Local Adaptations of Crime Prevention Programs: Finding the Optimal Balance Between Fidelity and Fit

A Literature Review

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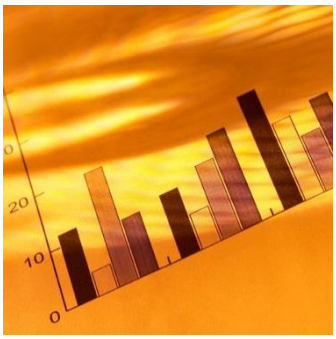

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Abstract

In program adaptation, contextual knowledge about the community, and the experiential knowledge of practitioners and community members, are recognized and mobilized in conjunction with the best available research evidence. Researchers agree that it is imperative to proactively design and develop adaptations while making it happen instead of simply letting it happen. It is also generally accepted that there are reasonable modifications, and other adjustment that are highly discouraged. This review examines how an evidence-based crime prevention intervention can best be adapted to new contexts with different people, cultures, and geographies, while remaining effective. An exploratory review of the literature was completed within a variety of disciplines (e.g., criminology, criminal justice, violence prevention, health promotion, mental health, and education) with no restrictions to the subject matter of the interventions considered (e.g., substance abuse, HIV prevention, school dropout, obesity, delinquency). Both academic sources (peer-reviewed articles and books) and grey literature (governmental and non-governmental reports, guidance documents, manuals and tip sheets) were reviewed. Publications that were not relevant and did not provide any further insights were excluded which resulted in a total of 96 publications retained for review and inclusion in this report. The goal of this exercise is to broadly synthesize the program adaptation literature in order to acquire insights which could potentially be transported to the crime prevention context, including key advances and challenges in adapting programs to specific communities and cultures. Following this review, a number of succinct conclusions on the state of current knowledge on program adaptation is provided.

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1. Introduction

Program adaptation is broadly defined as "a process intended to tailor an existing EBP [Evidence-Based Program] to meet the unique needs or desires of a specific community, while not inventing a completely new program" (Child & Family Research Institute, 2016, p. 2). This review seeks to shed light on one central question: How can evidence-based crime prevention interventions be adapted from one successful program into new contexts with different people, cultures, and geographies, while remaining effective? The goal of this exercise is to broadly synthesize the program adaptation literature in order to acquire insights which could potentially be transported to the crime prevention context, including key advances and challenges in adapting programs to specific communities and cultures.

To accomplish this, we conducted a thorough scan of the literature in a variety of relevant disciplines (e.g., criminology, criminal justice, violence prevention, health promotion, mental health, and education). This was an exploratory review with no restrictions on the subject matter of the interventions considered (e.g., substance abuse, HIV prevention, school dropout, obesity, delinquency). We reviewed both academic sources (peer-reviewed articles and books) and the grey literature (governmental and non-governmental reports, guidance documents, manuals and tip sheets).

We organized our findings into, first, a brief situating the concept of program adaptation within the broader literature on the dissemination of evidence-based interventions (EBI) and implementation science. Then, we describe the underlying foundations and objectives of program adaptation, and highlight which types of modifications research has shown are likely to affect program impacts in either positive or negative ways. Following that, we describe and analyze a variety of specific program adaptation frameworks found in the literature. These include: (1) the Dynamic Adaptation Process (DAP), (2) ADAPT-ITT, (3) Community-Based Participatory Research (CBPR), (4) Empowerment Implementation, and (5) Cultural Adaptation frameworks.

Following this review, we offer a number of succinct conclusions on the state of current knowledge on program adaptation. This includes a summary of common program adaptation guiding principles, steps to include in a framework, program adaptation strengths and challenges. We also reflect on the limitations of 'scaling out' efforts to reach more individuals through program adaptation without 'scaling up' to affect policies and/or 'scaling deep' to influence the social roots and understandings of the issue.

2. Methodology

We conducted an up-to-date, interdisciplinary (e.g., criminology and criminal justice, health, mental health, and education) scan, review and synthesis of the theoretical and applied literature on the local adaption of prevention and intervention programs. This was an exploratory, general scan with no restrictions on the subject matter of the interventions considered. For example, interventions aimed at preventing substance misuse, HIV, health issues, obesity, school dropout, and contact with the criminal justice system were considered. We searched a wide range of publications in academic sources (peer-reviewed articles and books) as well as in the grey literature (governmental and non-governmental reports, guidance documents, manuals and tip sheets). This included a systematic scan of the literature on existing program adaptation frameworks and case examples in a variety of disciplines.

We used a variety of online search engines to scan the literature using a wide range of search terms (see Table 1). For academic literature, we relied on the online catalogue of the University of Ottawa Library, which contains a vast number of academic books, e-books, journals, and e-journal titles. We cross-referenced these scans with the reference manager software named Mendeley, using both its academic catalogue search function and its 'Mendeley Suggest' function, which uses algorithms to recommend other documents based on the ones you have already retained. For the grey literature, we used the internet search engine by Google.

During our initial scan, we retained a total of 257 publications for further reading. When possible, we retained recent existing literature reviews as starting points. For example, on the topics of implementation science and cultural adaptation, where the relevant published material is quite vast, we began our review with recent summaries of published material. Then, using the snowballing technique, we sought out original sources referenced for further detail. We also used the snowballing technique with other publications, scanning the References for new and noteworthy citations.

We did not include or exclude sources based on their date of publication. Rather, we scanned both new and older sources for their relevance and for any meaningful insights or information on the topic at hand. The oldest source we included in the review dates back to 1987, and the most recent sources were published in 2016. Most of the sources we included in the review were published over the past 15 years, and were included for their original contribution to the topic. Finally, we excluded publications that were not relevant or much less relevant to the topic at hand, and that did not provide any further insights. This included a large and repetitive literature in clinical medicine on the prevention of HIV and other communicable diseases.

These parameters resulted in a total of 96 publications retained for review and inclusion in this report.

Table 1: Literature Scan Terms, Search Engines & Results

Search Term	Search Engine	# of "Hits" (results)	# of New References Retained for Reading
Implementation science	Mendeley National Implementation Research Network	3,218,005 23	75 9
Program fidelity and implementation	UOttawa Library	162	43
Program adaptation	Mendeley	1,381,467	30
ADAPT-ITT	Mendeley UOttawa Library Google.com	7 12 1,290	7 1 24
"Community-Based Research" and "Program Adaptation"	UOttawa Library	78	5
"Community-Based Research" and "EBI" and "EBP"	UOttawa Library	32	7
Empowerment Implementation	Mendeley UOttawa Library Google.com	8 10 2,770	1 1 2
Applied Dissemination	UOttawa Library Google.com	3 2,760	1 8
Cultural adaptation	Mendeley	1,769	29
"Cultural Adaptation" and Indigenous Canada	Google.com	131,000	7
"Cultural Adaptation" and Aboriginal Canada	Google.com	79,800	1
"Cultural Adaptation" and Aboriginal	UOttawa Library	68	6
Total Number of Sources Retained for Further Reading	257		
Total Number of Sources Retained for Inclusion in the Review	96		

3. Findings

This review seeks to shed light on one central question: **How can evidence-based crime prevention interventions be adapted from one successful program into new contexts with different people, cultures, and geographies, while remaining effective?** Below, we briefly review the concept of program adaptation in light of the broader literature on the dissemination of evidence-based interventions (EBI) and implementation science. Then, we describe the underlying foundations, objectives, and findings related to program adaptation. Next, we describe and analyze the following program adaptation frameworks and models found in the literature: (1) the Dynamic Adaptation Process (DAP), (2) ADAPT-ITT, Community-Based Participatory Research (CBPR), Empowerment Implementation, and Cultural Adaptation.

3.1 Situating the Concept of Program Adaption

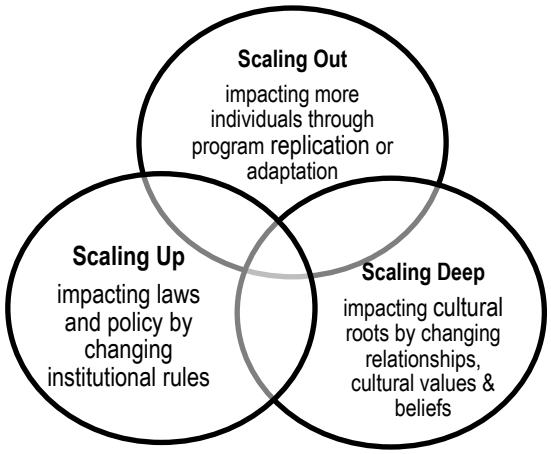
3.1.1 Scaling Effective Initiatives

Evidence-based decision making is a central tenet in the fields of medicine, health promotion, psychology, education and social prevention programming (CDC, n.d). It rests on the idea of using practices, strategies and programs that have been shown through research to be effective – referred to as evidence-based interventions (EBIs) - and spreading them to new contexts or settings in order to reach a greater number of people.

Moore and Riddell (2015) identify and distinguish between three different types of spreading (see Figure 1):

1. **Scaling out:** spreading effective initiatives to reach a greater number of individuals in local communities,
2. **Scaling up:** impacting laws and policies to codify needed changes within institutions, and
3. **Scaling deep:** impacting cultural roots by changing values, beliefs and relationships.

Figure 1: Types of Scaling of Evidence-Based Interventions for Social Change (adapted from Moore & Riddell, 2015)



Program replication and **program adaptation** fall into the evidence dissemination category of 'scaling out', that is, trying to reach a greater number of individuals by expanding an evidence-based program to other settings. These approaches can be defined as follows:

1. **Program replication:** Delivering a program in the exact same way in which it was originally designed and delivered during efficacy and effectiveness evaluation trials – in other words, reproducing and copying the original program (Stith et al., 2006).
2. **Program adaptation:** Tailoring and modifying an existing evidence-based program to meet the unique needs or desires of a specific population and/or community, while not inventing a completely new program (Child & Family Research Institute, 2016).

3.1.2 Replication, Fidelity & Implementation Science

In program replication, the focus is placed on **implementation fidelity**, which is the degree to which the implementation of a given program adheres to the exact elements, components, activities and tools developed and tested by its original developers (Stith et al., 2006). In this context, implementation fidelity is considered a major determinant of success. For the most part, studies reveal that the higher the implementation fidelity to the prescribed program pillars, the better the outcomes (Metz, 2016; Savignac & Dunbar, 2014). As a result, much attention has been paid to the factors that facilitate or hinder implementation fidelity.

Implementation factors shown to influence program impacts have been described along a few key dimensions, including those related to the host community, the host organization, and the practitioners involved. Researchers have identified three main categories of "implementation drivers" – factors that result in the consistent and competent use of effective practices, leading to positive results (Metz, 2016). These categories of key implementation drivers are (Metz, 2016):

1. **Leadership Drivers**: ensuring program leaders adopt the most effective leadership and management strategies along the implementation process;
2. **Competency Drivers**: ensuring competent practitioners by hiring staff with the right qualifications and skills, and training, coaching and supporting them in implementing effective practices with confidence; and
3. **Organization Drivers**: ensuring proper organizational supports by facilitating good administration and project management, creating data systems that support monitoring and decision-making, and committing to ongoing improvement.

This has led to a focus on **enabling contexts**, defined as dynamic environments that are open and amenable to change (Fixsen et al., 2005; Metz, 2016; Moore et al., 2013), which relates closely to the concept of site capacity and readiness (see Bory & Franks, 2016). In program replication, the host community, organization and practitioners are expected to implement an EBI "as is". Innovative adjustments can only come after fidelity is closely maintained and results are evaluated through empirical research. As described by Savignac and Dunbar (2014, p. 7):

> *"*Once the program has been implemented by closely maintaining fidelity to the original program, an organization might decide to adapt certain aspects of the program. This step includes discussions with experts and program developers to ensure that the key components of the program will not be affected by these changes. In other words, it is about making good

use of program evaluation(s) and trying to identify the conditions in which the program obtains the best results".[1]

3.1.3 Program Adaptation: Balancing Fidelity and Fit

Within program replication, the host agency and community is expected to commit to implementing an evidence-based program exactly as prescribed, even if there are components of it that immediately cause concern from a contextual or experiential lens. Thus, there is often a conflict between 'fidelity' and 'fit', that is, tension between: (1) the scientific goal of developing universally applicable, empirically-supported programs and replicating their implementation with high fidelity; and (2) ensuring that the program responds adequately to local contexts and needs (Castro, Barrera, & Martinez, 2004).

Evidence-based decision making can be defined as "a process for making decisions about a program, practice, or policy that is grounded in the best available research evidence and informed by experiential evidence from the field and relevant contextual evidence" (see Figure 2 by CDC, nd). However, the degree to which one type of evidence is given credibility and weighed in relation to others can vary dramatically depending on the context. For example, in academic settings, empirical research evidence tends to be privileged. In service delivery settings, contextual and experiential evidence are typically top of mind (Bania, 2012; Castro, Barrera, & Martinez, 2004). This can often lead to a sense of conflict between stakeholders who prioritize fidelity by focusing on empirical aspects, and those who prioritize fit by emphasizing community knowledge and processes that seek to engage local people in meaningful ways (Bania, 2012).

Figure 2: Components of Evidence-Based Decision Making (CDC, n.d)

[1] For a thorough review of the factors that influence the implementation of evidence-based programs with case study examples, refer to Savignac and Dunbar (2014).

Indeed, the tension between fidelity and fit has existed in the public sector and social program worlds for quite some time. In 1987, Blakely and colleagues wrote:

> "Berman (1981) advanced the fidelity-adaptation debate considerably when he proposed a contingency model of implementation strategies. The implications of this model suggested that different strategies were appropriate in different settings. He argued that either strategy, pro-fidelity or pro-adaptation, can be effective when applied to the appropriate policy situation: There exists no global, best strategy. He argued that the pro-fidelity perspective is likely to function best with relatively structured and well-specified innovations, whereas adaptive strategies are more appropriate with relatively unstructured innovations. However, many situations are so complex that some combination of the two strategies might prove to be most successful. (Blakely et al., 1987, p. 256)

Within the context of program replication, program modifications that happen ad-hoc during implementation are most often seen by program developers, researchers and funders as potential challenges and barriers to fidelity (Bory & Franks, 2016). This is often referred to in the field of implementation science as program "drift", which has been shown to result in a loss of benefits to participants (Aarons et al., 2012). A study by Moore and colleagues (2013) revealed that the majority of the changes made by the programs in their sample were reactive (61%), and made 'in the moment' primarily to respond to logistical problems or a lack of resources. Only 33% of the changes made to the programs in their sample were planned modifications made proactively before implementation (Moore et al., 2013). Furthermore, Moore and colleagues (2013) found that 53% of the adaptations had a negative impact on program effectiveness; 33% of program adaptations had a positive impact on program effectiveness, and 14% were found to be neutral. In a study by Hill and colleagues (2007), the most often cited reason program facilitators gave for making ad-hoc modifications to an EBI was because they ran out of time. Although they had an appreciation for implementation fidelity, the realities of their program context resulted in them deleting or changing program material to fit within the allotted time with participants (Hill, Maucione, & Hood, 2007).

As a result, proponents of program adaptation stress the importance of deliberately planning for modifications and adjustments in a collaborative way **before** implementation begins, and **throughout** the life cycle of the project (Castro, Barrera, & Martinez, 2014). Program adaptation must be a carefully planned and intentional process where modifications are made through a series of assessments and decisions amongst program developers, researchers, funders and service providers (Castro, Barrera, & Martinez, 2004; Solomon, Card & Malow, 2006).

Despite ongoing tension between fidelity and fit and years of focusing primarily on program replication, there is now recognition that fidelity and fit are both essential elements of effective prevention intervention programs, and that striking a balance is best addressed through a planned, organized, and systematic approach (Castro, Barrera, & Martinez, 2004). The benefits of program adaptation are recognized as follows (Solomon, Card & Malow, 2006):

- Enhances community support
- Enhances client participation
- Enhances program satisfaction
- Enhances outcomes
- Promotes institutionalization / sustainability

In 2014, Castro, Barrera, and Martinez concluded that:

> "… adaptation appears to be the rule rather than the exception. The broad diversity existing within society underscores the need for programmatic adaptations. As emerging adaptation guidelines encourage a reasoned, organized, and plannful approach to the fidelity/adaptation issue (Backer, 2001), needed now are rigorous scientific studies on the process of testing cultural adaptations that aim to increase the model program's fit with local community needs. Adaptation strategies that are guided by a clear and culturally informed theory, model, or cultural framework, will make the strongest contributions to prevention science." (p. 44)

3.2 Program Adaptation on the Ground

In general, the literature on program adaptation reflects the recommendations made through advancements in implementation science. That is, researchers insist that the many factors that can facilitate or hinder the implementation process be recognized, and that key implementation drivers – leadership drivers, competence drivers, and organization drivers - be thoughtfully considered (see p. 9; Borys & Franks, 2016; Metz, 2016).

There are countless ways an evidence-based intervention can be adapted, as illustrated in Table 2 below. Modifications vary depending on who made the adjustments, what adjustments were made, and how the adjustments were made. In most cases, more than one type of modification is made.

Table 2: Possible Types of Program Modifications (adapted from Stirman et al., 2013)

BY WHOM is the modification made?	• **Front-line staff** • **Managers** • **Program developers** • **Researchers** • **Team**
WHAT is modified?	• Content • Format (ex: individual versus group) • Setting (ex: clinic versus community) • Personnel (ex: staff versus volunteer) • Target population (socio-demographics) • Method of delivery (in person versus online) • Training (of staff or participants) • Evaluation processes (design & methods)
HOW is it modified?	• Tailoring / tweaking / refining • Adding elements • Removing elements • Shortening / condensing • Lengthening / extending • Substituting • Reordering • Loosening structure

A study by Moore and colleagues (2013) found that the type of adaptation made varies depending on the nature and the context of the program. Community and mentoring programs tend to adapt procedures most frequently, while school programs tend to adapt dosage and content most frequently (Moore et al., 2013). While family therapy programs tend to adapt their target group most frequently, prevention programs for families tend to adapt the program along cultural dimensions most frequently (Moore et al., 2013). Our scan of the literature revealed a large body of data on Cultural Adaptation – this was by far the most popular type of adaptation found in the literature. We found very few examples of program adaptation conducted simply for the purpose of modifying the intervention for a new setting or new personnel arrangement – the large majority of program adaptation examples we uncovered modified many components at once (e.g., adjustments to the target population, content, and setting).

Given the many ways in which a program can be adapted, there is concern about what qualifies as a reasonable or acceptable adaptation – that is, a level of adaptation that will respond adequately to local needs, but still remain effective in achieving positive results (Castro, Barrera, & Martinez, 2014; Savignac & Dunbar, 2014; U.S. Department of Health and Human Services, 2012). Research has identified a number of program adaptations that are considered more acceptable – because they do not appear to reduce the effectiveness of the program – and program adaptations that are considered more 'risky' (O'Connor et al., 2007; Savignac & Dunbar, 2014; U.S. Department of Health and Human Services, 2012). The Family and Youth Services Bureau of the U.S. Department of Health and Human Services (2012) draws this conclusion:

> *"*The decision to make adaptations should be driven by acceptable motives. For example, updating an EBP's factual information and/or adjusting activity scenarios to make them more suitable to the population being served are typically seen as acceptable motives for adaptations. Other acceptable motives for adaptations may take into account organizational/contextual limitations (e.g., either shorter or block schedule classes, policies against [certain] demonstrations, etc.). However, adaptations are not encouraged when the purpose is to make it easier or more convenient to implement the program; to stick to what is familiar or fun; to drop controversial topics; or because educators lack appropriate training or preparation." (U.S. Department of Health and Human Services, 2012, p. 2)

The U.S. Department of Health and Human Services (2012) further classifies adaptations into three categories using a traffic light analogy: (1) Green Light Adaptations, (2) Yellow Light Adaptations, and (3) Red Light Adaptations. Green Light Adaptations are considered appropriate and are encouraged to ensure the best fit – they have been found to not dilute the effectiveness of an evidence-based program. Yellow Light Adaptations should be undertaken with caution, as they may lead to more unintended changes to the program that could affect its effectiveness. Finally, Red Light Adaptations are considered detrimental as they are likely to lead to a weakening of program impacts. These categories are presented in Table 3 below along with some examples and tips for each category.

Table 3: Green Light, Yellow Light & Red Light Program Adaptations (adapted from O'Connor et al., 2007 and U.S. Department of Health and Human Services, 2012, p. 4-5)

Green Light Adaptations:
Go for it! These adaptations are appropriate and are encouraged so that program activities better fit the age, culture, and context of the population. In many cases these changes should be made because they ensure the program is current and relevant to the community. • Updating and/or customizing information in the program content to ensure resources are reliable, up-to-date and accurate. • Changing language and terminology to resonate with the community. • Customizing role play scenarios and other activities (e.g., using wording, names or settings more reflective of youth being served). • Making activities more interactive, appealing to different learning styles (e.g., increasing visuals) while keeping the information and/or skill-building content the same. • Tailoring learning activities and instructional methods to youth culture, developmental stage, gender identity, sexual orientation. • Making the words, images and scenarios inclusive of all participants to increase engagement and effectiveness.
Yellow Light Adaptations:
Proceed with caution! These adaptations should be made with caution so that the core components are adhered to and the adaptation does not cause other issues (e.g. time constraints, competition of topics). When making yellow light adaptations, it is recommended to consult more detailed adaptation tools and/or an expert in the evidence-based program, such as the model developer (if available) before making the change. • Changing session order or sequence of activities. Curricula tend to build upon previous activities and lessons. Be careful not to undermine this logical progression and decrease understanding or skill-building. • Adding activities to reinforce learning or to address additional risk and protective factors. Added activities should reinforce the key positive behaviours targeted. Adding too many activities could dilute the core messages, make the program too long and create retention problems. • Replacing material (videos, manuals, lectures, activities) or using supplemental material. Caution must be taken in replacing or supplementing material to ensure the same content and messages from the original lesson are addressed. • Implementing the program with a different population or in a different setting (e.g., community versus school). Ensure that any changes made to curricula based on group size, setting or culture are done appropriately for the population, while also considering the original content and purpose of the activities. If a different population or setting is chosen, the program may need a number of other modifications.
Red Light Adaptations:

Stop! These adaptations remove or alter key aspects of the program that will likely result in weakening the evidence-based program's effectiveness.

- Modifying the underlying theoretical approach.
- Contradicting, competing with or diluting the program's goals.
- Using underqualified or inexperienced staff.
- Using fewer staff members than recommended.
- Shortening a program by reducing the number/length of sessions or its overall duration.
- Diluting or eliminating key messages.
- Reducing or eliminating activities that allow youth to personalize the experience or practice skills.

It is argued that to maintain some integrity for implementation and evaluation, program adaptation needs to occur in a systematic way (Bernal & Domenech-Rodriguez, 2012; Metz, 2016). To do so, the following must be clear from the outset: (1) the expected outcomes of the intervention, (2) the theory of change of the intervention, (3) the elements that will remain true to the original EBI (fidelity), and (4) the questions and dimensions needed to identify appropriate adaptations (Perez et al., 2015). Perez and colleagues (2015) recommend that the following program descriptors be assessed for both fidelity and adaptation: what, how, by whom, for whom, and any other specifications especially around content, frequency, duration, and sequence (Perez et al., 2015).

A number of formalized frameworks have emerged outlining key principles to abide by and specific steps to follow for systematic program adaptation. These program adaptation frameworks are presented in the sections that follow.

3.3 Specific Frameworks for Program Adaptation

Below we review a number of frameworks under which program adaptation has occurred at the local level. This includes Dynamic Adaptation Process (DAP), ADAPT-ITT, Community-Based Participatory Research (CBPR), and Empowerment Implementation. We also review the large amount of literature on Cultural Adaptation, as these efforts have resulted in a number of frameworks put forth by their authors.

3.3.1 Dynamic Adaptation Process (DAP)

What is it?

The Dynamic Adaptation Process (DAP) by Aarons and colleagues (2012) is the program adaptation framework we found in the literature that most resembles what a typical program replication framework would look like (see Appendix 2). As stated by Fixsen et al. (2005) (see also Savignac and Dunbar, 2014), six stages of the program implementation process have been identified in a context of program replication:

1. Exploration and adoption of an evidence-based program
2. Preparation and installation in the site
3. Initial implementation in the site

4. Full implementation in the site
5. Sustainability / continuity
6. Innovation (adjustments)

Although there may be some back and forth between stages, this is largely a linear process where you proceed to the next phase once you have completed the previous ones.

The DAP encompasses the phases of Exploration, Preparation, Implementation, and Sustainment, but integrates a multi-level assessment of 'fit' at the exploration phase, creates an Implementation Resource Team to inform program adaptations, and emphasizes formal feedback loops between the stages of implementation (Aarons et al., 2012). These ongoing feedback loops ensure that adaptation is a dynamic and iterative process throughout implementation (Aarons et al., 2012). This means that ongoing experience can inform and lead to continued adaptation as needed. Ideally, the Implementation Team (IT) meets monthly to examine adaptation needs, based on available data related to fidelity and stakeholder satisfaction. In the Exploration Phase, IT conducts key informant interviews, staff surveys, and an assessment of local data to gather multi-level information on the local context. In the Preparation Phase, the IT examines the results from exploration and determines what adaptations may be needed for service delivery, and how these modifications could be established while maintaining fidelity to the core elements of the program. In the Implementation Phase, training to support the adaptation begins and makes explicit why the program is being adapted, what is being adapted, when to seek further guidance, and how to make use of ongoing coaching opportunities. Implementation is monitored closely - departures from fidelity to core elements and from previously agreed-upon adaptations are considered 'program drift' (Aarons et al., 2012; see Appendix 1 for a definition of program drift). Finally, the Sustainment Phase involves ongoing use of data to provide feedback to the IT and program stakeholders who can use that information for further decision-making (Aarons et al., 2012).

When and where has it been used?

The DAP was developed in 2012 by Aarons and colleagues in California (United States) to implement the adaptation of an evidence-based child maltreatment intervention.

What are its successes and challenges?

The DAP is currently undergoing research to examine the process, feasibility, acceptability, utility, and effectiveness of the model. Researchers will be looking at key implementation drivers, whether DAP results in fidelity to core elements, and to greater participant satisfaction (Aarons et al., 2012). This future research should shed light on the strengths, challenges and effectiveness of the DAP as a program adaptation model.

3.3.2 ADAPT-ITT

What is it?

ADAPT-ITT is a formal framework for adapting evidence-based interventions (EBI) originally developed as a successor to the Map of the Adaptation Process (MAP). MAP is a methodology for adapting HIV prevention/intervention programs that includes an exhaustive list of actions, feedback loops, and cyclical activities (see McKleroy et al., 2006). Due to the many steps that can

make MAP difficult to use, Wingood and DiClemente (2008) developed ADAPT-ITT as a more straightforward and user-friendly process for smaller, community-based organizations (Hsu, 2013; Wingood & DiClemente, 2008). ADAPT-ITT is a collaborative process that involves eight (8) phases for adapting an EBI. These include: (1) Assessment, (2) Decision, (3) Administration, (4) Production, (5) Topical Experts, (6) Integration, (7) Training, and (8) Testing (Wingood & DiClemente, 2008). Table 4 below provides more detail on each of the eight phases. Most studies that explain and illustrate the use of ADAPT-ITT only cover the first four or five phases of the model.

Table 4: The Phases and Methodology of the ADAPT-ITT Model (adapted from Wingood & DiClemente, 2008, Table 1, p. 542)

Phase	Methodology	EBI Draft
1. Assessment* (who is the new target population and what are the risk/protective factors)?	• Conduct focus groups/needs assessment with new target population • Conduct focus group/interviews with key stakeholders • Analyze results of formative evaluations	N/A
2. Decision (what EBI is going to be selected and is it going to be adopted or adapted?)	• Review relevant interventions defined as EBIs • Decide on the EBI to be selected • Decide on whether to adopt or adapt the EBI	Original
3. Administration* (what in the original EBI needs to be adapted, and how should it be adapted?)	• Administer theatre test with members of new target population • Involve key stakeholders as observers of theatre test • Administer brief survey to elicit participants' and stakeholders' feedback and reactions to theatre test • Analyze results of the theatre test	Original
4. Production (how do you produce draft 1 and document adaptations to the EBI?)	• Produce draft 1 of the adapted EBI • Balance priorities while maintaining fidelity to the core elements and underlying theoretical framework of the original EBI • Develop an adaptation plan • Develop quality assurance and process measures	Draft 1
5. Topical Experts (who can help adapt the EBI?)	• Identify topical experts • Actively involve topical experts in adapting the EBI	Draft 1
6. Integration (what is going to be included in the adapted EBI that is to be piloted?)	• Integrate content from topical experts based on the capacity of the agency, and create draft 2 of the adapted EBI • Design and integrate ways of assessing new content • Conduct readability testing of draft 2 • Create draft 3 of the EBI based on results	Draft 2 Draft 3
7. Training (who needs to be trained?)	• Train staff to implement draft 3 of the adapted EBI, including recruiters, facilitators, and assessment/data	Draft 3

	management staff	
8. Testing* (was the adaptation successful, and did it enhance short-term outcomes?)	• Test draft 3 of the adapted EBI as part of a pilot study • Analyze results of the pilot study and use results in phase 2 study • Analyze results of the phase 2 study to determine the efficacy of the adapted EBI	Final
* Target population, key stakeholders, and agency staff are directly involved in these phases.		

To ensure the intervention is relevant and effective for the community, ADAPT-ITT involves stakeholders, staff, and the target population as community experts. Additionally, the model encourages the use of consensus in decision-making. Other unique features of ADAPT-ITT include using both quantitative and qualitative data through the adaptation and evaluation process, employing the input of topical experts to inform any program updates, assessing efficacy through a pilot study, and following specific guidelines as to when to create program adaptation drafts (Cederbaum, Song, Hsu, Tucker, & Wenzel, 2014; Wingood & DiClemente, 2008). Some key features of the ADAPT-ITT methodology require further explanation:

- **Theater testing** is a process of facilitating an intervention for members of the new target population and other stakeholders. Following the session, participants offer feedback about the content, activities, and facilitation style. Then, the feedback is incorporated into future models of the adapted intervention (Hsu, 2015).
- **Adaptation plans** provide a format for tracking adaptations made to an EBI and the purpose for those changes (Wingood & DiClemente, 2008). Program Adaptation Plans provide detail on when the modification will occur, to which program component, the aim of the modification, the type of modification, and examples of its impacts on service delivery. Appendix 4 provides an example of an ADAPT-ITT Program Adaptation Plan.

When and where has it been used?

ADAPT-ITT has been used to modify interventions for a combination of reasons, including a different target population, new setting, and/or different methods of service delivery. The most commonly cited use of ADAPT-ITT was for HIV prevention and intervention efforts. The more detailed descriptions of the use of the ADAPT-ITT framework all related to adaptations of HIV prevention and intervention programs. There were some, less detailed documented reports of its use for other health and social programs, including a parenting program, a substance use prevention initiative, and a program for individuals suffering from depression. Examples of the use of the ADAPT-ITT framework for specific program adaptations are provided in Appendix 3, including the methodologies used in each phase of adaptation and the lessons learned through those exercises. An example of a Program Adaptation Plan for an HIV prevention program modified for use with a group of women survivors of domestic violence is provided in Appendix

4. Table 5 below outlines main examples of the types of adaptations made using the ADAPT-ITT framework.

Table 5: Types of Program Adaptations Made Using the ADAPT-ITT Framework

Examples of Modifications for which ADAPT-ITT was Used		
Adapted for Target Population (including changes to content)	• Self-management patient education materials adapted for use with a low literacy, multilingual population with heart failure • Couples HIV testing and counselling from African couples adapted to couples of American men who have sex with men • Generalized HIV prevention efforts modified for migrant workers in Nepal • HIV prevention program modified for Cambodian female entertainment and sex workers who use amphetamine-type stimulants • Generalized intervention for depression modified for working with Iraqi torture survivors and low-education/literacy participants • HIV prevention adapted specifically for female teens in detention • HIV prevention for homeless men using shelters • HIV/ STI intervention modified for general population to LGBTQ-TS American Indigenous youth • Updating of HIV intervention program for HIV positive individuals to support working specifically with prisoners in Malaysia • Adaptation of an HIV/STI prevention program for use with African American men who have sex with men • Adapting an EBI for homeless women • HIV prevention for women in domestic violence shelters • Parenting program adapted for teens involved with the child welfare system and their caregivers	Armstrong, Laplante, Altice, Copenhaver, & Molina, 2015; Barkan et al., 2014; Cavanaugh et al., 2016; Cederbaum et al., 2014; Chrestman et al., 2008; Copenhaver et al., 2011; Craig Rushing & Gardner, 2016; Hsu, 2015; Latham et al., 2010, 2011; Magidson et al., 2015; Page et al., 2016; Shrestha, Karki, Pandey, & Copenhaver, 2016; Sullivan et al., 2014; Vaughan Dickson, Caridi, Katz, & Chyun, n.d.

	• HIV prevention for secondary prevention for people living with HIV and Aids who have substance use disorders	
Adapted for Setting of Intervention	• HIV prevention program adapted from community to faith based setting • Generalized opioid prevention program modified to be used in pharmacy setting	Cochran et al., 2016; Shary, 2016; G. M. Wingood, Simpson-Robinson, Braxton, & Raiford, 2011
Adapted for Method of Delivery	Using texting for sexual health interventions	Magidson et al., 2015
Adapted for Personnel	Changing delivery of program from mental health professionals to non-professional community workers	Montgomery, 2015

What are its successes and challenges?

Some of the challenges of ADAPT-ITT identified in the literature include:

- An organization may have difficulty beginning the process if there is no tested intervention available to select for adaptation (Sullivan et al., 2014).
- Focus groups or theater tests may be subject to selection bias and thus feedback from these sessions may not be reflective of the target population as a whole (Armstrong et al., 2015).
- Due to the many partners involved in providing feedback for adaptations, it may not be possible to implement the number of recommended changes (Cavanaugh et al., 2016).
- The process may take a long time, be taxing on the organization's resources and staff (Cederbaum et al., 2014; Sullivan et al., 2014).
- Limited funding of community organizations may make it difficult to implement the phases in the recommended order and timing (Cederbaum et al., 2014; Sullivan et al., 2014).
- Finally, results of the adapted interventions may only be applicable to one specific group and thus other target populations may require different adaptations (Armstrong et al., 2015).

Despite these challenges and gaps that emerged in the literature, there appears to be consensus that ADAPT-ITT is an effective systematic process for modifying EBIs. As previously mentioned, the large majority of studies that explain and illustrate the use of ADAPT-ITT only cover the first four or five phases of the model which are the planning and development phases. It is not clear whether programs that have been adapted using the ADAPT-ITT framework have been evaluated or found to be effective. This may in part be due to the fact that it is a relatively new framework first articulated in 2008.

3.3.3 Community-Based Participatory Research (CBPR)

What is it?

Community-Based Participatory Research (CBPR) is a well establish research paradigm which aims to make use of and to further develop local capacity through collaborative inquiry and action (Cornwall & Jewkes, 1995). Within this lens, CBPR sees factors that influence the implementation process not as challenges or barriers to fidelity, but as opportunities to work collaboratively with the community to maximize local development and progress towards positive change (Lee, 2008). CBPR is guided by a Transformative Paradigm which insists on raising questions about the values and assumptions that underlie traditional research paradigms and the contribution of research to enhancing human rights and social justice (Mertens, 2007). The central tenet of the Transformative Paradigm of CBPR is that power is an issue that must be acknowledged and addressed at each stage of the research process. It recognizes that realities are constructed and shaped by our social, political, cultural, economic, and racial/ethnic values, and that power and privilege are important determinants of which 'reality' will be privileged in a research context (Cornwall & Jewkes, 1995; Mertens, 2007).

The Transformative Paradigm underlying CBPR therefore insists that (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007; Tolman & Brydon-Miller, 2001):

- It is necessary to have an interactive link between the researcher and the participants in a study.
- Knowledge is socially and historically located within a complex cultural context; respect for culture and awareness of power relations is critical.
- The focus of research must change from subjects (empirical variables) to subjectivities (lived experience).
- The focus of research must change from research objects to human agents capable of reflecting on and analyzing their own situations, and contributing to imagining their own solutions.

The ideals and methods of CBPR emerged due to some researchers' discomfort with conventional research methods and common complaints about academic research from excluded communities, including (Cornwall & Jewkes, 1995; Mertens, 2007):

- That conventional data collection strategies emphasize and perpetuate power differentials.
- Feelings of tokenism, being used for academic advancement and public relations purposes.
- Academic timelines are too long and bureaucratic, resulting in loss of momentum.
- Results and outcomes of the research are very seldom shared with participants in accessible, meaningful ways.
- Recommendations made are culturally inappropriate or unworkable in real-life settings, and rarely lead to meaningful action or change.

Community-Based Participatory Research is therefore motivated by the need to redress inequalities by giving precedence, or at least equal weight, to the voices of the least advantaged groups in society. It has as an implicit goal the inclusion of those who may not have sufficient

power for the accurate representation of their viewpoints in traditional research paradigms; it creates spaces that allow for less advantaged groups to take an active role in research and social change (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007).

As a result, it emphasizes the need to use mixed methods research to help shed light on the various perspectives and lived experiences of research participants (Merten, 2007). It promotes the use of a qualitative dimension to gather lived experiences and community perspectives, and a quantitative dimension to quantify and demonstrate outcomes that have credibility for community members and scholars (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007). Table 6 below presents a comparison between conventional research and participatory research. It emphasizes the differences between 'what' the research is for, 'who' the research is for, and 'who' takes part in action and decision-making (Cornwall & Jewkes, 2007; Lee, 2008). Note that this comparison outlines each end of one continuum, and that many traditional research and evaluation endeavours fall somewhere in the middle of the spectrum.

Table 6: Comparison Between Participatory Research and Conventional Research (Cornwall and Jewkes, 1995, Table 1, p. 1669)

	Participatory Research	Conventional Research
What is the research for?	Action	Understanding (maybe action later)
Who is the research for?	Local people	Institutional, personal and professional interests
Whose knowledge counts?	Local people's	Scientists'
Topic choice influenced by?	Local priorities	Funding priorities, institutional agendas, professional interests
Methodology chosen for?	Empowerment, mutual learning	Disciplinary conventions, 'objectivity' and 'truth'
Who takes part in the research process?		
Problem identification	Local people	Researcher
Data collection	Local people	Researcher
Interpretation	Local concepts and frameworks	Disciplinary concepts and frameworks
Analysis	Local people	Researcher
Presentation of findings	Locally accessible and useful	By researcher to other academics or funding body
Action on findings	Integral to the process	Separate and may not happen
Who takes action?	Local people, with or without external support	External agencies
Who owns the results?	Shared	Researcher
What is emphasized?	Process	Outcomes

Lee (2008) insists that while this dichotomy is useful for comparison purposes, CBPR initiatives typically fall somewhere along the continuum of research 'for' communities and research 'with'

communities, as opposed to conventional research 'on' communities (as represented in Figure 3 below).

Figure 3: A Continuum of Participatory Research in Practice (Lee, 2008)

The guiding principles of CBPR have been articulated in various ways (Roche, 2009). The summary by Hills and Mullett (2000) below is a succinct version that covers much of the main points. It highlights that Community-Based Participatory Research is:

- A planned and systematic process;
- Relevant to the community;
- Involves community engagement and participation;
- Has a problem-solving focus;
- Focuses on action towards societal change; and
- Is about capacity-building and sustainability.

CBPR typically follows a cyclical process of: engagement, assessment, planning, action, reflection and knowledge sharing (see Figure 4 below).

Figure 4: Cyclical Process of Community-Based Participatory Research

Keys to the CBPR process are (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007; Tolman & Brydon-Miller, 2001):

- Establishing and maintaining a reciprocal relationship between the researcher and the participating community, based on solidarity, respect, and knowledge and power sharing.
- Meeting and gathering potential stakeholders and developing relationships.
- Setting up a Community Advisory Group (Leadership Group).
- Involving community members and those directly affected by the situation in the initial discussions of the research focus, questions, and methods.
- Facilitating and providing necessary training, skills development and support for community member participation.
- Using culturally appropriate and participatory research methods and tools for assessment and measurement. Examples include Asset Mapping[2], Body Mapping[3], PhotoVoice[4],
- Sharing Circles and other Indigenous methods[5], Most Significant Change storytelling[6], and various other participatory activities[7].
- Documenting processes, decisions, successes, challenges, and outcomes.
- Running feedback loops and 'reality checks' on data collected (interpretations, patterns, contexts).
- Deciding on modes of dissemination of results; developing modes that allow all to participate.
- Identifying next steps and actions based on evidence collected.

When and where has it been used?

CBPR has more widely been applied to initiatives striving for health or social change at the whole neighbourhood or community level (Hills & Mullett, 2000). In this context, community members are involved from the beginning in assessing an issue and actively developing an intervention. The literature offers a plethora of examples of how CBPR is used to assess community issues and develop, design, implement and evaluate change efforts in communities across the globe, in a variety of areas (e.g., education, community economic development, urban health, HIV prevention, climate change, violence prevention).

It is more difficult to find explicit examples of how CBPR has been used specifically to conduct a local adaptation of a 'pre-packaged' evidence-based program. Moreover, the examples we did find involved the use of CBPR principles and methods to conduct the *cultural adaptation* of an

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[2] See the Community Toolbox at: http://ctb.ku.edu/en

[3] See the Ontario Mentoring Coalition at: http://ontariomentoringcoalition.ca/wp-content/uploads/2016/02/Facilitator-Guide-for-Body-Mapping-Activity_Feb-12-2016.pdf and the video at: https://youtu.be/V58j-9ze3dg

[4] See: https://photovoice.org/wp-content/uploads/2014/09/PV_Manual.pdf

[5] See: Kovach, M. (2005). Emerging from the margins: Indigenous methodologies. In L. Brown & S. Strega (Eds.), Research as resistance, critical, indigenous and anti-oppressive approaches (pp. 19-36). Toronto: Canadian Scholars' Press.

[6] Davies, R. and Dart, J. (2005). The 'Most Significant Change' Technique - A Guide to Its Use. at: www.mande.co.uk/docs/MSCGuide.pdf

[7] For examples, see: Tolman, D. & Brydon-Miller, M. (2001). From Subjects to Subjectivities: A Handbook of Interpretive and Participatory Methods, New York: New York University Press.

EBI – we treat cultural adaptation separately and in-depth in a following section. As Gonzales and colleagues (2016) state:

> "Unlike cultural adaptations that begin with an established EBI and then work to integrate cultural elements that increase relevance and fit for subcultural groups, culturally grounded approaches begin with an assessment of need obtained from members of a particular subcultural group who then participate actively in developing the intervention from the ground up… The latter approach is based in models of community-based participatory research (CBPR)" (Gonzales et al., 2016, p. 874)

What are its successes and challenges?

Some of the advantages of CBPR are that it (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007; Tolman & Brydon-Miller, 2001):

- Grounds researchers in the reality experienced by communities and breaks down the artificial separation between researchers/academia and community;
- Encourages uncertainty to be embraced and documented as part of the research process - respecting and working within (rather than ignoring) complexity;
- Recognizes and seeks to address common barriers to participation for groups whose data can contribute to more ethical and accurate findings, but who have difficulties engaging in conventional research (e.g., language, access to transportation, childcare, meeting times, meeting formats);
    - Improves the quality of the research data collected; involvement of community members in the design and implementation of research techniques is shown to yield greater response from participants (regardless of the method used), and capture a more authentic representation of events or issues;
    - Incorporation of community expertise can help to shed light on and further explain patterns in the data, enhancing the richness of the analysis and interpretation; and
- Can be an effective part of creating empowering and enduring solutions to complex issues.

Some of the challenges of CBPR are (Cornwall & Jewkes, 1995; Lee, 2008; Mertens, 2007; Tolman & Brydon-Miller, 2001):

- Difficulties in sharing control over processes and ownership/decision-making opportunities;
- Issues of depth of community participation - continuum of shallow (superficial) versus deep (broad) participation;
- Issues of scale of participation – continuum of 'narrow' (few or select people are involved) to 'wide' (many diverse people are involved) participation;
- Due to a lack of knowledge/understanding or deep-rooted philosophical differences, CBPR can still be regarded by conventional institutions as lacking rigour and reliability and therefore lacking (academic) credibility.

Given this last challenge, CBPR is typically rigorously held to account to agreed-upon evaluative criteria for qualitative research, which includes (Denzin & Lincoln, 2005):

- **Credibility:** prolonged engagement, persistent observation, triangulation of methods, wide variety of sources, use of multiple theoretical perspectives.
- **Transferability** (external validity): fostered through thick description (rich and detailed account) allowing others to assess the extent to which findings may be transferable to other settings and situations.
- **Dependability:** provided by "audit trail" - the clear description of the research design, data collection methods and decisions, and the steps taken to manage, analyze and report data.
- **Confirmability:** provided through the audit trail, as well as the reflexive account of the research process.

What we conclude from our review of the literature is that much of the underlying ideals, guidelines and models of local program adaptation are reflective of the principles of community-based participatory research, and can therefore easily be understood and interpreted through the lens of CBPR. Furthermore, the field of CBPR has developed and documented a wide variety of useful and effective participatory research and evaluation methods that can be incorporated into a collaborative program adaptation framework.

3.3.4 Empowerment Implementation

What is it?

Empowerment Implementation was recently coined by Van Daele and colleagues (2012) in the field of psychology / psycho-education. It is meant to be an innovative program design strategy to develop 'hybrid' programs that build in adaptation to enhance program fit, while also maximizing implementation fidelity. It builds on theories of implementation fidelity and community-based participatory research, and is an analogy to the more popular and established field of Empowerment Evaluation. Empowerment Evaluation advocates for program stakeholders to gain skills to evaluate their own initiatives. It is based largely on the traditions and principles of Community-Based Participatory Research (CBPR), reviewed above.

Through Empowerment Implementation, partners are provided with the knowledge, tools, and support to adapt programs to their particular context with the goal of making it more successful (Rabin, 2016; Van Daele, Van Audenhove, Hermans, Van Den Bergh, & Van Den Broucke, 2012). The Empowerment Implementation approach also emphasizes fidelity and efficacy by ensuring the interests of partners and researchers are equally important and that core elements of the program are maintained (Van Daele et al., 2012). The main focus lies on how an intervention can benefit from adaptations guided by local expertise, while maintaining the core program components and still respecting implementation fidelity (Van Daele et al., 2012).

Van Daele and colleagues (2012) outline four steps of Empowerment Implementation:

- Develop theoretically sound core program components, test them in a controlled setting, and have researchers define which elements are key for efficacy.

- Select partners to be responsible for implementing the program who have the skills for supporting the adaptation of the core components and key elements.
- Adapt the program by involving partners to assess the fidelity/adaptation concerns, decide on the logistics and practical applications that will work most effectively with the community, and work on content adaptations, with both partners and researchers as equal contributors.
- Develop an implementation plan whereby the roles of partners are outlined, researchers monitor variations to essential program elements and work with partners to address any deviations to avoid future issues (Rabin, 2016; Van Daele et al., 2012).

When and where has it been used?

The Empowerment Implementation approach was developed in Belgium within a psycho-educational mental health program aimed at reducing stress, depression and anxiety (Van Daele et al., 2012). The key elements of the program were course materials based on Cognitive-Behavioural Therapy (CBT), relaxation CDs, and program booklets. Three partners and locations for testing the initiative were then selected through focus groups. These partners and researchers worked together as experts in their own right to suggest modifications to the program based on each community's unique setting. Then, logistics were determined separately in each site. The program was implemented in different locations, at varying times, advertised through different channels, and taught in different manners (e.g., by whom and how the materials were delivered). Finally, partners and researchers collaborated to track all of the changes made to the program and any deviations were discussed to avoid major impacts to program efficacy (Van Daele et al., 2012).

What are its successes and challenges?

As a program adaptation framework, Empowerment Implementation is fairly new and not widely examined in the literature. Only two articles (dated 2014 and 2016) explicitly mention the framework; however there is exhaustive research about the widely adopted Empowerment Evaluation. Empowerment Implementation acknowledges its roots in community-based participatory research (CBPR), which is evident in the importance it places on collaborative and participatory processes. Though this framework provides a new term within which to discuss program adaptation, more research into how it differs from previous models, in theory, practice, and effectiveness, would be beneficial. That said, the framework developers note:

> "The aim of the psycho-educational course was to strengthen the resilience of participants to deal with daily stressors, and to empower them to take charge of their own mental health. Whether or not this aim was achieved was not addressed in this study. However, what this study did show is that the participatory approach to implementation that was followed for this program led to a better understanding of the intervention, its goals and its core elements by the local health workers who implemented it, and stimulated them to develop, adapt and implement future interventions. As such, the effects may extend beyond the stated outcomes of the program, despite the fact that it was essentially conceived as a top-down government initiated intervention." (Van Daele et al., 2012, p. 219)

3.3.5 Cultural Adaptation

"Cultural adaptation" is often used informally to refer to one type of adaptation where modifications are made to increase a program's fit with a certain racial or ethnic group. However, that implies a narrow definition of culture based strictly on racial or ethnic identity. The broad literature on cultural adaptation of evidence-based programs takes a much broader perspective of 'culture'. The cultural adaptation field defines culture not only as racial and/or ethnic background, but also as a set of beliefs, ways of thinking, ways of life, and everyday customs of subcultural groups. Castro et al. (2010) state that ''culture consists of the worldviews and lifeways of a group of people'' (p. 216). It is important to remember that there is heterogeneity within racial and ethnic groups, which should not be ignored when determining intervention and adaptation needs. Adaptations should therefore focus on subcultural groups who share common developmental, familial, and/or life experiences either within or across racial ethnic groups (Castro et al., 2010).

Since many evidence-based interventions (EBIs) are developed and evaluated with and for relatively privileged populations (i.e., 'easier to reach' individuals versus 'harder to reach' individuals), many researchers and practitioners argue for modifying most EBIs to ensure cultural alignment and social validity with diverse target populations and settings (Barrera & Castro, 2006; Bennett & Babbage, 2014; Bernal & Domenech-Rodriguez, 2012). For example, although white middle-class youth living with their biological families and white youth living in foster care may have the same racial background, they come from two very different cultures. The same can be said of urban Indigenous youth versus Indigenous youth living on reserve.

Barrera and colleagues (2013) note that cultural adaptation involves updating evidence-based interventions to consider cultural factors pertinent to the needs and values of the target population and host community. "The primary aim in cultural adaptation is to generate the culturally equivalent version of a model prevention program" (Castro, Barrera, & Martinez, 2004, p. 24). Cultural adaptation is perceived as a middle ground between a universal (top-down) and culture-specific or grassroots (bottom-up) approach as it involves the systematic review and adaptation of an EBI from both perspectives. It has been argued that cultural adaptation should be considered for all program adoption, as it is important to increase acceptability, engagement, retention, and meaningful change for participants (Beasley et al., 2014; Crooks, Snowshoe, Chiodo, & Brunette-Debassige, 2013; Marsiglia & Booth, 2013).

Assessing whether there are discrepancies between the cultural (i.e., racial and ethnic) characteristics of the target population and original participants in a tested EBI can help determine whether cultural adaptation is necessary. Furthermore, it is important to assess the level of 'non-fit' based on mismatches in program delivery culture/staff, and/or community factors (Castro, Berrera, & Martinez, 2004). Examining whether these discrepancies could potentially lead to diluted program impacts or negative effects is key. The framework by Castro and colleagues (2004) presented in Table 7 below highlights some of the typical sources of program mismatch.

Table 7: Sources of Program Mismatch and Their Effects (adapted from Castro, Berrera, & Martinez, 2004, Table 1, p. 42)

Source of	Program Validation	Current Participant	Actual or Potential Mismatch Effect

Mismatch	Group(s)	Group	
Group Characteristic			
Language	English	Other	Participant inability to understand or relate to program content
Ethnicity	White, non-minority	Ethnic minority	Conflicts in beliefs, values and/or norms
Socio-economic status	Middle class	Lower class	Insufficient social resources and culturally different life experiences
Urban-rural context	Urban inner city	Rural, reserve	Logistical and environmental barriers affecting participation in activities
Risk factors (number and severity)	Few and moderate in severity	Several and high in severity	Insufficient effect on multiple or most severe factors
Family stability	Stable family systems	Unstable family systems	Limited compliance in attendance and participation
Program Delivery Staff			
Type of staff	Paid program staff	Lay workers or volunteers	Lesser or different program delivery skills and perspectives
Staff cultural competence	Culturally competent staff Culturally insensitive staff	Culturally insensitive staff Culturally competent staff	Limited awareness of or insensitivity to cultural issues Staff will refer to missing cultural elements and criticize the program for being culturally insensitive
Community Factors			
Community consultation	Consulted with community in program design and/or administration	Not consulted with community	Absence of community 'buy-in', community resistance or disinterest and low participation
Community readiness	Moderate readiness	Low readiness	Absence of infrastructure and organization to address issues and to implement the program

Table 8 below provides some of the more general principles found in the literature on cultural adaptation of evidence-based interventions. These are recommendations and considerations to keep in mind regarding the implementation of EBIs in a new setting with a new group of participants.

Table 8: General Principles and Considerations for Cultural Adaptation of Evidence-Based Interventions

Area	Guidelines & Considerations	References

Integrating cultural variables in community initiatives	• Policy makers must acknowledge the importance of cultural factors and insist on incorporating these into programs • Funding should support the development and evaluation of culturally appropriate initiatives • Policymakers should provide communities with guidelines and tools to adapt initiatives • Developing extra culturally appropriate modules for initiatives should be encouraged • Collaborative research should be fostered, so that views of different cultural groups are reflected • Culturally appropriate research designs should be prioritized	Castro & Alarcon, 2002
Multilevel Cultural Framework / Cultural Sensitivity Model	Account for both surface structure and deep structure of culture: • **Surface Structure**: Create program materials to fit the target population (e.g., using language and pictures reflective of the community members) • **Deep Structure**: Incorporate cultural histories, norms, values and everyday experiences reflective of the target population This model considers 3 types of adaptations that may be required at the surface and/or deep levels: • **Cognitive-Informational** – changes to content because it does not resonate with the target population (e.g., differences based on language, age) • **Affective-Motivational** – changes required because messages contradict cultural values/norms (i.e., considering gender, ethnic background, religious background, socioeconomic status) • **Environmental Factors/Relevance** – altering the intervention to make it more applicable to the histories and lived experiences of the target population	Beasley et al., 2014; Castro, 2004; Castro & Garfinkle, 2003; Marsiglia & Booth, 2013; Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000
Eight Dimensions for Culturally Sensitive Interventions / Ecological Validity Model	Each of the following program components need to be assessed through a cultural lens and adapted where necessary: • Language of the intervention • Differences and similarities of participants and intervention leaders • Cultural expressions and sayings • Knowledge base • Intervention concepts • Goals of the intervention • Intervention methods • Social context and setting of the intervention	Bernal, Jiménez-Chafey, & Domenech-Rodriguez, 2009; Castro et al., 2010; Marsiglia & Booth, 2013; Nicolas, Arntz, Hirsch, & Schmiedigen, 2009

Guiding Principles for Cultural Adaptation	• Involve members of the target population • Involve partners, elders, and other key community experts • Use capacity-building lens, as opposed to focusing on deficits • Engage family members of the target population and allow them to share their own expertise • Elicit feedback from community members, partners, and families • Provide unique training to staff who will be implementing the intervention to target their particular needs	Rother, 2015

These principles and considerations have inspired much of the work on cultural adaptation (Castro, Berrera, & Martinez, 2004). Based on our review, we summarize these into a set of guidelines central to the process of cultural adaptation of evidence-based interventions:

- Cultural adaptation should be considered an important part of any initiative.
- Funding should support the development and evaluation of culturally appropriate initiatives.
- Policymakers should provide communities with guidelines and tools to adapt initiatives.
- Collaborative research and culturally appropriate research designs should be embraced.
- Program adaptation should address both the surface structure (i.e., language and symbols) and deep structure (i.e., cultural histories, norms, values, and every day experiences) of culture.
- All components of an evidence-based intervention should be assessed through a cultural lens and adapted where necessary (i.e., program knowledge base, language, staffing, training, goals, concepts, methods, and settings).
- Program adaptation should involve members of the target population, family members, community partners, elders, and other key community experts.
- Program adaptation should use a strength-based approach and capacity-building lens, as opposed to focusing on deficits.[8]

We also present Cultural Adaptation as part of our discussion on adaptation frameworks because various frameworks have been developed to support the cultural adaptation of EBIs. We found numerous more formalized frameworks with a series of steps and activities for the cultural adaptation of evidence-based interventions. Appendix 5 summarizes these various frameworks. As Appendix 5 illustrates, much of the research on cultural adaptation has occurred somewhat in silos, and there is little consistency in the specific framework used. More than 10 different frameworks of cultural adaptation spanning both prevention and treatment have been published,

[8] Despite good intentions, many prevention and intervention programs operate from a deficit-based approach, which highlights people's 'risks' and targets communities' 'problems' to be solved (Hammond & Zimmerman, 2012). The strength-based philosophy and capacity-building approach argue that this leads to people being labeled and stigmatized, and not seen as capable of affecting change in their own lives, resulting in a process of further disempowerment. A strength-based approach positions supporters as partners rather than professionals, who use genuine support to act as facilitators of change in partnership with the individual or community in question (Hammond & Zimmerman, 2012). Individuals and communities are seen as already 'at potential', so instead of 'fixing' them, supporters help them build on and strengthen their core competencies and assets (Alberta Mentoring Partnership, 2010).

almost all within the past 10 years. That said, many of the frameworks developed outline very similar steps even if they are not always in the same sequence or depth.

In 2001, Backer proposed a set of Program Adaptation Guidelines to promote a better balance between fidelity and fit. Most of the frameworks developed for cultural adaptation appear to have been inspired by the steps outlined by Backer (2001):

1. Define the fidelity/adaptation balance
2. Assess community concerns
3. Review a targeted program to determine fidelity/adaptation issues
4. Examine the program's theory of change, logic model, and core components
5. Determine the needed resources
6. Consider available training
7. Consider how to document adaptation efforts
8. Consult with the program developer
9. Involve the community
10. Integrate all prior steps into a plan
11. Include fidelity/adaptation issues into the program evaluation
12. Conduct an ongoing analysis of fidelity/adaptation issues

When and where has it been used?

Most of the literature on the cultural adaptation of EBIs originated in the United States. As a result, the majority of the cultural adaptation case studies presented in the research are based on adaptations for Latino communities, Mexican-Americans, and African-Americans. Again, these adaptations did not focus solely on their racial or ethnic background, but also on other factors such as mental health, socio-economic status, and experiences of racism. Appendix 6 describes the practical actions used to adapt community interventions that we found within detailed case studies on cultural adaptation.

While the field of Cultural Adaptation appears prominent in the United States and elsewhere, we did not find many Canadian publications that referenced their programs or their modifications in that way. In fact, we did not find many Canadian references at all that used the language of 'program adaptation'. However, there is a body of research in Canada and elsewhere that outlines some guidelines for culturally-appropriate programming, including for Indigenous groups in Canada. Though this search was not exhaustive, the points included in the following table are reflective of the key themes found in literature on culturally-appropriate programming for Indigenous peoples.

Table 9: Recommendations for Cultural Appropriateness in Indigenous Settings

Cultural Group	Recommendations for Cultural Appropriateness	References

Native Americans and Australian Aboriginals	• Use culturally relevant strategies, for example group teaching • Focus on ethnic identity • Use a narrative approach to teaching • Appeal to collectivism (vs individualism) • Involve community members • Adapt the program for language differences • Train facilitators to be culturally proficient	Bennett & Babbage, 2014; Chalmers et al., 2014; Doyle & Hungerford, 2014; Hart, Jorm, Kanowski, Kelly, & Langlands, 2009; Kanowski, Jorm, & Hart, 2009; Marsiglia & Booth, 2013
First Nations, Métis and Inuit Peoples of Canada	• Understand and acknowledge the role that many 'helping' agencies and professions played in the process of colonization. Many Indigenous families have had negative experiences with institutions resulting in deep-seated mistrust • Involve community members in creating program/adaptations, especially Elders • Tap into existing community resources • Include community understandings of spirituality and collectivism • Recognize various family structures. Parenting in an Indigenous context often involves the interaction of the young person with a variety of extended family members. Acknowledge traditional understandings of family structure • Observe protocols. Be respectful of Indigenous traditions. Acknowledge the people's traditional territory. Allow time for cultural activities, ceremonies, and prayer. Provide Elders with a symbolic gift as a way to give thanks for their time and participation • Make tools visually reflective of the community (e.g., using more colours and familiar images, showing First Nation affiliation) • Adapt language/concepts/visuals to be more relevant to the community (e.g., translating into local language, using symbolism and simpler language) • Consider individual preferences	Baydala et al., 2009, 2014; Blackstock, 2009; Crooks et al., 2009 and 2013; Graham, 2013; Jull, 2014; Jull et al., 2015; OCECYMH, 2016; Rother, 2015; Schinke et al., 2006

While we uncovered a long list of 'promising programs' (see Appendix 1 for definition) to reduce violence and increase safety of Indigenous groups in Canada[9], we found only a few examples of evidence-based programs that have been adapted to meet the needs of some Indigenous peoples in Canada. One example is "The Fourth R: Uniting Our Nations – Relationship-based Programming for Aboriginal Youth" developed in London (ON) and surrounding areas[10] in partnership with the Thames Valley District School Board (Crooks et al., 2009). While the original evidence-based Fourth R program has been adapted and expanded to meet the needs of Indigenous students, there is very little readily available information on the process or framework used to perform the adaptation and expansion of its services.

What are its successes and challenges?

Although there are some conflicting results about the efficacy of culturally adapted evidence-based interventions, Barrera and colleagues (2013) highlight how most negative results come with an explanation (e.g., the intervention had only performed limited adaptations to the original EBI, had significant challenges in implementation not related to the adaptation). Overall, it appears that cultural adaptations yield more positive results than original (non-adapted) evidence-based interventions (Barrera, Castro, Strycker, & Toobert, 2013; Bernal & Domenech-Rodriguez, 2012; Castro, Barrera, & Holleran Steiker, 2010; Lau, 2006; Marsiglia & Booth, 2013).

Although the many merits of cultural adaptation are cited in the literature, there are also some practical challenges for modifying EBIs along dimensions of 'culture'. First, adapting programs to appeal to cultural groups may not account for the heterogeneity amongst members of any specific 'group' (Barrera et al., 2012; Maldonado-Molina et al., 2006). Although we tend to place people in socio-demographic categories, these can be merely superficial representations of their complex identities. Second, it may be difficult to find practitioners with appropriate competencies (e.g., language and experiences reflective of the target population) who are willing and able to deliver the adapted EBIs (Lau, 2006). There are also gaps in the literature about the efficacy of culturally adapted EBIs, which may be due to: the cost of conducting comparative analysis; the difficulty to recruit marginalized groups to participate in pilot studies/interventions; and the fact that many studies have employed different models for cultural adaptation and have limited descriptions of the adaptations (Barrera et al., 2013; Bernal et al., 2009; Lau, 2006; Ramos & Alegría, 2014). Another significant limitation is that most of the research on cultural adaptation of EBIs comes from the United States, and thus details around the types of adaptations may not be applicable to the Canadian context. More research on the cultural adaptation of evidence-based interventions for diverse groups in Canada is needed.

[9] For many examples, consult the list of the Family Violence Initiative of the Department of Justice Canada at: http://www.justice.gc.ca/eng/rp-pr/cj-jp/fv-vf/annex-annexe/toc-tdm.html

[10] For detailed information, visit: https://youthrelationships.org/uniting-our-nations

4. Conclusions & Discussion

Although the degree to which the core elements of an evidence-based program (EBI) can be maintained while allowing for local adaptation is unclear, and concern is reflected in the prevention and intervention literatures, there is acceptance that program adaptations are widespread and inevitable, and likely necessary to lead to positive impacts in diverse settings. That said, researchers agree that it is imperative to proactively design and develop adaptations in deliberate and planned ways (making it happen), rather than on an 'ad hoc' basis (letting it happen). It is also generally accepted that there are 'green light, yellow light, and red light' modifications, where some types of adjustment are highly discouraged. These include reducing the 'dosage' (intensity and duration) of the intervention, its key messages, or skills building components.

Overall, reasons for adapting programs and the concrete ways in which programs were adapted are not well documented in the literature. The most commonly cited reasons for making adaptations included:

- Lack of cultural appropriateness of the original EBI
- Lack of time to implement the EBI as originally prescribed
- Limited resources
- Participant recruitment challenges
- Participant dissatisfaction
- To facilitate participant retention
- Resistance from implementers regarding the original EBI design or components
- Difficulties finding adequate staff

In addition to considerations around 'green light, yellow light, and red light' modifications, researchers insist that adaptations must be undertaken for valid reasons and motivations. While modifying an EBI to ensure its cultural appropriateness and relevance is deemed important to achieve positive results, adapting an EBI to make up for a lack of staff qualifications or training is considered detrimental to potential positive results.

Most program adaptations appear to be used to adjust the content of the intervention and/or the specifics of service delivery. Most of the adaptations found in the literature are cultural in nature and focus on increasing fit with subcultural groups and/or new communities. There is generally little overlap in the use of specific program adaptation frameworks - there are nearly 20 "frameworks" in the field of cultural adaptation alone. Most organizations or teams appear to develop and use a different adaptation scheme for their specific initiative or intervention.

It is important to note that while many different program adaptation frameworks were found in the literature, not all of them were formalized (i.e., some were very general guidelines or principles) and many others had been developed and used only once in a particular setting or circumstance, with limited generalizability to other contexts. That said, most of the program adaptation frameworks that emerged adopted similar foundational principles. These principles were in keeping with the philosophy and ideals of Community-Based Participatory Research (CBPR), and included:

- Active and meaningful participation of diverse stakeholders at every stage of the initiative, including those for whom the intervention is intended (target population).
- Strong leadership including the creation of a diverse qualified team dedicated to overseeing the process.
- A capacity-building lens to support the development of knowledge, skills, and resources of staff and the community alike.
- An openness to complexity in real-life settings, and a commitment to documenting it rather than attempting to control or ignore it.
- A commitment to mixed methods assessment and evaluation, where quantitative, qualitative and participatory methods and measures can provide a rich and reliable picture.
- A focus on local problem-solving and long-term sustainability of efforts.

In addition to these general principles, most of the frameworks that emerged in the literature also followed a similar path or set of concrete steps. These were:

1. Assess Needs and Capacity
- Get a good understanding of the target population, organizational context/readiness and community context/readiness

2. Select an Evidence-Based Program
- Identify the factors addressed by the intervention
- Learn the core elements of the intervention
- Assess staffing, skills, space, and costs needed to implement the intervention
- Select the program that best matches the population and context

3. Plan Adaptation
- Retain fidelity to the core program elements
- Determine modifications needed: systematically reduce mismatches between the program and the new context
- Draft a logic model or theory of change for the adapted intervention
- Create a Program Adaptation Plan

4. Pilot Adaptation
- Pre-test or pilot the tools, activities or sessions of the intervention
- Revise and adjust the Program Adaptation Plan as needed

5. Implement Adapted Program

- Go forward with the intervention using the revised Program Adaptation Plan

6. Monitor and Improve the Program

- Document fidelity and the adaptation process
- Evaluate the process and outcomes of the adapted intervention as implemented: Which changes worked? Did not work? Which changes enhanced the response to the intervention? Decreased the response?
- Make further necessary adjustments to continually improve the results of the intervention

In program adaptation, contextual knowledge about the community, and the experiential knowledge of practitioners and community members, are recognized and mobilized in conjunction with the best available research evidence. The phases of program adaptation take various types of evidence into account. By engaging partners and community members in meaningful and equitable ways, program adaptation is considered: a responsive approach that fosters participation and retention; an effective way of promoting capacity-building; a facilitator of program integration into a community; and a contributor to longer-term sustainability.

Program adaptation is not without its challenges. Despite attempting to develop user-friendly models for the local adaptation of evidence-based programs, the program adaptation frameworks reviewed still require multiple stages that involve many stakeholders and some technical knowledge. As such, an effective program adaptation process can be time-consuming and may be difficult to complete without adequate resources. Furthermore, sharing control over processes and decision-making can be challenging. This can lead to the 'shallow' (i.e., superficial) versus 'deep' (i.e., meaningful) participation of community members. In the same vein, concerns may arise in the scale of community participation, that is the difference between 'narrow' (i.e., limited) versus 'wide' (i.e., broad) participation depending on the number and diversity of lived experiences of the community members involved.

Finally, some argue that while applying a working model to another context through replication or adaptation seems like a straightforward way to affect change, having a greater impact often requires that social structures be altered (L'Arche Canada, 2007). In addition, if initiatives are replicated or adapted without attention to ensuring sustainability, the likelihood of long-term impact on social conditions is low (Moore & Riddell, 2015). So, some insist that initiatives must go beyond replicating or adapting successful initiatives (scaling out), and attempt to also impact policies (scaling up) and deep cultural roots and understandings of issues (scaling deep). Though scaling out effective crime prevention programs through local adaptations may lead to a greater reach of prevention at the individual level, it is unlikely to affect the underlying systemic and social root causes of crime.

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Appendices

Appendix 1: Glossary of Key Terms

Applied Dissemination: Documenting a successful initiative and then applying it to a new setting to have a greater impact by reaching more people (Tamarack, 2006)

Cultural Adaptation: "The systematic modification of an evidence-based treatment (EBT) or intervention protocol to consider language, culture, and context in such a way that it is compatible with the client's cultural patterns, meanings, and values" (Bernal, Jimenez-Chafey, & Domenech Rodríguez, 2009, p. 362) Cultural adaptation attempts to balance universal approaches and culturally-specific approaches through adapting programs to fit with specific cultural needs while maintaining the core components of the EBI (Barerra et al., 2013)

Evidence-based decision making: "A process for making decisions about a program, practice, or policy that is grounded in the best available research evidence and informed by experiential evidence from the field and relevant contextual evidence" (CDC, nd)

Evidence-based intervention (EBI) or evidence-based program (EBP): "Evidence-based interventions (EBI) are treatments that have been proven effective (to some degree) through outcome evaluations. As such, EBI are treatments that are likely to be effective in changing target behavior if implemented with integrity" (Evidence-Based Intervention Network, 2011)

Framework: A formalized approach with key components to abide by and/or steps to follow

Guidelines: An outline of general principles and considerations to keep in mind

Implementation: "Implementation is a set specific activities designed to put a program into practice" (Child & Family Research Institute, 2016, p. 2)

Implementation Fidelity: The degree to which the implementation of a given program adheres to the exact components, activities, and tools prescribed by the original developers, in terms of both the design and underlying theory of the intervention. Implementation fidelity is considered a major determinant of success - for the most part, the higher the fidelity to the original program pillars, the better the outcomes (Savignac & Dunbar, 2014)

Implementation Science: "the field of study from which methods and frameworks have been developed to promote the transfer and use of knowledge in order to optimize the quality and effectiveness of services" (Eccles 2006 as cited in Savignac & Dunbar, 2014, p. 4)

Program Adaptation: Deliberately tailoring and modifying an existing evidence-based program to meet the unique needs or desires of a specific population and/or community, while not inventing a completely new program (Child & Family Research Institute, 2016)

Program Drift: Program modifications that happen ad-hoc (unplanned) during implementation. These are most often seen by program developers, researchers and funders as potential challenges and barriers to

fidelity (Bory & Franks, 2016), and have been shown in some cases to result in a loss of benefits to participants (Aarons et al., 2012)

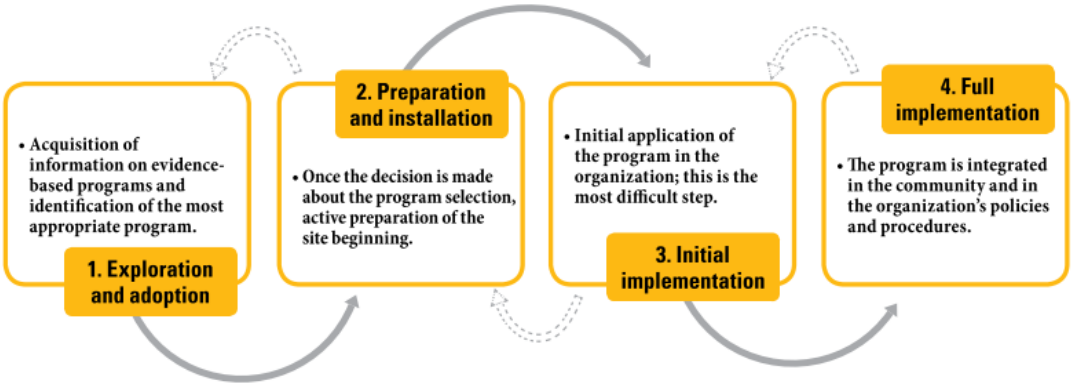
Program Replication: Delivering a program in the exact same way in which it was originally designed and delivered during efficacy and effectiveness evaluation trials – in other words, reproducing and copying the original program (Stith et al., 2006)

Promising Program: Programs that meet scientific standards for effectiveness, but they do not meet all of the rigorous standards of Evidence-Based Interventions. They are recognized and encouraged with the caution that they be carefully evaluated (National Crime Prevention Centre, 2008)

Social Innovation: "any initiative, product, program, platform or design that challenges, and over time changes, the defining routines, resource and authority flows, or beliefs of the social system in which the innovation occurs" (Westley & Antadze, 2010, p.2)

Appendix 2: The Program Replication / Implementation Framework versus the DAP Model

Stages of the Program Implementation Process in Replication (see Fixsen et al. (2005); Savignac & Dunbar, 2014, p. 6)



Two other stages occur following full implementation. These are ***Sustainability/Continuity***, defined as the continuation of a program after its original end date, and ***Innovation***, which is when discussions and planning around program adaptation and adjustment begin.

[Available in English only]

The Dynamic Adaptation Process (DAP) Model (Aarons et al., 2012, p. 34).

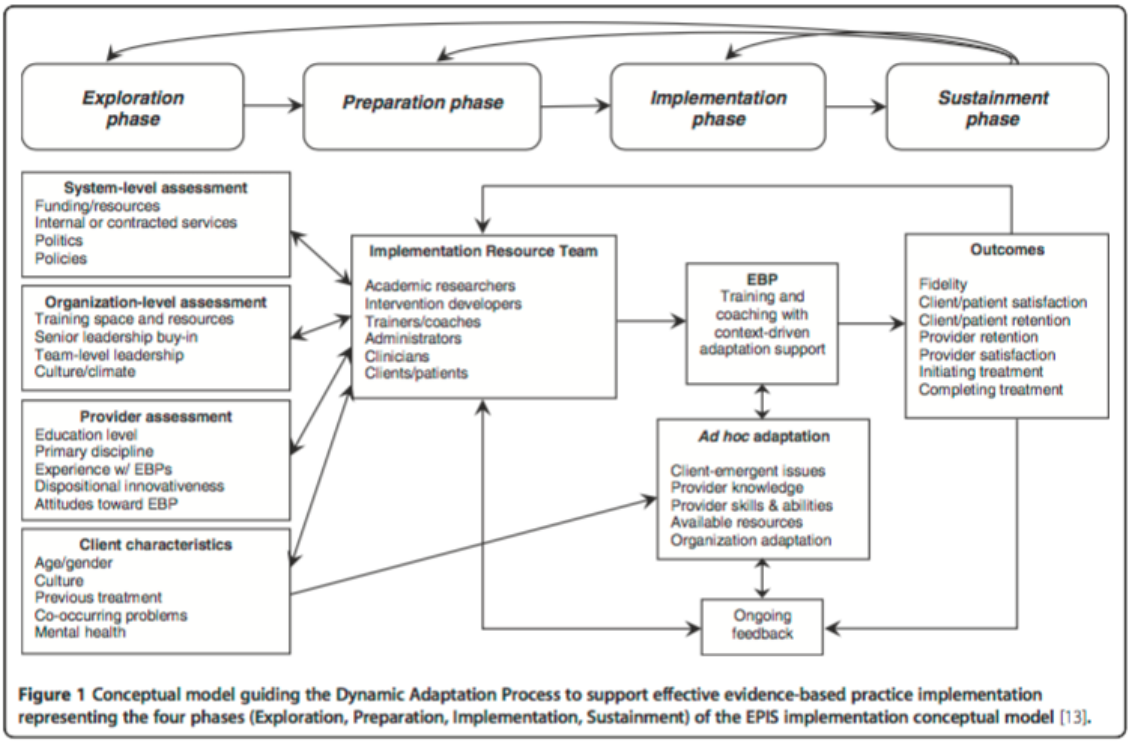


Figure 1 Conceptual model guiding the Dynamic Adaptation Process to support effective evidence-based practice implementation representing the four phases (Exploration, Preparation, Implementation, Sustainment) of the EPIS implementation conceptual model [13].

Appendix 3: Examples of the use of the ADAPT-ITT framework

[Available in English only]

Source: Latham et al., 2010, Table 1

TABLE 1
Applying the ADAPT-ITT Model to Guide the Adaptation of Horizons

Phase	*Methodology*	*Lessons Learned*
1. Assessment[a] (Who will be the primary audience for the EBI?)	• Conducted meetings with TAB • Conducted meetings with CAB	• Incarceration negatively affects gender pride and sense of femininity. • Participants identified a need for enhanced social support on release because they are released to the same environment they were in before entering RYDC.
2. Decision (What EBI will be used and will it be adapted?)	• Decided to use the Horizons EBI • Decided to adapt Horizons intervention for African American adolescent females discharged from Metro RYDC • Original developer spearheaded the adaptation of Horizons	• Decreasing the number of sessions was an important consideration because the average length of stay at Metro RYDC is approximately 12 days for girls.
3. Administration[a] (What novel method can be used to adapt the EBI?)	• Administered one theater test with TAB members • Administered one theater test with CAB members • Administered brief feedback form with open- and close-ended items to elicit participants' reactions from the theater tests	• RYDC staff was integral in identifying CAB members. • It was challenging to find a source to help identify TAB members.
4. Production (How do you produce Draft 1 and document adaptations to the EBI?)	• Produced Draft 1 of Horizons • Horizons creators and lead interventionists developed an adaptation plan intervention ensuring that Horizons' core elements were maintained while incorporating elements for incarcerated adolescents • Developed quality assurance and process measures	• Based on TAB feedback: Need new role-play scenarios realistic to them Provided current and relevant songs for media activity Helped select a name for the project
5. Topic experts (Who can assist with adaptation?)	• Identified two topic experts: 1. Adolescent substance abuse prevention 2. Coping with traumatic stress, depression	• Address substance use as it relates to risky sexual behavior without actually intervening on substance use behaviors. • Help girls recognize strong emotions, including depression and anger.
6. Integration (What will be integrated in the adapted EBI?)	• Integrated content from topic experts based on the capacity of the research team; create Draft 2 of adapted Horizons • Integrated scales assessing new intervention content into the ACASI. • Integrated readability testing of Draft 2 to create Draft 3	• Added measures of emotion regulation, incarceration history, affiliation with deviant peers, a scale of peer training self-efficacy
7. Training (Who needs to be trained for study implementation?)	• Trained personnel on Draft 3 of adapted Horizons, including: 1. Trained facilitators on group facilitation skills 2. Trained facilitators to implement Draft 3 of adapted Horizons 3. Trained staff to obtain needed supplies and other resources	• Learn RYDC safety measures and security protocol • Receive training on intervention implementation and group dynamics • Learn group facilitation skills with incarcerated youth
8. Testing[a] (What are the short-term outcomes?)	• Obtained IRB approval to conduct the main trial • Conducted pilot test with 20 participants using Draft 3 of the adapted Horizons and share results with CAB • Modifications made to Draft 3 following the pilot will result in the final version of adapted Horizons.	• Intervention pilot: participants struggle with making the relationship between substance use and sexual decision making. • Recruitment and retention: Building a positive relationship with the parents, participants, and unit leaders at RYDC is essential to streamlining all project processes.

Note: EBI = evidence-based intervention; TAB = Teen Advisory Board; CAB = Community Advisory Board; ACASI = audio computer-assisted self-interview; IRB = institutional review board; RYDC = Regional Youth Detention Center.
a. Agency, priority population, and CAB are directly involved in these phases of adaptation.

Appendix 4: Example of an ADAPT-ITT Adaptation Plan

[Available in English only]

Source: Cavanaugh et al., 2016a, Table 4 on p. 6

Table 4
Adaptation Plan for Adapting SISTA for Women in DV Shelters

Session	Aim of activities/modifications	Modifications and examples
1	Foster gender, ethnic, and IPV survivor pride	Remove exclusive focus on African American women and enhance IPV survivor pride; for example, ask participants, "What does it mean to be a woman of your ethnic background" instead of "What does it mean to be an African American women?"; ask participants, "What does it mean to be a survivor of intimate partner violence?"; include two poems to foster IPV-survivor pride
1	Provide HIV education	Expand HIV/AIDS education to include information about IPV related consensual and nonconsensual risk factors for contracting HIV; ask participants, "Why are women who are abused by intimate partners at greater risk for contracting HIV than non-abused women?"; provide participants with related information Expand activity so that participants are asked to identify the level of risk for contracting HIV "when a partner pressures a woman to have sex"
1	Identify barriers to condom use for survivors of IPV	Include discussion of IPV related barriers to condom use and the limited availability of the female condom
1	Demonstrate correct condom use	Replace facilitator demonstrations of correct condom use with video demonstrations since facilitators expressed discomfort with doing demonstrations
1	Enhance participants awareness of their risk factors for contracting HIV and help them develop a plan for reducing their risks	Add an exercise that has participants complete a personalized HIV risk assessment and safety plan. Ask participants to check off examples of activities "they have chosen to do" versus activities their "sexual partner has done" that increase her risk for contracting HIV; provide participants with a list of harm reduction strategies and ask her to identify strategies that may help her reduce her risks
2	Discuss participant concerns with using assertive communication and assist her with safety planning	Ask participants to discuss her concerns about whether assertive communication strategies will result in IPV and incorporate HIV and IPV safety planning
2	Discuss intersection of IPV, substance use, and HIV	Expand education about the role of substance use and HIV to include discussion of intersection of IPV, substance use, and HIV
2	Enhance financial literacy	Integrate financial planning

Note. SISTA = Sisters Informing Sisters About Topics on AIDS; DV = domestic violence; IPV = intimate partner violence.

Appendix 5: Frameworks for Cultural Adaptation of Evidence-Based Interventions

Framework	Phases/ Stages	References
Basic Pathways for Planning and Conducting Cultural Adaptations	Stage 1: Information Gathering • Decide if adaptation is necessary • Select which program components should be modified Stage 2: Preliminary Adaptation Design • Draft an adapted intervention based on information gathered in Stage 1 Stage 3: Preliminary Adaptation Tests • Pilot test the adapted intervention plan Stage 4: Adaptation Refinement • Use feedback from the pilot phase to draft a second version of the adapted intervention Stage 5: Cultural Adaptation Trial • Use a control-trial study (ideally) to assess the adapted intervention's efficacy **NB: Information from multiple but similar sources was distilled here into one general framework*	(Barrera & Castro, 2006; Barrera et al., 2013; Castro et al., 2010; Ramos & Alegría, 2014)
"Finding the Balance" Guide for Program Fidelity & Adaptations	1. Identify the theoretical basis for the intervention; 2. Determine the core components of the program; 3. Assess community concerns and decide which adaptations to make; 4. Determine the needed resources and consult with the program developer; 5. Consult with the community about the adapted intervention; and 6. Create a program plan based on the information discovered.	(Backer, 2002; Castro et al., 2004)
Cultural Adaptation Process Model	1. Study the relevant literature, establish a collaborative relationship with community leaders, gather information from community members on needs and interests; 2. Draft a revision of the intervention, solicit input from community members, and pilot test; and 3. Integrate the lessons learned from the preceding phase into a revised intervention that could be used and studied more broadly.	(Domenech, Rodriguez, & Wieling, 2004; Rogers, 2000) in (Castro et al., 2010)
Planned Intervention Adaptation Model	1. Adapt the model 2. Test the adapted model against the original version of the intervention to test the differential effects 3. Use outcomes from this test to determine future	(Marsiglia & Booth, 2013)

	adaptations 4. Conduct additional testing of the adapted intervention to determine efficacy	
Southwest Interdisciplinary Research Center (SIRC) Model	1. Conduct community engagement and needs assessment 2. Identify and select an EBI 3. Adapt the EBI 4. Pilot-test the adapted EBI 5. Integrate results into further adaptations 6. Conduct Random Control Testing of the adapted EBI **Process is iterative and thus may be repeated multiple times*	(Marsiglia & Booth, 2013)
Centers for Disease Control Guidelines for Adaptation	1. Assess the target population (deep and surface cultural elements) and risks and protective factors for the target population 2. Choose a program that will require the fewest adaptations (helps to maintain fidelity as much as possible) 3. Alter the program to fit the target population without changing the core elements 4. Pilot test the adapted intervention and conduct pre/post-focus groups to garner feedback 5. Document the changes made	(Marsiglia & Booth, 2013)
Formative Method for Adapting Psychotherapy	1. Research the issues and connect with community partners/ stakeholders 2. Integrate information with theory and empirical and clinical knowledge 3. Assess and revise the culturally adapted intervention with partners 4. Test the culturally adapted intervention 5. Finalize the adapted intervention	(Nicolas et al., 2009)
Framework used for Adapting Adolescent Coping with Depression Course (ACDC)	1. Engage partners through an advisory board 2. Connect with the community 3. Conduct training with focus group leaders 4. Conduct focus groups 5. Integrating focus group data to modify the intervention manual	(Nicolas et al., 2009)
Cultural Adaptations Rooted in Community Based Participatory Research (CBPR)	1. Translate and adapt the original intervention and materials 2. Collaborate with community leaders using community-based participatory research principles 3. Conduct a qualitative study with target population 4. Implement a pilot study to compare original program features and current culturally adapted features 5. Implement a randomized control trial to determine differential efficacy of both interventions	(Parra Cardona et al., 2012)

Cultural Adaptation Framework for HIV Intervention	1. Optimize fidelity – assemble a bicultural research team, identify effective interventions, identify common areas amongst effective interventions 2. Optimize fit – collaborate with local community, understand specific HIV needs of the population, identify cultural factors related to the program 3. Balance fidelity and fit – create and train an adaptation committee, adapt the intervention to specific cultural needs, build consensus with partners 4. Pilot test and refine the intervention – train facilitators to deliver pilot, pilot and refine the intervention, approve the intervention	(Wainberg et al., 2007)

Appendix 6: Practical Actions Used to Adapt EBIs Found in Research on Cultural Adaptation

Group	Adaptations	References
Latinos	• Delivering program in Spanish • Adapting program to lower literacy level • Incorporating extended family • Helping practitioners understand acculturation and modify program accordingly • Incorporating traditional beliefs, practices and home remedies • Incorporating *personalismo* - often defined as "formal friendliness", and reflecting the fact that Latinos place great emphasis on personal relationships and value them above status, material gain or hierarchies • Incorporating beliefs about respect for elders • Using storytelling and proverbs • Understanding racism, stereotypes and discrimination • Focusing on relationship-building • Using materials that reflect the population (e.g., images of Latino people in videos) • Using peer testimonials/word of mouth to recruit • Matching characteristics of staff to target population • Adding sessions to discuss issues key for the community (poverty, racial discrimination)	(Allen, Linnan, & Emmons, 2012; Barrera, Toobert, Strycker, & Osuna, 2012; Beasley et al., 2014; Castro, Rios, & Montoya, 2006; Devieux, 2005; Maldonado-Molina, Reyes, & Espinosa-Hernández, 2006; Osuna et al., 2011; Parra Cardona et al., 2012; Ramos & Alegría, 2014)

Mexican Americans	• Including mothers, father, and extended family • Avoiding stigma associated with therapeutic programs by reframing as educational • Translating materials into Spanish • Changing vignettes to suit Mexican contexts • Creating new videos to reflect Mexican clothing, music, and relevant storylines	(Lau, 2006; Marsiglia & Booth, 2013)
African Americans	• Including racial socialization in parenting program	(Lau, 2006)
Haitians & Trinidadians	• Ensuring materials are appropriate for lower literacy • Having materials reflect the population (e.g. having more black people in program videos)	(Devieux, 2005)
Brazilians with severe mental illness (SMI)	• Assembling a bicultural research team with training in Portuguese and English • Collaborating with community members • Messaging that fits with cultural values of social responsibility, sexual expression/freedom and self-expression • Addressing beliefs/religion when talking about HIV/AIDS • Addressing stigma that occurs locally about mental illness and homosexuality • Addressing gender roles	(Wainberg et al., 2007)