



PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

Resolving the Fidelity-Adaptation Dilemma: Implementation Strategies

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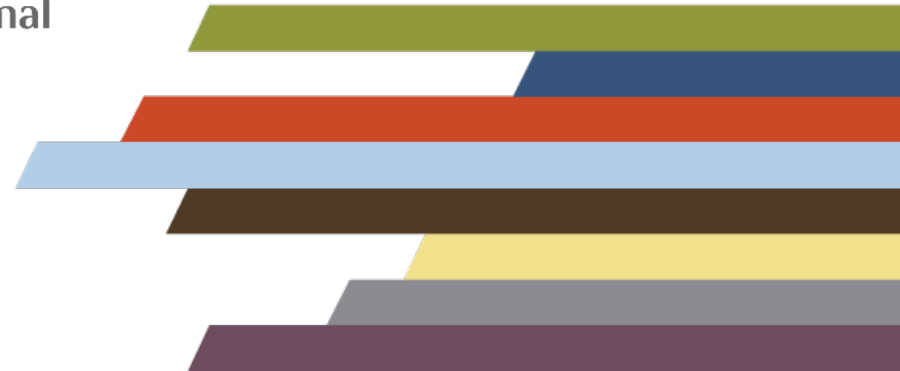
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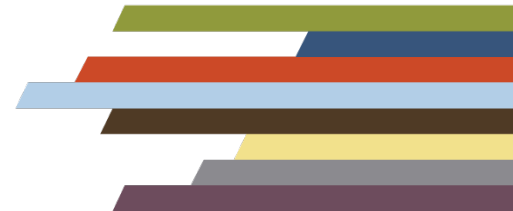


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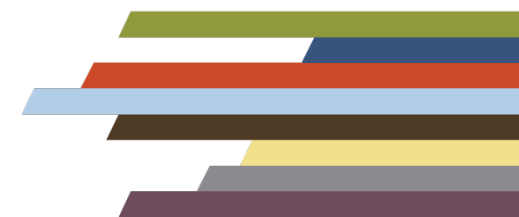
Presentation Outline

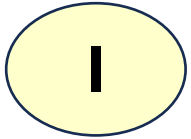
- I. The Fidelity-Adaptation Dilemma in Prevention Science
- II. Resolution: Integration of EBI Design and Implementation Strategies
- III. Five Areas Shaping Implementation Science
 - A. An Ecosystemic Approach
 - B. The Community-Based Participatory (CBPR) Approach
 - C. Identifying and Utilizing Cultural Factors
 - D. The Mixed Methods Approach
 - E. Building-in Intervention Sustainability
- IV. Discussion Forum



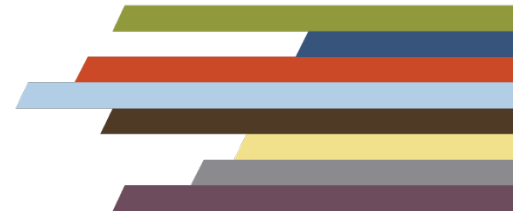
Introduction

- This presentation describes major developments from a **20-year trek** triggered by the **Fidelity-Adaptation Dilemma**
- This dilemma was framed as an **either-or proposition**:
 - pitting a **scientific imperative** of intervention **fidelity** to a scientific mandate, versus a
 - **practical imperative** on **intervention adaptations** in response to “real world” environments, consumer needs and preferences



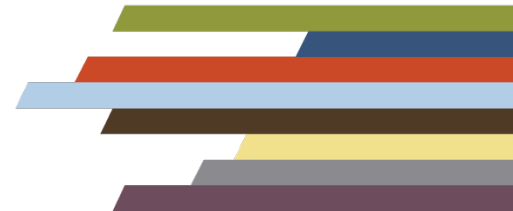


The Fidelity-Adaptation Dilemma in Prevention Science



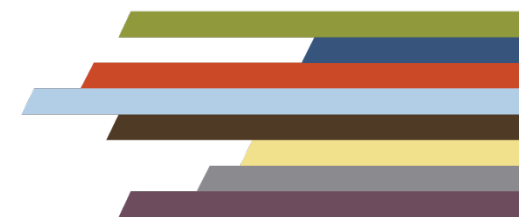
An Overarching Question

*In the field of prevention science how do we adapt **evidence-based interventions (EBIs)** and **evidence-based practices (EBPs)** for **fit and effective delivery** within various delivery systems and with diverse population sectors?*



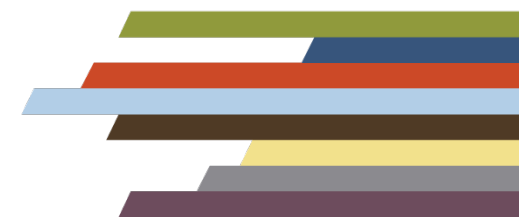
The Fidelity-Adaptation Dilemma

- **Framing of the Fidelity-Adaptation Dilemma in 2004**
 - **Arguments emphasizing *fidelity***
 - (Elliot & Mihalic, 2004)
 - *“The **Gold Standard** is widespread adoption of model programs, **implemented** with **fidelity** and **sustained** ... fidelity/adaptation has the potential for lowering this standard [of delivery] [and could] undermine public confidence in scientific claims that we have **programs that work**....”*
 - (Elliot & Mihalic, 2004, pp. 51-52)



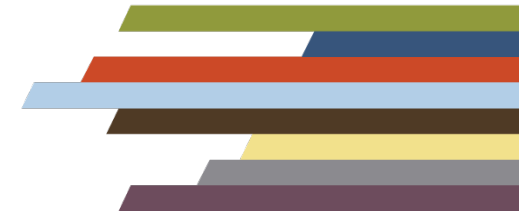
The Fidelity-Adaptation Dilemma

- **Framing of the Fidelity-Adaptation Dilemma in 2004**
 - **Arguments emphasizing *cultural adaptation***
 - (Castro, Barrera & Martinez, 2004)
 - “... 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.***”
 - (Castro, Barrera, & Martinez, 2004, p 44).



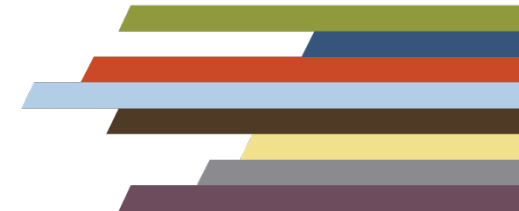
Comments on a Resolution of this Dilemma

- A resolution of this dilemma required a **re-framing** of this **either-or proposition**
 - (Castro & Yasui, 2017)
- Innovative **implementation strategies** were needed to design interventions “**that work,**” that fit into various community settings, also being **relevant** and **acceptable** to residents from diverse communities nationwide



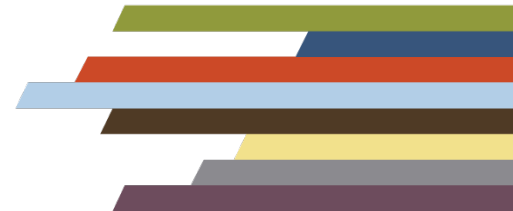
Comments on a Resolution of this Dilemma

- An emerging theme was having: “**Rigor without rigidity**”
- Specifically, an intervention “**works**” when it produces **significant** and **intended changes** on targeted **outcome variables**, thus demonstrating **efficacy/effectiveness**
- Issues of intervention **effect size** are important in determining whether these intended changes in targeted outcome measures are both **statistically significant** and **clinically significant**



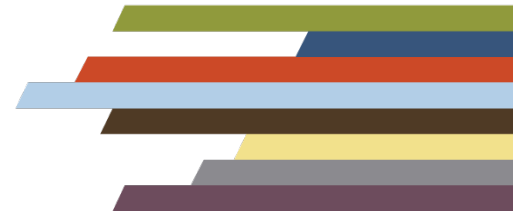
II

Resolution: Integration of EBI Design and Implementation Strategies



The Fidelity-Adaptation Dilemma

- **Framing of the Fidelity-Adaptation Dilemma in 2017**
 - **Arguments emphasizing *nuance and integration***
 - (Mejia, Leijtjen & Parra-Cardona, 2017)
 - “[There is a] “need for a more **nuanced thinking** about cultural adaptations, moving from a dichotomous 'either or' perspective to an **inclusive**’ ‘**both and**’ **approach.**”
 - (Mejia, Leijtjen, & Parra-Cardona, 2017, p. 637)

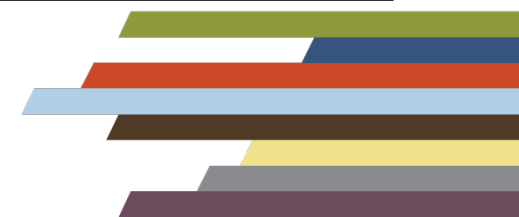


Major Implementation Frameworks

- Several models and frameworks soon emerged to guide, “translating research into effective implementations in practice.”
 - (Aarons, Hurlburt, & Horwitz, 2011, p. 5)

The **Consolidated Framework for Implementation Research (CFIR)**

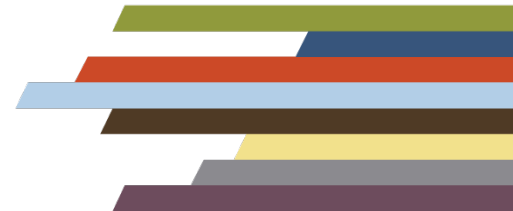
- CFIR is a “pragmatic structure for approaching complex, interacting, multi-level constructs ... and unifying key constructs from published implementation theories”
 - Damschroder, Aron, Keith, Kirsh, Alexander, & Lowery. (2009, p. 1).
- Consists of
 - Constructs (8), Outer settings (4), Inner settings (12) and Individual characteristics (5)



Major Implementation Frameworks

The **EPIS**

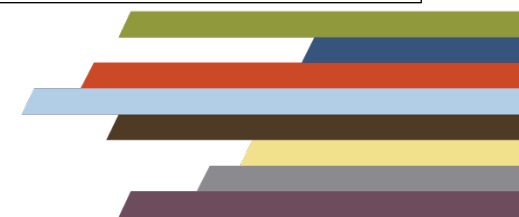
- Is a **four-phase model** of the **implementation process**. These phases are
 - Exploration
 - Adoption/Preparation
 - Implementation
 - Sustainment
- [To respond to expectations] “that research and service communities will work together collectively to address challenges of translating scientific potential into public health impact”
 - (Aarons, Hurlburt & Horwitz, 2011, p. 4)



Major Implementation Frameworks

The **RE-AIM PRISM** framework

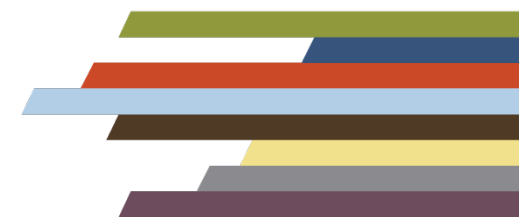
- Was **expanded** after 20 years of research based on the original RE-AIM, which examines:
 - Reach
 - Effectiveness
 - Adoption
 - Implementation
 - Maintenance
 - (Glasgow, Vogt & Boles, 1999)
- The addition of PRISM extended RE-AIM to address **contextual conditions** involving **external** contextual factors (e.g., policies) and **internal** contextual factors (e.g., patient characteristics)
 - Glasgow, Harden, Gaglio et al. (2019)



Making Sense of Implementation Frameworks

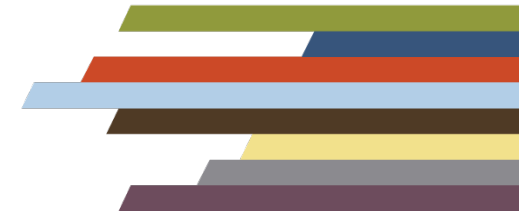
Nilsen (2015) examined how theories, models, and frameworks may (or may not) **inform effective EBI implementation**. Some major points were that:

- “The use of a single theory ... will not tell the whole story.” (Nilsen, 2015, p. 9)
- “... different approaches may require different methods based on different epistemological and ontological assumptions.” (p. 9)
- “... empirical research is needed ... [on how theories, models and frameworks] contribute to more **effective implementation** and **under which conditions...**” (p. 9)



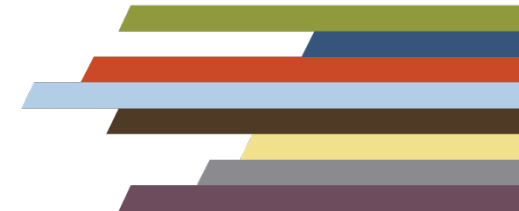
About Cultural Adaptations in Implementation

- Cabassa and Baumann (2013) argued that **cultural adaptations** can be integrated into **implementation science** by:
 - Attending explicitly to **culture**
 - Achieving an **optimal balance** between **adaptation** and **fidelity**
 - Taking an **ecological perspective**
 - Examining **contextual factors**
 - Enhancing the **adoption** and **sustainability** of evidence-based treatment (including EBIs and EBPs)



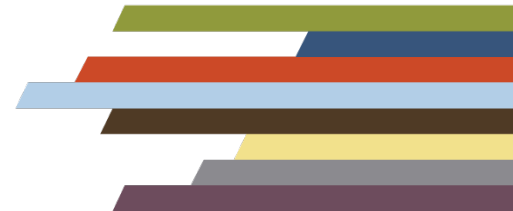
The EPIC Project of 73 Implementation Strategies

- Powell and collaborators convened a panel of experts to identify implementation strategies
 - (Powell, Waltz, Chinman, et al. 2015)
- This study identified 73 implementation strategies that included:
 - Developing and organizing quality monitoring
 - Involving patients/consumers and family member [in implementation activities]
- It is noteworthy that none of these strategies mentioned cultural factors
 - (Castro, Berkel & Epstein, 2023)



Implications from the Resolution of this Dilemma

- Debates on the Fidelity-Adaptation Dilemma set the stage for developing implementation strategies
- Advocacy about cultural factors emphasized the need to include **culture** in framing of these strategies for relevance to people of color
- Cultural inclusion may well enhance EBI **relevance, acceptability**, and effective **adaptations** and perhaps EBI/EBP **efficacy/effectiveness**

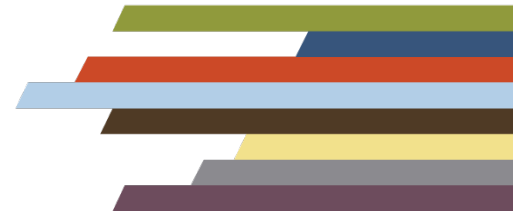


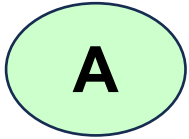
III

Five Areas Shaping Implementation Science



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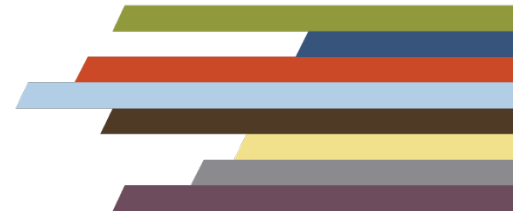




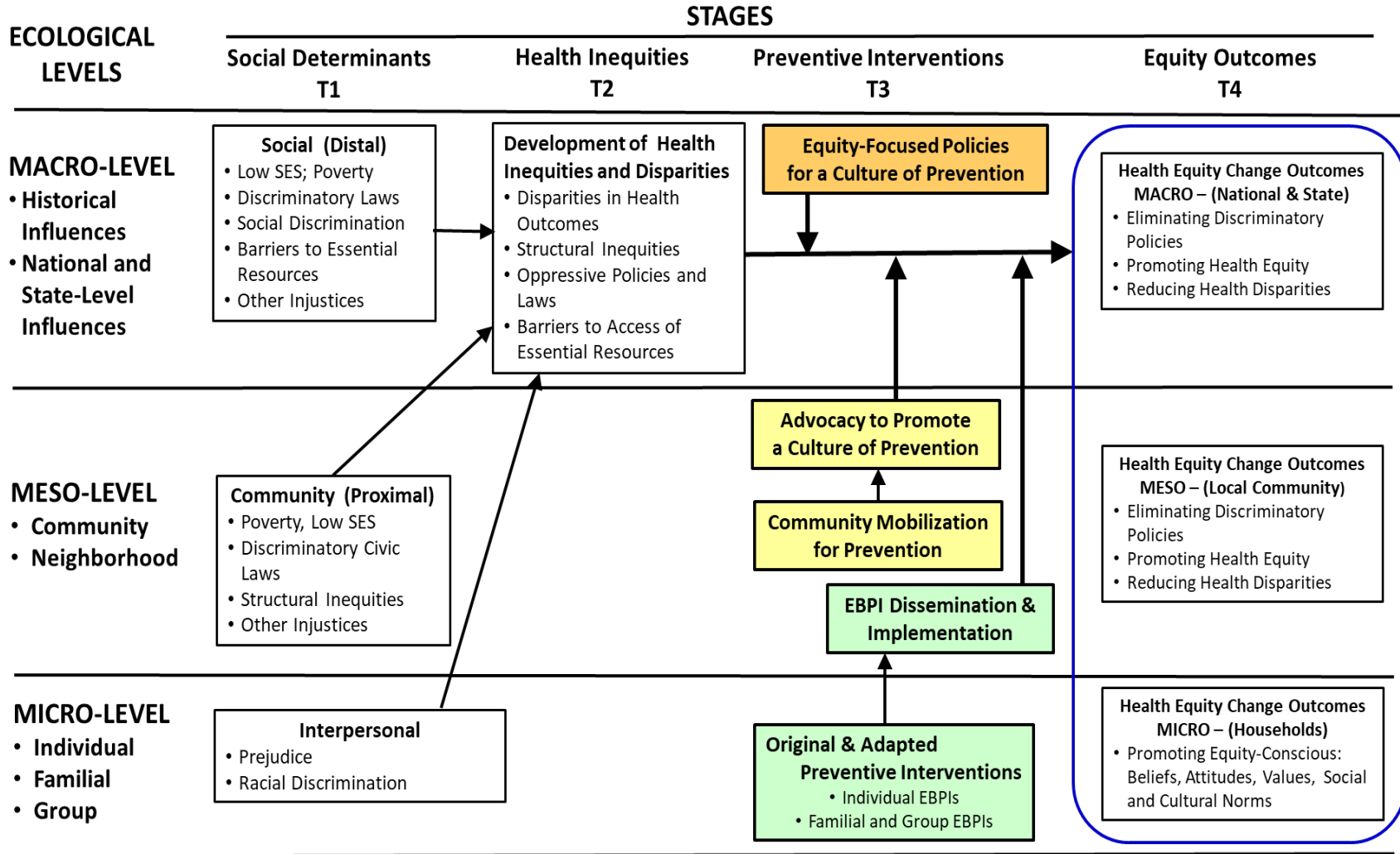
An Ecosystemic Approach



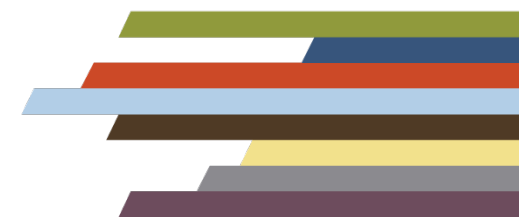
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An Ecodevelopmental Framework

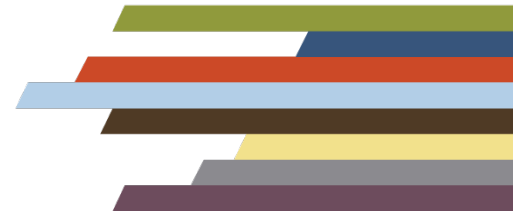


(Boyd, Castro, Finnigan-Carr et al. 2022)



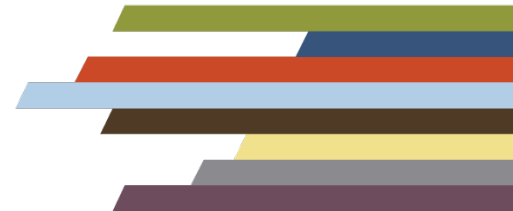
Efficacious Interventions

- ***Evidence-Based Intervention (EBIs)*** and ***Evidence-Based Practices (EBPs)*** can produce significant intervention effects (i.e., work as intended), when
 - a. Are ***adopted***
 - b. Effectively ***engage*** clients/ consumers
 - c. Are ***implemented*** with both ***fidelity*** to intervention theory and protocol, and with necessary flexibility for making planful and strategic ***adaptations*** in response to “**real world**” **situational challenges**
 - (Barrera, Berkel & Castro, 2017)



Comments on the Ecosystemic Approach

- Identifying aspects of **rigor without rigidity** in the design of EBIs requires a **multi-level systems approach** in intervention design that can facilitate effective EBI implementation

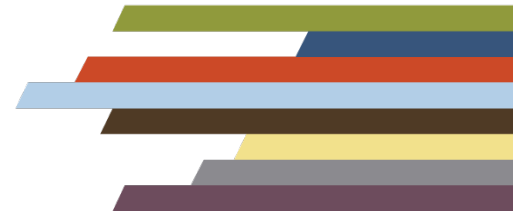


B

The Community- Based Participatory (CBPR) Approach

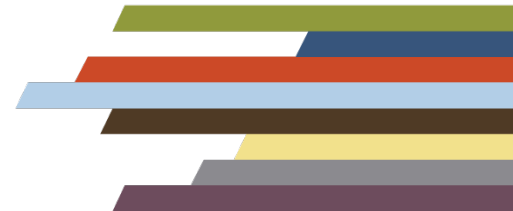


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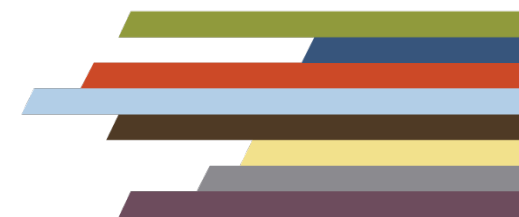
About the CBPR Approach

- CBPR promotes social action research which is characterized by its:
 - Participatory approaches
 - Cooperative process
 - Co-learning process
 - Emphasis on community capacity building
 - Facilitation of empowerment
 - Promoting a balance in research and action
 - (Wallerstein, Duran, Oetzel & Minkler, 2018)



Implementation in Low-Resource Environments

- Orengo-Aguayo et al. (2020) conducted three studies using the **EPIS framework (Exploration, Preparation, Implementation and Sustainment)** to guide implementation activities
- Major foci of implementation activities were
 1. **Program development**
 2. **Building collaborative and responsive partnerships**
 3. **Using implementation strategies to guide continuous quality improvement**
 - (Orengo-Aguayo, Arellano, Villalobos, et al. 2020)



Listen, Don't Tell: Partnership and Adaptation to Implement Trauma-Focused Cognitive Behavioral Therapy in Low-Resourced Settings

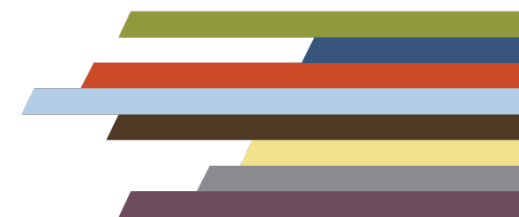
Rosaura Orengo-Aguayo and Regan W. Stewart
Medical University of South Carolina

Bianca T. Villalobos and
Juventino Hernandez Rodriguez
University of Texas Rio Grande Valley

Aubrey R. Dueweke and Michael A. de Arellano
Medical University of South Carolina

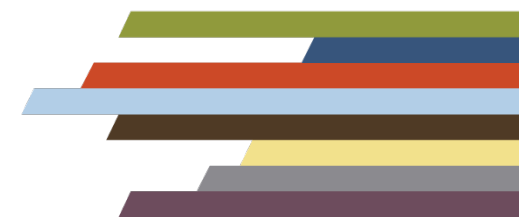
John Young
University of Mississippi

Clinical psychological science has developed many efficacious treatments for diverse emotional and behavioral difficulties encountered by children and adolescents, although randomized trials investigating these treatments have disproportionately been conducted by American, university-based research labs. The subsection of the world population involved in these studies, however, represents very few people among those in need of psychological services whose voices, perspectives, and orientations to therapy have not generally been reflected in well-funded research



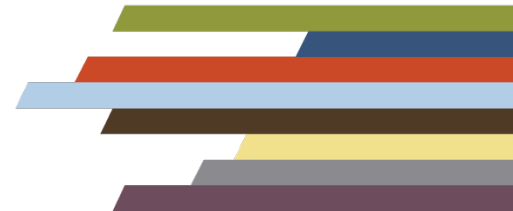
Key Observations and Lessons Learned

- The **Community-Based Participatory Research (CBPR)** approach was “**critical** to establishing programs, and quickly addressing mistakes or needed adaptations ...” (Orengo-Aguayo, Arellano, Villalobos, et al. 2020, p. 1171)
- [Problems encountered] forced the team to “step back” and look at problems encountered from a new perspective
- It was “sometimes necessary to implement procedures that the teams viewed as nonoptimal or undesirable, to foster truly collaborative efforts with sites” (p. 1172)



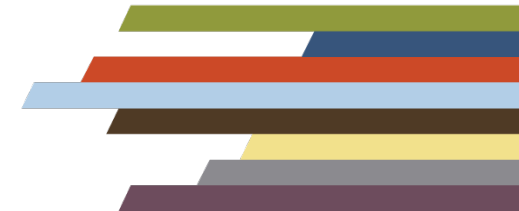
Key Observations and Lessons Learned

- [It was] the duty of the research team to **listen to the organization** and demonstrate that **researchers were truly their partners** and **worthy of trust** and **investment of time**
 - (Orengo-Aguayo et al., 2020, p. 1172)
- [Making] “**changes in real time** benefitted from **detailed process notes** to more carefully **inform decision making** [that] facilitated greater **success of adaptation efforts.**” (p. 1172)



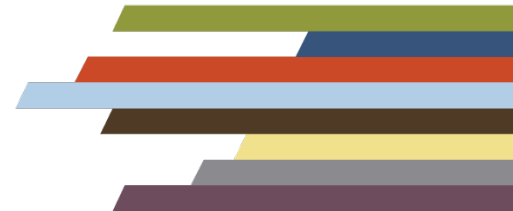
Key Observations and Lessons Learned

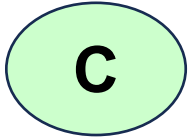
- **Tangible reinforcement** [provided to collaborating partners] were so effective that the team developed an ***somos equipo*** (we are a team mindset), [that] conferred ownership, meaning, and orientation to the cause.”
 - (Orengo-Aguayo, Arellano, Villalobos, et al. 2020, p. 1172)



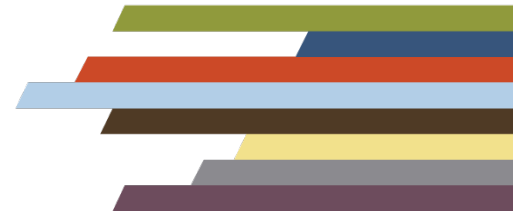
Comments on the CBPR Approach

- Principles of CBPR emphasize community partnerships, promoting empowerment, and building community capacity as core approaches for effective EBI/EBP implementation
- EBPR is a core approach in designing effective implementation strategies



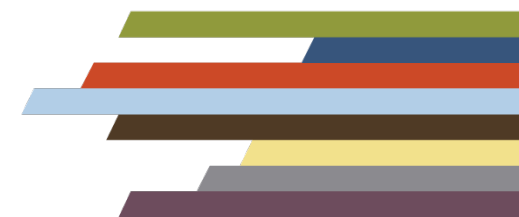


Identifying and Utilizing Cultural Factors



About Cultural Factors

- **Cultural factors are concepts/constructs** that capture and describe important life values and experiences involving the ethnicity and culture of diverse Latinx/Hispanic individuals, families, and communities.”
 - (Castro, Berkel, & Epstein, 2023)
- Understanding the value of **Latinx cultural factors** and **incorporating them into implementation strategies** can reduce barriers and inform the development of **culturally responsive** intervention implementation strategies



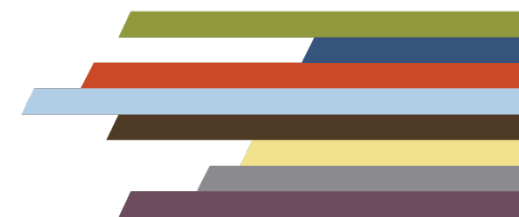
Two Salient Latinx Cultural Factors

- **Bicultural Stress**

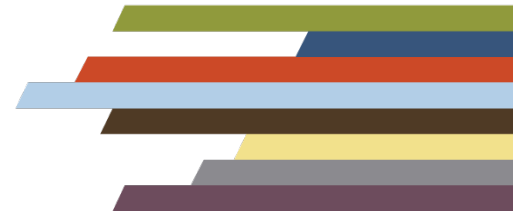
- “... efforts at adaptation to a new culture or setting are often stressful,” [based on] “exposure to conflicting sociocultural stressors, including discrimination, and structural barriers to social and economic mobility.”
 - (Castro, Berkel & Epstein, 2023, p. 08)

- **Familism/*Familismo***

- Family expectations can be warm and fulfilling or at times oppressive, as noted that “.... traditional Latinx family expectations and ascribed caretaker roles create burdens for a single family member who is expected to serve as the sole family caretaker (p. 08)

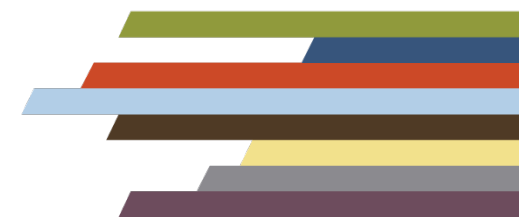


- **The Expert Recommendations for Implementation Strategies (ERIC) Project**
 - This project identified 73 implementation strategies
 - (Powell, Waltz, Chinman, et al, 2015)
 - As noted, none of these strategies mentioned or alluded to cultural factors
 - (Castro et al., 2023)
 - Culturally specific factors also exist within the cultures of other racial/ethnic groups and these can also be incorporated into relevant implementation strategies



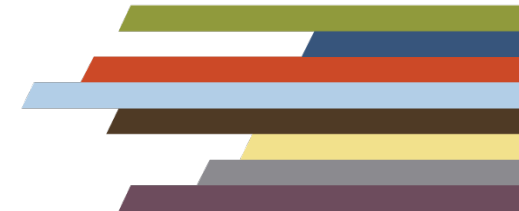
Cultural Factor Integration into an Implementation Strategy

Implementation Strategy	Possible Expansion with Cultural Factors
<ul style="list-style-type: none">• Tailor Strategies	<ul style="list-style-type: none">• Tailor implementation strategies to address barriers and leverage facilitators identified through earlier data collection, <i>to examine the relevance and application of certain Latinx cultural factors into this tailoring process</i>
<ul style="list-style-type: none">• Note: Adapted from Table 3 in Powell et al., (2015) (pp. 9-10)	



Comments on Utilizing Cultural Factors

- Given the importance of **cultural factors** as central concepts/constructs that exist at the core of the **cultural experiences** of many people of color, applying cultural factors in the **cultural tailoring of implementation strategies** can increase the **cultural relevance** of those strategies for people of color

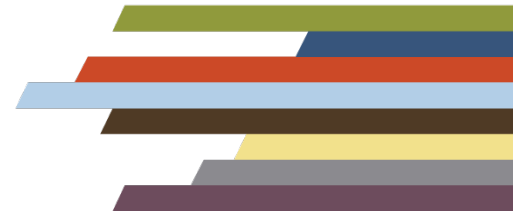


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The Mixed Methods Approach

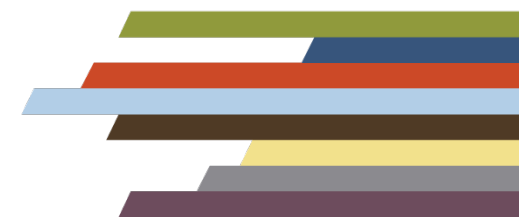


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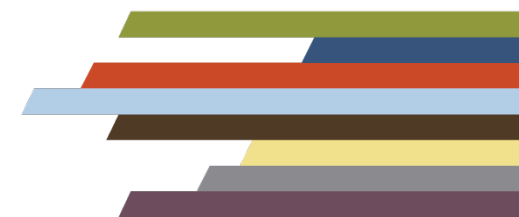
What is Mixed Methods Research?

- **Mixed Methods Research** – features the “*integration of qualitative and quantitative research and data in a research study.*”
 - (Creswell & Creswell, 2018, p. 14)
- **QUAN – High confirmatory but low explanatory**
 - Specific and **precise results** yet limited in rich and nuanced details
- **QUAL – High explanatory but low in confirmatory**
 - **Rich and nuanced**, informative results yet low in precision and capacity for formal testing



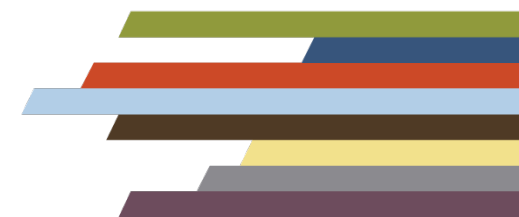
Aspects of Greater Yield

- Mixed methods approaches can aid in “**Unpacking**” a **Complex Construct** – to reveal deeper meaning and **cultural insights**. Complex constructs include:
 - Culture
 - Ethnic Identity
 - Resilience
- **Context** consists of “**surrounding**” environmental **conditions** ... that can produce “*effect modification,*” (moderation)
 - (Castro, Shaibi & Boehm-Smith, 2009)
- A significant **moderator variable effect**, e.g., by **Gender** (male, female) can reveal a ***conditional effect*** which differs by levels of the **moderator variable**, e.g., different intervention outcomes for women versus men.



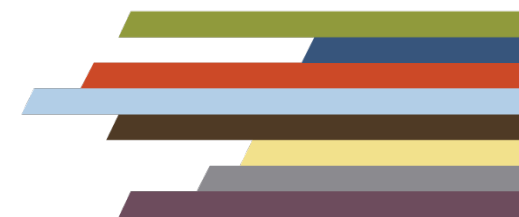
The Best of Both Forms

- **Rigorous well designed mixed methods research studies** can capitalize on the strengths of QUAL and QUAN approaches – to yield the “**best of both**”:
 1. **QUAN - hypothesis testing and confirmatory results**
 2. **QUAL – rich data, greater explanation, and discovery**
 - (Castro, Morera, Kellison, Aguirre, 2014)
- Mixed method approaches are applicable to **Dissemination and Implementation Research**, to facilitate the **transfer of science to practice**
 - (Brownson, Colditz & Proctor, 2012)



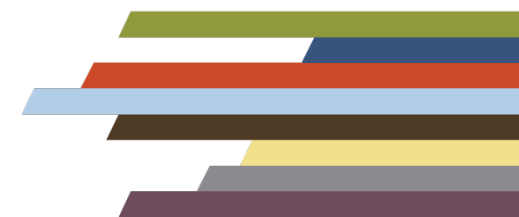
Major Mixed Methods Designs

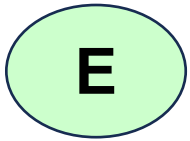
- Classical Mixed Methods designs include:
 - **Convergent** – A single phase design having QUAL and QUAN data
 - **Sequential** – A **Two Phase** design with the order of QUAL, QUAN data gathering governing the design type: **sequential exploratory**, or **sequential explanatory**
 - **Multi-Phase – Three Phases** - often with the MM data gathering in the middle
 - (Creswell, 2018, pp. 141-144)



Comments about the Mixed Methods Approach

- Mixed Method research designs offer greater **depth of analysis** to **better inform** EBI/EBP design and implementation
- Mixed Methods designs provide value added results. A mixed methods design can be embedded into a **classical factorial experimental design** (classified as a complex MM design), to yield results that are both **rigorous** and having greater **explanatory power** from the **qualitative text narratives** embedded within the components of the factorial experimental design

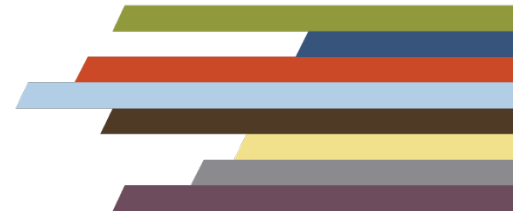




Building in EBI Sustainability

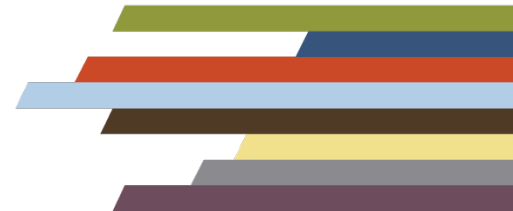


Applied Prevention Science International



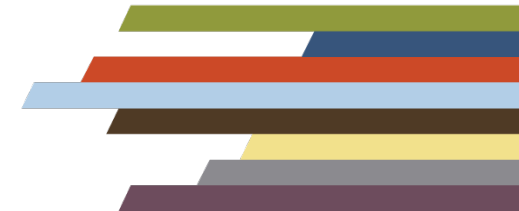
Challenges of Intervention Sustainability

- Major challenges to EBI/EBP sustainability include:
 - Low **funding** and **resources**
 - Low **intervention/program fit** within a clinical or community setting
 - Inability to **maintain essential staff**
 - Lack of **leadership** among administrators and/or staff



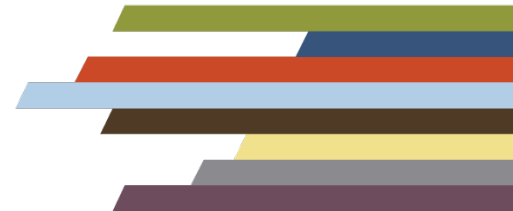
Challenges of Intervention Sustainability

- *“How can I incorporate the intervention so that it is delivered over the long term?”*
 - (Glasgow et al., 2019, p. 4).
- Intervention programs often exhibit **high attrition rates** unless supported by ongoing post-intervention contacts
- A partnership with the intervention delivery system aids in intervention sustainability
- [We] “need to understand the dynamic complex multi-level factors related to sustainment.”
 - Glasgow et al., 2019, p. 4).



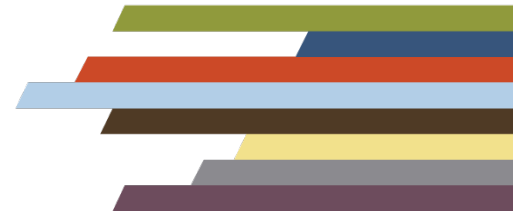
Comments about Intervention Sustainability

- The adoption, adaptation and sustained delivery of an EBI/EBP within a given setting is an abiding challenge
- Unless the intervention is institutionalized, this deliver may fade in time
- Sustaining an intervention or program requires commitment and ongoing efforts to promote and sustain it; an ongoing commitment to the intervention's sustainability is necessary



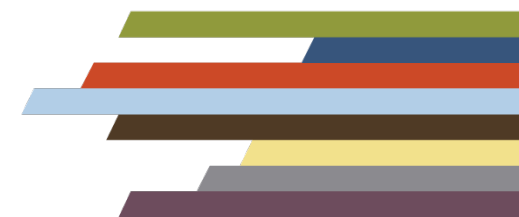
III

Open Discussion: Issues and Approaches



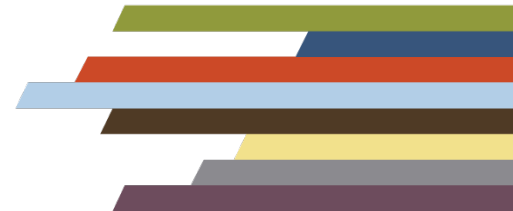
Emerging Answers to the Overarching Question

- *How do we adapt interventions (EBIs, EBPs) for fit and effective delivery within various delivery systems and with diverse population sectors? Some key points are:*
 - Conduct planned and planful adaptations
 - Monitor an adaptation's process and outcomes
 - Utilize monitoring data to inform adaptation decisions
 - Create a supportive infrastructure for assessing and evaluating adaptations
 - Create an oversight committee to maintain quality control over adaptation efforts



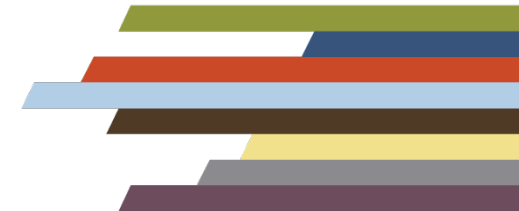
Some Emerging Questions

- How can we evaluate that an adaptation maintains and is congruent with the original aims of the evidence-based intervention?
- What standards can aid in assessing changes in the original intervention?
- What considerations are needed for sensitivity to complex cultural issues when planning a cultural adaptation?



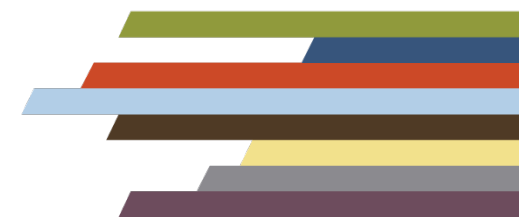
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