Chapter 14
A Behavioral Community Approach to Community Health and Development: Tools for Collaborative Action

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Overview of Chapter

It is important for researchers, scientists, and practitioners to continue to advance behavioral community approaches for addressing community health and development issues. In behavioral community science, applied behavior analysis (ABA) offers an important perspective to address socially important problems and goals across a range of issues. Through multidisciplinary collaboration with researchers who serve as boundary-spanners, behavioral community research and science has been integrated into other fields. There are several disciplines including community psychology, public health, and prevention science, which at times have supported behavioral community approaches using a behavior-analytic perspective.

Throughout an evolutionary process of selection, behavioral community scientists continue to focus on the dimensions of ABA (e.g., applied, conceptually systematic, generality; Baer, Wolf, & Risley, 1968, 1987). It is important to recognize the contingencies of reinforcement that may control behavior, including our own (Bogat & Jason, 2000). For example, many behavioral community researchers have acquired federal funding. However, group designs and quasi-experimental designs are often required to demonstrate scale sufficiently to warrant external funding. In these cases, single-subject study designs may be at best nested within a broader group design (as multiple case studies), which to some may challenge the analytic criterion. As Baer et al. (1987) noted, "Perhaps the important point is that convincing designs should be more important than 'proper' designs" (p. 320). Often,

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behavioral community research must balance optimizing as many of the core dimensions of ABA as possible, while knowing that, at times, some dimensions are less feasible or appropriate for the context. Fawcett, Mathews, and Fletcher (1980) challenged the field of behavior analysis to ensure that interventions are "contextually appropriate." Behavioral community scientists are adept at translating behavior-analytic language and concepts into framings that are more acceptable, understandable, and promotable by other disciplines and the general public. Some examples include the distillation of evidence-based kernels (Embry & Biglan, 2008), the actively caring for people movement (Geller, 2016), nurture effects (Biglan, 2015), Pax's Good Behavior Game (Embry, 2002), and Olweus' Positive Behavior Supports for Bullying (Ross & Horner, 2009).

In this chapter, behavioral community approaches, interventions, and technologies are introduced within the area of community health and development. Efforts supported by the Center for Community Health and Development with the Department of Applied Behavior Science at the University of Kansas are featured to demonstrate an evolution and scaling of behavioral community research and application. Additionally, resources, frameworks, and tools developed to guide the implementation of behavioral community research and practice in community health and development are presented. However, first, the chapter explores the influence of behavioral community science and research within ABA and other disciplines supporting an integrated behavioral community approach.

History of Community Health and Development in ABA

A plethora of issues continue to plague the health, development, and well-being of society. Some of the problems that persist and are difficult to address include violence, poverty, educational disparities, climate change, food insecurity, war, racial injustices, substance abuse, and healthcare. Many of the societal challenges faced by communities often relate to social and structural determinants of health or broader underlying factors such as economic disparities or racism. A fundamental premise of ABA is the focus on addressing issues of social significance, which is critical for contributing to systematically examining and addressing large-scale issues of social importance. At the root of the science of behavior is understanding the phenomena of interest in terms of behavior and environment interactions.

Based on a behavior-analytic perspective, issues from the individual to community level can be systematically examined to achieve positive and desirable behavioral outcome(s) by modifying environmental conditions. The behavior-analytic framing of problems is important because it reduces victim-blaming through the recognition that an individual or group of people are not the problem to be fixed; rather, the problem resides in the environment in which people and groups behave (Fawcett, 1991). A focus on the ecology or environment permits reframing the problem in ways that those in communities who are most impacted by an issue can contribute to the collaborative problem-solving process. To this end, a

behavior-analytic perspective is important for understanding how to improve the health, development, and well-being of individuals and communities.

Community Applications of ABA

In ABA, there is longstanding interest in the use of the "science of behavior" to address community health and development issues. A brief history of behavioral community research within ABA and related subdisciplines provides a context (i.e., setting events) for addressing community health and development. Community applications of ABA were influenced by the major events and historical context of the 1960s. During the 1960s, there was a confluence of societal challenges including social, economic, and racial injustices, which were further exasperated by changes in the community mental health services and the return of veterans from the Vietnam War. Behavioral community technologies addressing community health and development issues were needed.

B. F. Skinner and other pioneers in ABA had a commitment to community development and contributed to improvements in related socioeconomic conditions including education, poverty, and employment. For example, in 1966, a group of behavior analysts participated in the Office of Economic Opportunity Conference on Applications of Operant Techniques to the Job Corps (Rutherford, 2009). Some of the behavior analysts attending included Israel Goldiamond, Jack Michael, Todd Risley, B. F. Skinner, Roger Ulrich, and Montrose Wolf (Rutherford). The Office of Economic Opportunity, which administered several programs including the War on Poverty, VISTA, and Head Start, began in 1964 as a result of the Economic Opportunity Act (Myers-Lipton, 2006). As demonstrated by participation in the Office of Economic Opportunity Conference, applied behavior scientists have contributed to shaping community-level policies, practices and programs through multidisciplinary approaches.

Milestones in the Era: Early Contributions to Community Health and Development in ABA The 1960s were also a critical period in the development of ABA. From best accounts, in 1959 the field of ABA was initiated, or at least the foundational publications that gave impetus to the extension of the subdiscipline from the experimental analysis of behavior (Morris, Altus, & Smith, 2013). Between 1960 and 1990, alongside the development of ABA there was continued advancement in behavioral community technology and research to address community issues (Jacobs, 1991). In the 1960s and 1970s, the dissemination of behavioral community research was supported through the establishment of the *Journal of Applied Behavior Analysis* (*JABA*) in 1968 and *Behaviorists for Social Action Journal* (BFSAJ; later renamed *Behavior Analysis and Social Action* [BASA] and then *Behavior and Social Issues* [*BSI*]). A seminal article, "Some Current Dimensions of ABA," published in the first issue of *JABA*, notes the importance of contributing to not only the analysis of individual behavior, but also to addressing problems of social significance to meaningfully impact society (Baer et al., 1968).

Behavioral Community Research Publications in JABA

Between 1968 and 1991, one indicator of behavioral community research was an increase in articles published in *JABA* focused on the community setting. Fawcett et al. (1980) offered seven key dimensions to guide behavioral community technology: (1) effective, (2) inexpensive, (3) decentralized, (4) flexible, (5) sustainable, (6) simple, and (7) compatible. The dimensions for behavioral community technology remain applicable to guide behavioral community research.

In 1991 (Geller, 1991), *JABA* published special sections focused on behavioral community interventions. The section demonstrated the breadth of behavioral community applications including in the areas of AIDS prevention, smoking cessation, marijuana use, cancer, recycling, and road safety. Fawcett (1991), Jacobs (1991), Miller (1991), and others presented challenges with facilitating behavioral community research. To help address the challenges, Fawcett (1991) summarized 10 values that guided his work, recommending their adoption to support effective behavioral community research. Figure 14.1 summarizes values to guide both community research and action (Fawcett, 1991) and equitable approaches for participatory (Fawcett, Francisco, & Schultz, 2004) and community-engaged research.

Northup, Vollmer, and Serrett (1993) conducted a 25-year review of *JABA* articles and concluded at that time there was an overall increasing trend in published research in the community setting. Based on visual inspection of the graphs, it is estimated that in 1968, less than 10% of the published articles in JABA were in a community setting compared to approximately 20% by 1991 (Northup et al., 1993). However, in 1992, there was a decrease with 10% or less of the publications in *JABA* in community settings. Additional research is needed to further explore more recent trends of behavioral community research and publications in behavior-analytic outlets.

Network for Behavioral Community Scientists: Behaviorists for Social Responsibility

In 1978, behavioral community researchers established Behaviorists for Social Action (BFSA), now Behaviorists for Social Responsibility (BFSR), as a special interest group in the Association for Behavior Analysis (ABA). BFSR is the oldest special interest group in ABAI, which is indicative of the importance of addressing community and societal issues. According to Rakos (2019, May), "the first [BFSA] meeting attracted behavior analysts who shared an interest in applying their behavior-analytic expertise to promoting progressive social change."

The journal, *BSI*, which is affiliated with BFSR, has a broad societal focus and commitment to promote issues related to social justice, human rights, and sustainability (Luke, Roose, Rakos, & Mattaini, 2017). In the inaugural issue of the *BFSAJ*, Morrow (1978) suggested it was an ethical concern if the science of behavior was

Values Guiding the Work of Understanding & Improving Community Health and Development (and related disciplines) (Fawcett, Francisco, & Schultz, 2004)	Guiding Values for Community Research & Action for Behavioral Community Approaches (Fawcett, 1991)
1) Improvement in community health and development involves the population as a whole and not only individuals at risk. (Public Health)	A. Community research and action interventions should contribute to change and improvements
2) Community health and development requires changes in both the behaviors of large numbers of individuals and the environment and broader conditions that affect health and development. (ABA)	B. Experimental research should examine the effects of modifiable environmental events on behavioral outcomes of importance.
3) Issues are best determined, prioritized, and addressed by those most affected in the community. (Community Psychology)	C. Use descriptive research to provide information about the behavior-environment relationships of importance to communities.
4) Improvements in health and development outcomes require attention to broader social determinants of health, including income disparities and social connectedness. (Public Health, Community Psychology)	
5) Community health and development outcomes are influenced by multiple and inter-related factors that require multicomponent or comprehensive interventions as single interventions are likely to be insufficient. (Public Health, Prevention Science)	D. Ensure the selected research setting, participants, and measures are appropriate for the community problem.
6) Conditions and factors affecting community health and development outcomes are often interconnected and related to multiple outcomes. (Public Health, Prevention Science)	E. Community action should occur at the level of change and timed to optimize beneficial outcomes. F. Community interventions should be replicable and sustainable.
7) Behaviors affecting health and development occur across multiple people and settings, which requires engaging diverse groups and people in places and across multiple sectors of the community. (ABA; Community Psychology)	G. Use replicable measurement systems that record both the behavior and environment relationship, including changes in or with actors from the community
8) Community health and development requires collaboration with others and among multiple parties. (Community Psychology)	H. Develop collaborative relationships with participants.
9) Collaborative partnerships, including with intermediary or support organizations and funders, serve as catalysts for change to help convene, broker, and leverage resources that support community change and improvement. (Community Psychology)	I. Results of community research and action should be communicated to stakeholders and the public.
10) Support organizations build capacity to address what matters to people in the community over time and across issues of concern. (Community Psychology)	J. Develop capacity to disseminate effective interventions and provide support for change agents.

Fig. 14.1 Guiding values and evaluation questions for community research and action

not aiding in improving social conditions, including the displacement of truth (i.e., fake news), war, racism, and poverty. The second concern the journal supported was assuring the integration of behaviorism with other disciplines. Luke et al. (2017) examined the publication trends of *BSI* since its inception in 1978 to 2017. Between 1978 and 1988, the most frequent topics of publications were political science/policy making, collective violence, and communities. Whereas, from 2007 to 2016, the topics related more to behavioral theory, environmental sustainability, and criminal behavior (Luke et al., 2017), with modest publications specifically in the areas of community health and development.

Challenges with Behavioral Community Research in ABA

There were a few factors Hawkins, Greene, and Fuqua (1995) and others identified that challenged and consequently impacted the trajectory of behavioral community research in the late 1990s and 2000s. It was noted that research methods and designs highly regarded in ABA may have been insufficient to experimentally examine some complex societal issues (Hawkins et al., 1995; Jacobs, 1991). For instance, Fawcett (1991) suggested that behavioral community researchers consider mixed methods, including single subject and group designs to examine complex community behavioral outcomes. Additionally, the methodological publication standards of *JABA* restricted some behavioral researchers from publishing in journal outlets associated with the field. Some of the methodological challenges of behavioral community research were fundamental premises of the approach, including sharing control of the intervention with community partners and recognizing and responding to other competing contingencies (e.g., policies, community priorities). The implications were that a subset of behavioral community researchers branched out and published or affiliated with other fields and subdisciplines. Research most often published in the disciplinary literature may suggest a narrow application of behavioral community science, which is important for the field to further examine. However, it is also plausible that as new generations of scientists are trained in multidisciplinary behavioral community approaches, they may become involved in the environments (i.e., fields, jobs) in which their scholarly and professional behaviors are reinforced, which may not be solely in ABA.

The call that *BSI* and BFSR answered aligned with what Skinner (1987) later referred to as the uncommitted in his seminal article "Why We Are Not Acting to Save the World." Skinner (1987) noted, "we [the uncommitted] are scholars, scientists, teachers, and writers for the media" (p. 8). The uncommitted represent those who should have a neutral base and thus can be objective in guiding behavioral community research and action. However, even for those who valued remaining uncommitted, through selection by consequences, there were environmental contingencies operating within institutions including securing funding and ensuring scholarly productivity in a "publish or perish" dichotomy, which often presented a conflict for behavioral community researchers.

Integration of Behavioral Community Research with Other Disciplines

The contributions of a behavior-analytic perspective have been recognized and integrated into other fields that address community health and development, including community psychology, prevention science, and public health. Through a multidisciplinary perspective, behavioral community approaches benefit from the strengths across the diverse, but complementary fields. Figure 14.2 summarizes some guiding

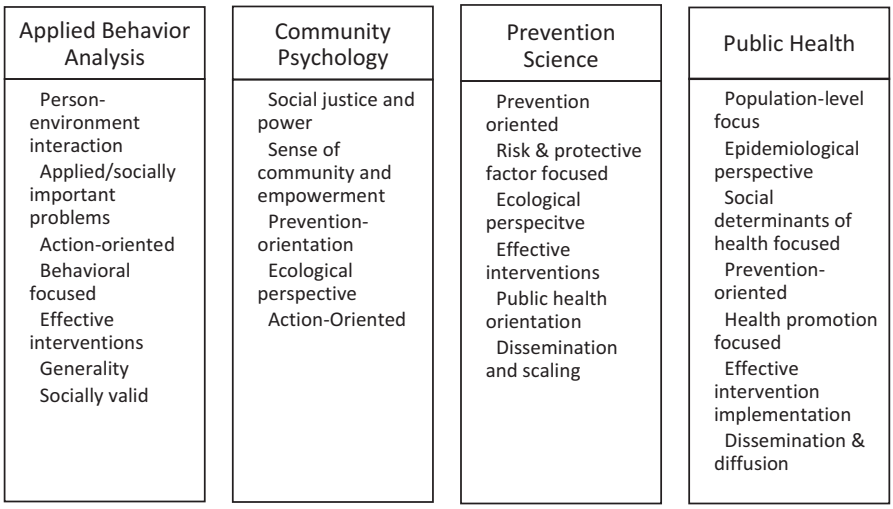

Fig. 14.2 Guiding principles for behavioral community science integration across disciplines

values and considerations across the four disciplines. There are commonalities across some of the fields, such as a prevention-focus or commitment to addressing socially important problems. There are also distinctions particularly regarding how problem behaviors are analyzed and the levels at which they are addressed. For instance, in prevention science and public health a more epidemiological approach to analyzing problems is used based on systemically identifying risks. Prevention science and community psychology both focus on examining multiple levels of the ecology (e.g., individual, community) to inform appropriate interventions. Whereas, public health also recognizes the importance of ecological approaches, but promotes systemic interventions and population-level impact. The distinctions across the fields become the integrated strength of the behavioral community approach.

Behavioral Community Research in Community Psychology

In 1965, community psychology in the United States evolved from the Swampscott Conference, particularly as there were emergent issues related to how to support mental health needs in the community. Community psychology offered an expanded approach for comprehensive community mental health centers in response to legislation mandating community mental health services and deinstitutionalization (Watson-Thompson et al., 2015). Community psychology was also influenced by the socio-political events of the 1960s, including the Vietnam War and Civil Rights Movement.

Between the 1970s and 1990s, there was recognition and support for the integration of ABA and community psychology within both disciplines. Since the

mid-1970s, behavioral community psychology has evolved as a subspecialty in community psychology and ABA (Bogat & Jason, 2000). In the book *Behavioral Approaches to Community Psychology* (Nietzel, Winett, MacDonald, & Davidson, 1977), an introduction to behavioral community psychology as a subdiscipline emerged. At that time, applications of behavioral community research were present in the areas of juvenile justice and offending, drug and alcohol abuse, education, and unemployment. In 1977, Lenny Jason challenged community psychologists to be more intentional in collaborating across the fields of behavior analysis and community psychology in the development of behavioral community technology. During the 1980s, the application of behavioral community psychology was disseminated through publications, including books (e.g., Glenwick & Jason, 1980) and a special issue of the *Journal of Community Psychology* (Glenwick & Jason, 1984). According to Bogat and Jason (2000), "the field of behavioral community psychology has emerged…as a subspecialty of community psychology and ABA. It attempts to understand and change community problems through the application of behavioral theory and technology" (p. 101).

In the late 1970s, there were efforts to integrate behavioral community approaches across professional associations through the development of special interest groups (SIGs), including in behavioral community psychology. Several prominent behavioral community scientists including Lenny Jason, David Glenwick, Scott Geller, Dick Winett, and Stephen Fawcett were interested in building a bridge between the behavioral and community spheres of engagement (Fawcett, personal communication, July 24, 2019). In 1977, the Community Research SIG was developed within the Association for Advancement of Behavioral Therapies (now the Association for Behavior and Cognitive Therapies) (Fawcett, personal communication). Through the SIG the Behavioral Community Research Network Directory was developed. Between 1978 and 1993, the Behavior Community Psychology area in ABA was also organized. However, with the emergence of BFSA during this same time period, there was insufficient support for two SIGs with similar interests.

Through the 1990s and 2000s, there has been less recognition and systematic use of the term behavioral community, or intentionality in maintaining the subspecialty area within the disciplines. Yet, training and support for an integrated behavioral community approach continues to be of interest in community psychology (see Suarez-Balcazar, Francisco, & James, 2019). In 2015, at the Society for Community Research and Action meeting, the professional association for community psychologists, a roundtable discussion session, "Where Do We Go from Here: Is there Still a Place for Behavioral Community Psychology" (Watson-Thompson, Fawcett, Francisco, & Stewart, 2015) was facilitated. Some concrete recommendations emerged from the discussion such as supporting consistent key search terms across the disciplines when publishing behavioral community research to make the identification of the work more systematic. Additional recommendations were to support special sections or issues in journals to promote behavioral community research that may be now more diffused across disciplines. Additionally, it was recommended to develop behavioral community SIGs across the disciplines, and to support interaction across the SIGs. Some of the recommendations also align with practices

identified by BFSR in the Matrix Project. The goal of The Matrix Project (BFSR.abainternational.org) is to advance behavior-analytic research and application of social issues through a systemic approach that identifies the contingencies across systems or sectors (Mattaini & Luke, 2014).

Values of Community Psychology Influencing Behavioral Community Approaches There are some core values and principles of community psychology that influence behavioral community approaches. The vision for the Society for Community Research and Action (2019) is to "have a strong, global impact on enhancing well-being and promoting social justice for all people by fostering collaboration where there is division and empowerment where there is oppression." Figure 14.2 summarizes some of the values and principles of community psychology.

In community psychology, it is important to develop a sense of community and belonging through the authentic participation of residents and groups, particularly those who are most impacted by an issue. The distribution of power, even in developing, implementing, and disseminating interventions is critical to community psychology. The engagement of individuals and groups supports both self- and collective efficacy. Self-efficacy refers to an individual's sense of influence over their own conditions. The self-help paradigm promoted in community psychology to address a range of problems is related to enhancing self-efficacy. Collective efficacy relates to a group's belief that they can work together to achieve a desired outcome (Bandura, 1997). Through a behavioral community approach, residents and local groups are empowered to participate in the problem-solving process.

Geller (1991) challenged behavior analysts to consider how our science may contribute to better understanding concepts, including empowerment and belonging, which have social validity in other disciplines. According to Geller (1991, 2016), empowerment and belonging/ownership are antecedents to actively caring. For instance, Geller (1991) proposed that empowerment (i.e., belief that you can make a difference) can be increased by providing frequent rewards and feedback for participation in desired processes, or by providing opportunities to set group goals and achieve "small wins." Additionally, Geller indicated that involving intervention or change agents from the community also increases the ratio of reinforcement (i.e., number of people who can deliver a reinforcer) when engaging in the desired target behavior, which is important for scaling community-level interventions.

Community psychologists focus on building the capacity of individuals and groups in communities to come together to address their own self-identified problems and goals. It is important to consider how to continuously enhance the community capacity, or collective skills, capabilities, and resources of residents and groups to come together to address community-identified issues of importance (Watson-Thompson, Keene-Woods, Schober, & Schultz, 2013). The engagement of those in the community, or natural to the environment, in problem-solving supports program generalization and makes it more likely that behavioral community interventions can be sustained.

In behavioral community approaches, it is important to identify change agents or those who can help to bring about change and improvement in the community.

Individuals and groups may serve as targets (i.e., behavior is targeted for improvement) or agents (i.e., assist in bringing about improvement) of change. For community-level interventions, it is important to consider the multiple ecological levels where change may need to occur. Based on a socioecological approach, the intrapersonal (i.e., individual), interpersonal (e.g., family, peers), organizational, community, and broader societal or macro (e.g., policies, cultural norms) levels should be examined in considering targets and agents of change, as well as types of intervention (McLeroy, Bibeau, Steckler, & Glanz, 1988). To support empowerment and capacity-building through participation, consider how those most affected by the problem or goal may serve as targets and/or agents of change, including marginalized individuals and groups. Based on the issue, participation and inclusion should be examined, at a minimum in regard to age (e.g., youth, seniors), abilities (e.g., individuals with disabilities), race and ethnicity, gender, orientation and identity, economic status, educational status, and other characteristics that may often result in marginalization.

Social justice is another core value in community psychology. Social justice relates to ownership and collective responsibility with and for the community, including those who may be most vulnerable or disenfranchised. In community psychology, two forms of social justice have been identified, including distributive and procedural justice (Fondacaro & Weinberg, 2002). Social justice focuses on distributive justice through the equitable allocation of resources, which may include human, geographic and natural, economic, information and education, and technological resources. Whereas, procedural justice relates to the democratic process for assuring voice and power, including through participation in the process of decision-making (Fondacaro & Weinberg, 2002). Critical to social justice is empowerment, including in developing, implementing, and evaluating the intervention, as well as balancing the distribution of power across ecological levels. Some early tension in behavioral community approaches between community psychologists and behaviorists related to issues of power and control (Bogat & Jason, 2000; Fawcett, 1991). It may be difficult for behavior analysts to compromise some level of control of the intervention, which is often necessary in behavioral community research, particularly with groups who may be distrusting of researchers and those external to the community. (Consider aspects of your own privilege and opportunities you may have to engage in behaviors to increase social justice for those you may work with and/or serve.)

Behavioral Considerations in Public Health

Although public health traditionally focused on disease prevention from a biomedical perspective, public health research and practice integrates analyses of setting events and potential reinforcers of health behavior. Modern public health theories integrate the behavior-analytic paradigm to better understand the mechanisms of disease development and prevention in large populations. One theory is the

behavioral ecological model (Hovell, Wahlgren, & Adams, 2009), which integrates behavior-analytic principles with Bronfenbrenner's (1977, 1994) ecological systems theory. Epistemologically, the behavioral ecological model "is derived from philosophical tenets of functional contextualism […] and radical behaviorism […]" (Hovell et al., p. 417). Thus, population-level mechanisms of disease pathology are explained by the environment, not by hypothetical explanations.

Whereas, the field of public health does not explicitly mention behavior-analytic principles, the tenets of the behavioral ecological model, and ABA more broadly, are evident throughout the research. The HIV/AIDS epidemic has been a particularly important area of behavior-analytic integration within public health, and such interventions often present discriminative stimuli in naturalistic environments to occasion behavioral processes. Such experimental operations may include introducing free condoms in venues frequented by individuals at elevated risk of HIV acquisition (Bom et al., 2019) and increasing the presence or salience of mobile HIV testing sites to improve linkage to care (Bassett et al., 2014).

To be sure, public health does not focus solely on discriminative stimuli and proximal consequences of behavior. Rather, it fully integrates setting events into its understanding of complex public health behavior across individuals and settings. Many of these setting events are encompassed in the term *social determinants of health,* defined as the environmental and social conditions in which people are born, live, work, grow, and age (Centers for Disease Control and Prevention, 2018; World Health Organization (WHO), 2019). In public health, social determinants may include housing instability, income inequality, employment and working conditions, education, food insecurity, and social inclusion/exclusion. Additionally, social determinants include the structural and institutional systems that shape the conditions in which individuals live. The social determinants often serve as environmental and structural stimuli acting as setting events for behavioral contingencies.

The public health literature clearly demonstrates that social determinants impact health outcomes across populations and settings. For instance, housing instability, low social support, and lower education have been shown to be risk factors for incarceration among sexual and gender minorities (Anderson-Carpenter, Fletcher, & Reback, 2017), and a recent systematic review found that housing instability was a major barrier for engagement across the HIV continuum (Aidala et al., 2016). Within many populations, structural violence (e.g., stigma, discrimination, xenophobia) is associated with a number of health outcomes such as lower rates of health care utilization (Philbin et al., 2018), substance use (Abdallah-Hijazi, Anderson-Carpenter, Gruber, Chiaramonte, & Haight, 2019), and decrements in mental health (Blosnich et al., 2016).

Like ABA, public health addresses the co-occurring nature of disease and maladaptive behavior. Comorbidity is best understood as a *syndemic*—that is, multiple interacting health conditions that increase adverse population-level disease outcomes beyond the effects of each individual health condition (Singer & Hispanic Youth Council, 1996; Wilson et al., 2014). Similarly, at the individual level, intersectionality refers to the multiple, intersecting identities by which human organisms interact with environmental stimuli. For example, the value of a discriminative

stimulus (e.g., reading an individual's chosen name) may be different for a transgender African American woman compared to a cisgender Caucasian/White man. In this regard, the intersection of multiple identities (i.e., gender identity and race/ethnicity) acts as a motivating operation for an individual's verbal behavior. Taken together, social determinants of health, intersectionality, and syndemics provide a public health context for understanding the role of setting events and motivating operations in multiple contingencies across the behavioral ecology.

Prevention Science Understanding of Risk and Protective Factors

Prevention science is a relatively newer field that was influenced by public health and human development. The focus of prevention science is to decrease the risk (i.e., risk factor) and increase protection (i.e., protective factor) to reduce the likelihood of an individual or group engaging in a problem behavior. Risk factors address personal factors that may be biological and developmental (e.g., skills), as well as environmental factors such as economics, services, and broader policies (Center for Community Health and Development, 2018). Prevention science integrates an ecological perspective for classifying risk and protective factors across levels including the individual, family, peer, school, and community domains. For each ecological level, risk and protective factors are identified. Hawkins, Catalano, and Arthur (2002) developed a matrix of risk factors associated with adolescent substance abuse that shows the relationship across often co-occurring problem behaviors including violence, delinquency, risky sexual behaviors, and dropping out of school. The risk for engaging in a problem behavior or poor health outcomes increases with the more risk factors associated with an individual or group. Comprehensive or multicomponent interventions that address multiple risk factors are strategic (Hawkins et al., 2002).

The three primary types of prevention are primary, secondary, and tertiary prevention. For each type of prevention there are corresponding intervention strategies (i.e., universal, selective, indicated). Primary prevention is focused on addressing antecedents that may serve as risk or protective factors for a problem behavior. With primary prevention all individuals in the population are considered to have the same likelihood of risk to engage in the problem behavior. Therefore, the level of intervention is universal and is provided or is available to all individuals in a population or group. For instance, in substance abuse prevention, providing peer refusal skills training to all students to resist drugs or alcohol use in a school-based curriculum is primary prevention. Secondary prevention is focused on individuals and groups who have not exhibited the problem but have elevated or increased risk for engaging in the problem behavior. Selective prevention strategies are used to support secondary prevention. For example, a substance abuse program at a treatment facility for the children of parents who have abused drugs and are seeking treatment would be

an example of a selective strategy. Lastly, tertiary prevention may be considered early treatment or intervention as the focus is on treating the problem to reduce the risk or likelihood of the problem continuing or reoccurring. With tertiary prevention, indicated strategies focus on individuals who have already engaged in the problem behavior. An example of an indicated strategy is required participation in a diversion program after being cited for driving under the influence. Often, community-level interventions support comprehensive or combined multicomponent interventions supporting multiple levels of prevention interventions (Greenwood et al., 2017).

Strategic Prevention Framework as a Comprehensive Intervention In the early 2000s, the Substance Abuse and Mental Health Services Administration (SAMHSA) developed the Strategic Prevention Framework (SPF) as a systematic and comprehensive approach to support community-based efforts in reducing problem behaviors such as underage drinking and substance use. The SPF provides a five-phase iterative process (i.e., assessment, capacity, planning, implementation, and evaluation) to promote culturally responsive adaptations and sustainability of evidence-based strategies. In September 2005, the Kansas Department of Social and Rehabilitation Services (currently, the Kansas Department for Aging and Disability Services) was awarded a 5-year, $ten million, Kansas SPF-State Incentive Grant from the Center for Substance Abuse Prevention (CSAP). There were 14 Kansas community coalitions funded to implement a combination of evidence-based strategies to reduce underage drinking (Anderson-Carpenter, Watson-Thompson, Chaney, & Jones, 2016).

As part of the SPF process, each coalition conducted comprehensive community assessments with support from the state prevention system partners to identify the behavioral outcome to be prioritized and related risk or contributing factors (i.e., antecedents). An identified risk factor could be accessibility of alcohol in the community by retailers, peers, or parents, which would employ different interventions. Local stakeholders were engaged with the coalition to develop logic models grounded in the assessments to inform the planning and capacity-building phases. As part of the planning phase, coalitions developed comprehensive strategic and action plans; these plans included behavioral objectives, evidence-based prevention strategies related to each objective, and detailed action steps.

From January 2009 through June 2012, the coalitions implemented approved evidence-based prevention strategies (e.g., programs and environmental strategies) using the action plans as a guide. Each coalition actively engaged multiple community sectors as agents of change. For example, some coalitions worked closely with policy makers and judicial systems to increase the penalty for providing alcohol to youth, and others partnered with school districts to implement school-based programs aimed at teaching peer refusal skills. The community coalitions implemented 30 evidence-based strategies, with an average of four strategies per community. During the implementation phase, the community coalitions participated in ongoing evaluation activities with their state evaluation partners, which included the Center for Community Health and Development at the University of Kansas. Together, the

communities facilitated 802 documented community-level changes, with an average of 57 community changes facilitated within each community. Approximately, 36% of all community changes were new programs, 6% were policy changes, and the remaining 58% were new practices within the communities. Moreover, the funded coalitions' combined efforts contributed to a decrease in self-reported 30-day alcohol use between 2007 and 2012. From a behavior-analytic perspective, the use of indirect measurement through self-reported data is a limitation of this effort; however, from a multidisciplinary approach the use of data valued by the community and funder through mixed methods when working as interdisciplinary teams is important.

Community Health and Development Models Supporting the Work

In supporting community health and development efforts, collaboration with local people and groups is critical to foster change and sustain improvements. Improvements in community health and development goals require a long-term investment, including a commitment to the people and the place. In the remainder of this chapter, key concepts and additional frameworks are provided to demonstrate the use of behavioral community approaches that support improved community health and development.

Based on influences from ABA, community psychology, and public health, there are several underlying values to the behavioral community approach supported by the Center for Community Health and Development (CCHD) at the University of Kansas. According to Fawcett, Schultz, Collie-Akers, Holt, and Watson-Thompson (2017), "community development is both process (engagement of people and groups in collaborative action) and product (changed conditions and improved outcomes related to locally determined goals)" (p. 444). In this chapter, community is defined as people who share a common place, interest, and/or experience (Community Tool Box, 2019). For the work of community health and development, we are generally referring to people who share a common geographical place.

Frameworks Guiding Collaborative Action for Community Health and Development

There are a variety of frameworks and models in community psychology, prevention science, and public health used to guide the work of community health and development. Two of these frameworks adopted by the CCHD to support community-based efforts have been integrated as shown in Fig. 14.3, which provides an integrated framework for collaborative action with communities and incorporates both models to provide a process for supporting change and improvement. There is

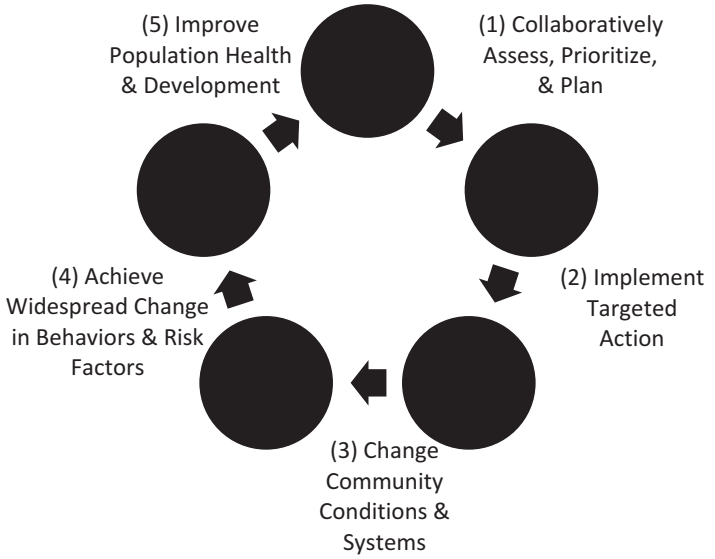

Fig. 14.3 Integrated Framework for Collaborative Action for Community Health & Development. (Adapted from the Framework for Collaborative Public Health Action in Communities. Institute of Medicine. (2003). The community. In Institute of Medicine (Ed.), The future of the public's health in the 21st century (pp. 178–211). Washington, DC: National Academies Press. Adapted from Community Tool Box. (2019). A model for getting started. Lawrence: University of Kansas. Retrieved from: https://ctb.ku.edu/en/get-started)

evidence of associated improvements in population-level health and development outcomes using the frameworks (Collie-Akers, Fawcett, & Schultz, 2013; Watson-Thompson, Fawcett, & Schultz, 2008).

Community Tool Box (CTB) Model for Collaborative Action The Community Tool Box (CTB) Model is a five-step process (CTB, 2019) that guides community health and development efforts. Based on the CTB model, communities or individuals and groups natural to the environment, come together to collaboratively address community health and development. The phases of the model include: (1) Assess and prioritize the issue at the community level through a problem analysis to better understand the issue, including the related risk and protective factors that maintains the behavior(s); (2) Plan with other collaborative partners for how to address the issue across sectors or settings of the environment in which the behavior of interest occurs; (3) Act with other individuals and groups (i.e., targets and agents of change) to implement the plan to bring about change; (4) Evaluate the effectiveness of the intervention efforts and examine if there are any corresponding changes in behaviors of groups of people in the community; and (5) Sustain the intervention and improvements in population-level behavior changes over time and in a place. The phases of the models are iterative and interactive and contribute to a continuous cycle of change and improvement.

Since 1994, the CTB has been supported by a collaborative team of behavioral community psychologists at the University of Kansas Center for Community Health

and Development (KU CCHD), the University of Massachusetts Medical School, and the University of Massachusetts Lowell. Through the KU CCHD, the CTB supports knowledge, translation, and dissemination for how to support the work of community health and development. The mission of the CTB (2019) is "to promote community health and development by connecting people, ideas, and resources" (Fawcett et al., 2004, p. 230). The CTB (http://ctb.ku.edu) is an online technology aimed at enhancing individual competency and group-based capacity to come together to support improvements in health and development outcomes.

Using a behavior-analytic approach, the CTB identifies competencies, skills, and processes at the community level. Through the CTB, each core competency skill and process (i.e., community-level target behavior) is broken down into components and elements, or a series of smaller actions and steps. The CTB provides access to resources including checklists, training materials, and supports to enhance the knowledge, skills, and application of individuals and groups to contribute to improvement. The CTB content is available in multiple languages including Arabic, English, Farsi, French, and Spanish. The CTB content and the related curriculum modules are used by multiple disciplines, including public health, applied behavioral science, community development, and community psychology, to train students, workforce professionals, and community members. KU also offers a Graduate Certificate in Community Health and Development using the CTB Curriculum. Figure 14.4 provides a summary of 16-core competency or skill areas based on the CTB Model for Collaborative Action.

Assess: Community Assessment and Problem Analysis

1. **Create & maintain coalitions & partnerships:** Develop or identify a partnership that can come together to address a common goal.
2. **Assess community needs and resources:** Identify assets, resources, and needs related to the effort/practices.
3. **Analyze information about the problem or goal at the population or community-level.**
   - Examine the setting and contextual factors (i.e., setting events, motivating operations).
   - Take the perspective of the people who would be completing the practice to understand the environment that will support or hinder - what are the antecedents and consequences for the practice?
   - Gather & analyze information about the goals and factors affecting practice.
   - Find references and conduct literature reviews to identify best practices.

Plan—Develop and Implement Plan of Action with Partners

4. **Develop or adopt a framework or model for change and improvement in communities:** Identify the framework or visual pathway to guide the work.
5. **Develop strategic and action plans:** Identify the vision, mission, objectives, strategies/interventions, and action steps to guide the collaborative effort.
   - Identify and prioritize the multiple sectors to engage as targets and agents of change.
   - Identify the most feasible goal area and arrange the antecedents and consequences to make that practice more likely – remember, the aim is not to make people engage in the practices, but to rather arrange the environment to make the practices more likely.
   - For each strategy selected, develop an action plan to support implementation.
6. **Build leadership:** Identify leadership to support implementation of prioritized strategies and in/across sectors.
7. **Improve organizational management:** Determine structure & human resources to support the effort. Develop a structure and way of operating together.

Act: Implement Collaborative Action with Partners

8. **Develop and implement intervention(s):** Implement community and systems changes (i.e., programs, policy, and practice changes).
   - Implement effective and feasible strategies selected by the group. Ensure technical assistance and support to build the capacity of the community.
9. **Increase participation and membership:** Increase participation & engagement of stakeholders to support the effort.
10. **Enhance cultural competence & humility:** Assess and enhance cultural competence and appropriateness of the effort with partners and the community.
11. **Advocate for change:** Support advocacy efforts and understand how to respond to opposition, if/when appropriate.
12. **Influence policy development:** Support & influence policy change in organizations and community, as appropriate for the sector & strategy.

Evaluate: Examine Intervention Effectiveness

13. **Evaluate the initiative:** Evaluate the program and related intervention efforts, as well as examine corresponding changes in the prioritized behavioral outcome(s) of interest.
    - Document progress and use feedback to support implementation.
    - Make outcomes of the effort matter and ensure its importance to key stakeholders & audiences.
    - Identify the reinforcers and social supports to enable continuing the work; Ensure there is a community that will ensure that the work continues.

Sustain: Maintain and Adapt Effective Interventions

14. **Implement a social marketing effort:** Market the behaviors to be maintained and disseminate adoption of the innovations.
15. **Apply for grants and other funding:** Leverage funding and resources with the community to maintain the work and its effects.
16. **Sustain the work:** Consider other tactics and develop a sustainability plan for the effort with stakeholders.
    - Adapt: Be prepared for a constantly evolving process – the environment and contingencies will continue to change, sometimes quickly, so adapt.

Fig. 14.4 Community Tool Box process to support 16 core competencies in community health and development (https://ctb.ku.edu/)

The Center for Community Health and Development also developed the Community Check Box (CCB) Evaluation System. The CCB is a related, but different suite of tools developed based on a behavioral community approach. The CCB provides an internet-based system to document community and systems changes and other important events facilitated to support efforts in community settings (e.g., services provided). The CCB was also developed in the early 1990s as an online documentation and support system. The evaluation system is used with a variety of initiatives supporting community health and development efforts locally, statewide, nationally, and globally. The CCB and the related community change methodology have been used with grassroots organization (e.g., Watson-Thompson et al., 2008) and multisite national initiatives. Through participatory evaluation, the CCB records the occurrence of events that are described and then coded and characterized using operational definitions to understand how the environment is changing related to a targeted community health and development outcome. The information recorded in the CCB can be examined using automated graphs and reports, including cumulative time series graphs to examine trends and discontinuities in efforts addressing community-level behavioral outcomes. The CCB has been used across multiple community health and development initiatives to support the process of understanding and improvement through the CTB and the Institute of Medicine's (IOM) Frameworks.

IOM Framework for Collaborative Public Health Action The IOM's Framework for Collaborative Public Health Action (Institute of Medicine (IOM), 2003) further distills a similar process of collaboration to support community health and development. The IOM Framework, adapted from the early work of Fawcett et al. (2000), provides an understanding of behavior and environment interactions. In Fig. 14.3, the IOM five-phase framework is presented within the CTB process. Based on the IOM Framework, collaborative assessment and planning (Phase 1) supports the identification of community actions (Phase 2). The plan guides the implementation of community change strategies (i.e., programs, policies, and practices) to support community change interventions (Phase 3) related to identified personal and environmental factors. The implementation of community and systems changes through comprehensive or multicomponent intervention leads to widespread changes in the behaviors of multiple individuals and groups (Phase 4), and corresponding improvements in more distal population-level outcomes (Phase 5). If improvements in prioritized behavioral outcomes are achieved, then the effects of the intervention (i.e., community and systems changes) on behavior are maintained across time, people, and place. Based on the IOM framework, the focus of community and systems change interventions is not total attribution, as it is impossible in community settings for no other interventions to occur, but rather to understand the contribution of the effort to changes in prioritized goals and behavioral outcomes.

As part of implementing the IOM framework, antecedent and consequent conditions that contribute to the problem behavior or goal are addressed. The CCHD promotes the use of six behavior change strategies to address personal, environmental, or a combination of factors contributing to the behavior of interest. As shown in Fig. 14.5, behavior change strategies, which include both antecedent and consequent conditions, can be categorized as instructional (e.g., provide information),

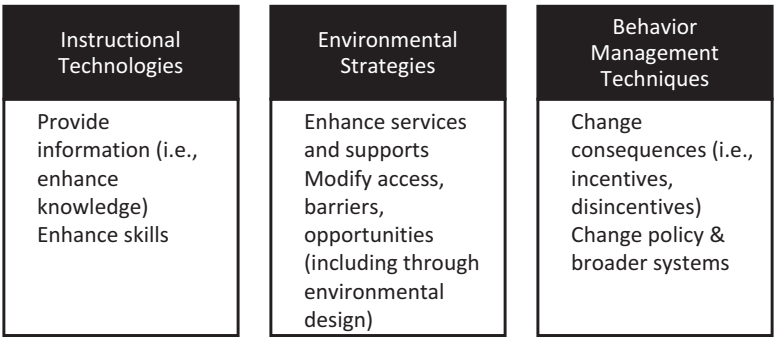

Fig. 14.5 Behavior change strategies for addressing personal and environmental factors

environmental (e.g., modify barriers), or behavior management (e.g., change policy). Because the work of community health and development is influenced by multiply determined and interrelated factors, it is necessary to simultaneously address factors through comprehensive or multicomponent interventions. Based on the desired behavioral outcome, it is important to ensure that the dosage of the community-level intervention is of sufficient intensity (i.e., target behavioral goals using an appropriate mix of strategies for varying durations) and penetration (i.e., reach the identified targets of change across sectors in places). Often, observed changes in related factors are more immediate and serve as antecedents for longer-term improvements in population or community-level outcomes (e.g., reducing community violence, improving graduation rates), which may take years to decades to achieve.

The framework has demonstrated improvements in prioritized behavioral outcomes related to teen pregnancy (Paine-Andrews et al., 2002), adolescent substance use (Fawcett et al., 1997), and neighborhood development (Watson-Thompson et al., 2008, 2018). The framework supports the implementation of multicomponent combined interventions (i.e., community and system change) within and across the settings (Fawcett, Schultz, Watson-Thompson, Fox, & Bremby, 2010). For instance, the IOM framework has been adapted to guide the development of a multicomponent combined (i.e., comprehensive) intervention to address the Word Gap and related disparities in vocabulary learning, which is predictive of later educational outcomes (Greenwood et al., 2017). The comprehensive initiative is focused on promoting language-rich learning environments for children by increasing the number of words children hear across actors in different sectors and settings of the environment (e.g., home, preschool, church, doctor's office).

Illustrative Application of the IOM Model to Prevent Community Violence In 2005, the Commission on Violent Crime was instituted by the City Council of Kansas City, MO (KCMO) to examine increases in homicides. The Commission on Violent Crime, which represented a multisector group of stakeholders from the community, identified that the antecedent or primary cause of local homicides was arguments and unresolved conflicts. Based on the community assessment and problem analysis, it was determined that "too many residents in the community were not

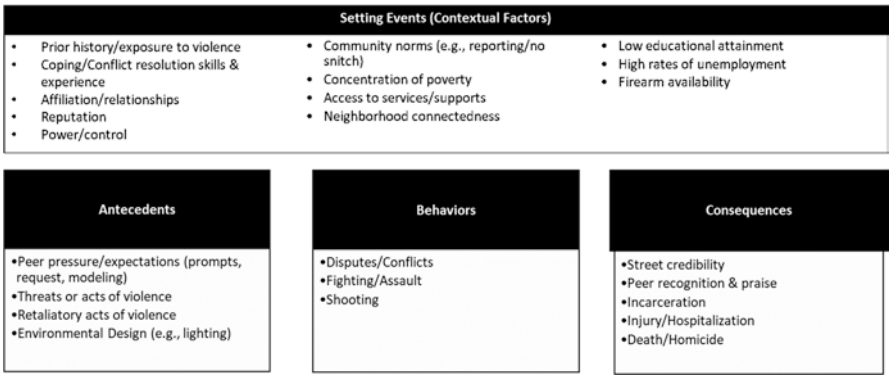

Fig. 14.6 Examining the ABCs of community violence for the Aim4Peace Initiative

peacefully resolving their arguments and conflicts" (Watson-Thompson et al., 2013, p. 157). Figure 14.6 displays a summary of the context or setting events, antecedents, behaviors, and consequences associated with community violence. CeaseFire Chicago (renamed Cure Violence) and Caught in the Crossfire were identified as appropriate evidence-based programs to adapt for implementation in KCMO.

Aim4Peace, a program of the KCMO Health Department, was developed to address shootings and killings. In 2008, the East Patrol, one of six patrols in KCMO was identified as the intervention area as disproportionately high homicide and aggravated assault rate were experienced. Interrupted time series with nonequivalent comparison group designs across smaller units of East Patrol (i.e., police sectors and beats) were identified over time as appropriate units of analyses by the Aim4Peace program and the evaluator. The program did not think a quasi-experimental interrupted time series design with switching replication (i.e., multiple baseline design) was politically appropriate, and so there was an agreed compromise for a design that worked for both the program and evaluation partners.

The IOM Framework was selected as the model of change to support the multicomponent comprehensive intervention. The core components of the program include: (a) targeted outreach, education, and support for individuals with high risk for violence perpetration or victimization, and (b) community mobilization to modify community norms and reduce tolerance toward violence. The Aim4Peace program is a multicomponent intervention and supports primary, secondary, and tertiary prevention efforts across multiple socioecological levels by addressing identified risk factors (i.e., personal and environmental factors) contributing to firearm-related homicides (i.e., killings) and aggravated assaults (i.e., shootings). The intervention strategies or community changes implemented encompass a combination of universal, selective, and indicated levels based on the risk factor addressed.

Figure 14.7 provides illustrative examples of documented community and systems changes that Aim4Peace strategically implemented using an array of prevention and behavior change strategies that were supported across different socioecological levels.

Illustrative Example of Community Changes Facilitated by Aim4Peace	Ecological Level and Type of Prevention Strategy Targeted	Behavior Change Strategy
Conflict mediation classes are facilitated by Aim4Peace staff in the local schools to train youth in conflict resolution skills.	• Community level • Universal strategy	Providing information and enhancing skills
The Love Yo Hood Concern and Peace Talk Event was held that featured local rapist and artist to unify the community and reduce tolerance toward violence.	• Community level • Universal strategy	Enhancing services and supports
Job readiness class with 19 participants in the Aim4Peace program, with risk for violence. Trained on job etiquette, dress code, resume writing, and had mock interviews.	• Individual level • Selective strategy	Barrier removal, enhancing access & opportunities
Received call from hospital chaplain of shooting related admission. Met with recent shooting victim and family. Family agreed to not retaliate. Victim enrolled in A4P program.	• Interpersonal level • Indicated strategy	Changing consequences
Street intervention workers met with leaders of two rival street organizations in the target area to collaborate and set a new agenda. For the first time, there was a new agreement between the organizations to support a ceasefire.	• Interpersonal level • Indicated strategy	Changing consequences
A romantically involved couple was in a dispute. When a male bystander and friend intervened during the dispute, the two men engaged in an altercation and guns were drawn. An A4P worker received a call from the female partner requesting mediation and went to the scene. The conflict was peacefully resolved.	• Interpersonal level • Indicated strategy	Changing consequences
A man shot at another person and missed. Now, the person who was shot at was riding around in a bulletproof vest seeking revenge. A4P workers met with the young man, who indicated he was seeking retaliation out of fear for his life. A4P workers spoke with both individuals who agreed to a ceasefire, which resolved the problem.	• Interpersonal level • Indicated strategy	Changing consequences
A local funder expanded the portfolio of public health to include violence prevention in the types of projects that could be funded due to advocacy from Aim4Peace leadership.	• Societal level • Universal strategy	Changing consequences, systems, & broader policies

Fig. 14.7 Examples of community changes facilitated by Aim4Peace by ecological level and strategy

Conclusion

It is important to understand the history and promotion of behavior-analytic approaches in addressing broader societal issues not only in ABA, but also in other disciplines to better understand the reach of our science. There was intentionality by behavioral community scientists in both ABA and community psychology to support bidirectionality through the integration of behavioral community research across disciplines. Since the 1990s, a generation of behavioral community researchers was seemingly less visible in ABA, but the concentration of behavioral community research and expansions in other fields should be further examined. Through a

behavioral community approach, it is important to continue to consider the range of problems, including in community health and development, which may be further advanced with the pairing of a behavior-analytic approach. Additionally, fields supporting the behavioral community psychology subspecialty area should consider collectively advancing key mechanisms to aid in understanding the broad multidisciplinary influence of the behavioral community approach. For instance, the use of common key terms in publications, such as "behavioral community," would help to support identification of the use of the approach across fields of study. Special sections in journals or invited presentations at conferences of the other related disciplines on behavior community approaches would support cross-fertilization, as well as intradisciplinary recognition of breadth with a new generation of behavioral community scientists. There is promise of the resurgence of behavioral community approaches to address community health and development outcomes using coordinated tools, resources, and interventions that integrate and advance our behavioral technologies and collaborative opportunities for impact.

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