalition] is dominated by one organization or sector (such as education, health, or social services).	❒	❒	❒	❒	❒	❒	❒
40. Among [Coalition] members and partners, power is shared in the community's best interests.	❒	❒	❒	❒	❒	❒	❒
41. The [Coalition] effectively resolves conflicts and balances power among its members and community partners.	❒	❒	❒	❒	❒	❒	❒
42. [Coalition] members work closely with community partners, local residents, and political leaders to address the social, cultural, and economic causes of adverse childhood experiences.	❒	❒	❒	❒	❒	❒	❒

	Not at all	A little bit	Some-what	A great deal	Completely	N/A	Don't know
MULTI-LEVEL STRATEGIES **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
43. Children and families get the help they need to develop safe, stable, and caring relationships and improve self-regulation and other aspects of healthy development.	❒	❒	❒	❒	❒	❒	❒
44. Organizations change their programs and practices to help families more effectively in this area of work.	❒	❒	❒	❒	❒	❒	❒
45. Service providers combine their efforts to provide more seamless support for children and families in this area of work.	❒	❒	❒	❒	❒	❒	❒
46. [Coalition] members and community partners use positive reinforcement and other strategies to change community norms in this area of work.	❒	❒	❒	❒	❒	❒	❒
47. [Coalition] members mobilize allies successfully to advocate for policy change (laws, rules, and funding) in this area of work.	❒	❒	❒	❒	❒	❒	❒
SCALE OF WORK **In [COMMUNITY DEFINITION], to reduce adverse childhood experiences, increase resilience, and promote healthy child development …**							
48. Local efforts are able to sustain and expand successful programs and practices in this area of work.	❒	❒	❒	❒	❒	❒	❒
49. Local efforts are working at sufficient scale to improve community-wide trends in child development and family well-being.	❒	❒	❒	❒	❒	❒	❒

PART 3. COLLABORATION TO ADDRESS ACEs, RESILIENCE, AND HEALTHY CHILD DEVELOPMENT

This section asks about the extent to which you have worked with the organizations below during the past 12 months on projects related to ACEs, resilience, and healthy child development.

50. To what extent have you worked with the following organizations during the past 12 months on one or more projects related to ACEs, resilience, and healthy child development?

	Not at all	A little	Somewhat	Quite a bit	A great deal
[ROSTER OF ORGANIZATIONS]	❒	❒	❒	❒	❒

PART 4. BACKGROUND CHARACTERISTICS

The last set of questions asks about your organization's areas of work.

51. Which of the following describe your organization's area(s) of work? (Please select all that apply.)

Education and Training

- ❒ Early childhood education
- ❒ Childcare
- ❒ Elementary education
- ❒ Secondary education
- ❒ Postsecondary education
- ❒ Workforce development or training

Law Enforcement and Legal System

- ❒ Law enforcement
- ❒ Courts, corrections, or legal services
- ❒ Juvenile justice services

Health and Social Services

- ❒ Healthcare
- ❒ Public health
- ❒ Mental health services
- ❒ Substance abuse treatment
- ❒ Healthy youth development or risk reduction efforts
- ❒ Food assistance
- ❒ Housing assistance
- ❒ Financial assistance (e.g., SNAP, TANF)
- ❒ Social services (e.g., family social services, child welfare services)

Other Sectors

- ❒ Community organizing or development
- ❒ Philanthropy
- ❒ Civic or social advocacy
- ❒ Other (please specify): _____

52. Does your organization work with any of the following populations? (Please select all that apply.)
    - ❒ Pregnant women and/or their spouses or partners
    - ❒ Children up to 18 years of age
    - ❒ Families and parents
    - ❒ Other adults (e.g., seniors, adults not connected to children)
    - ❒ Other (please specify): _____

53. [IF SELECTED CHILDREN IN Q52] What are the ages of the children that you work with? (Please select all that apply.)
    - ❒ Birth to 4
    - ❒ 5 to 12
    - ❒ 13 to 18

[IF THE RESPONDENT IDENTIFIED THEMSELVES AS AN INDIVIDUAL WHO IS NOT AFFILIATED WITH AN ORGANIZATION IN Q1 THEY WILL SEE THE FOLLOWING ALTERNATIVE VERSIONS OF Q51 TO Q53]

The last set of questions asks about your areas of work.

51. Which of the following describe your area(s) of work? (Please select all that apply.)

Education and Training
- ❒ Early childhood education
- ❒ Childcare
- ❒ Elementary education
- ❒ Secondary education
- ❒ Postsecondary education
- ❒ Workforce development or training

Law Enforcement and Legal System
- ❒ Law enforcement
- ❒ Courts, corrections, or legal services
- ❒ Juvenile justice services

Health and Social Services
- ❒ Healthcare
- ❒ Public health
- ❒ Mental health services
- ❒ Substance abuse treatment
- ❒ Healthy youth development or risk reduction efforts
- ❒ Food assistance
- ❒ Housing assistance
- ❒ Financial assistance (e.g., SNAP, TANF)
- ❒ Social services (e.g., family social services, child welfare services)

Other Sectors
- ❒ Community organizing or development
- ❒ Philanthropy
- ❒ Civic or social advocacy

- ❒ Other (please specify): _____

52. Do you work with any of the following populations? (Please select all that apply.)

- ❒ Pregnant women and/or their spouses or partners
- ❒ Children up to 18 years of age
- ❒ Families and parents
- ❒ Other adults (e.g., seniors, adults not connected to children)
- ❒ Other (please specify): _____

53. [IF SELECTED CHILDREN IN Q52] What are the ages of the children that you work with? (Please select all that apply.)

- ❒ Birth to 4
- ❒ 5 to 12
- ❒ 13 to 18

THANK YOU for completing this survey!