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Cultural challenges for adapting behavioral intervention frameworks: A critical examination from a cultural psychology perspective

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Abstract

We introduce the bias and equivalence framework to highlight how concepts, methods, and tools from cultural psychology can contribute to successful cultural adaptation and implementation of behavioral interventions. To situate our contribution, we provide a review of recent cultural adaptation research and existing frameworks. We identified 68 different frameworks that have been cited when reporting cultural adaptations and highlight three major adaptation dimensions that can be used to differentiate adaptations. Regarding effectiveness, we found an average effect size of z_r = .24 (95%CI .20, 29) in 24 meta-analyses published since 2014, but also substantive differences across domains and unclear effects of the extent of cultural adaptations. To advance cultural adaptation efforts, we outline a framework that integrates key steps from previous cultural adaptation frameworks and highlight how cultural bias and equivalence considerations in conjunction with community engagement help a) in the diagnosis of behavioral or psychological problems, b) identification of possible interventions, c) the selection of specific mechanisms of behavior change, d) the specification and documentation of dose effects and thresholds for diagnosis, e) entry and exit points within intervention programs, and f) cost-benefit-sustainability discussions. We provide guiding questions that may help researchers when adapting interventions to novel cultural contexts.

Keywords: cultural adaptation, behavioral intervention, culture-sensitive therapy, equivalence and bias, cultural universals, fidelity vs adaptation,

Human behavior is cultural by definition – individuals' actions, whether good or bad, are partially shaped by the environment, or cultural context, in which they perform these behaviors. As a result, interventions that aim to change behavior need to attend to the possibilities and demands placed upon humans within their cultural context. Behavioral interventions typically originate in one cultural context and are subsequently applied to a different cultural context, requiring attention to a) the implicit and explicit cultural assumptions already embedded within these interventions and b) the appropriateness and acceptability of such interventions as perceived and utilized by new audiences, users, or clients to support intervention effectiveness (Proctor et al., 2011).

This has resulted in a major debate about the trade-offs between fidelity to the original intervention and the need for cultural adaptation to maximize effectiveness and adherence in different settings from the original intervention context (Baumann et al., 2017; Carvalho et al., 2013; Parra Cardona et al., 2012). Even modest cultural adaptations may increase the effectiveness of behavioural health interventions in face-to-face settings (Arundell et al., 2021; Degnan et al., 2018; Griner & Smith, 2006; Hall et al., 2016; van Mourik et al., 2017), but significant challenges remain in understanding what needs to be adapted, how it may be adapted and how any adaptations can be assessed in a culturally appropriate way. These questions around adaptation compound challenges about costs and sustainability across delivery modalities, populations, and intervention domains (Balci et al., 2022; Chu & Leino, 2017; Dawson et al., 2020; Day et al., 2023; Haft et al., 2022; Heim & Kohrt, 2019; McCleary & Horn, 2023; Sanders et al., 2022; Spanhel et al., 2021).

In this paper, we aim to contribute to these debates in two ways. First, we synthesize and integrate a number of recent cultural adaptation frameworks with a more explicit discussion of culture and cultural bias. To do so, we introduce concepts and insights from cultural psychology to highlight how inquiries into human universals and the associated importance of cultural equivalence and bias can contribute to the conceptualization, application, and evaluation of interventions across cultural communities. By using a philosophical-empirical framework situated within cultural psychology to systematically question the unity of the human mind and behavioral expressions, we can provide guidance on essential steps to include in a cultural adaptation framework. This work also offers new perspectives and tools for the challenging task of identifying core intervention components and change theory that are central to the fidelity-adaptation discussion. This cultural psychology framework is also relevant to the assessment of intervention effectiveness in culturally appropriate and sensitive ways. Second, we offer recommendations for *how* cultural adaptation of interventions can be achieved, that is a process or step model of cultural adaptation which explicitly draws upon current literature in cultural and cross-cultural psychology, clinical psychology, intervention science, anthropology and public health. We provide a broad review of existing frameworks and discuss core steps and methods for cultural adaptation of behavioral health interventions. To help further refinement of cultural adaptations, we list key questions that we have found useful when considering adaptations of interventions for novel cultural contexts.

Behavioral interventions

Behavioral health interventions include a wide variety of interventions that target behaviors and aim to improve health and wellbeing of individuals and populations. These include standard psychological therapies (e.g. Cognitive Behavioral Therapy or Acceptance and Commitment Therapy), health interventions focusing on improving and maintaining healthy behavior and reducing unhealthy behavior (e.g. promoting healthy diet and exercise, safe sexual practices, and reducing smoking or alcohol consumption), interventions that promote healthy mindsets (e.g. activities emphasizing stress-management, mindfulness, problem solving, and positive thinking), parenting interventions (Cai et al., 2022; Gardner et al., 2016; Parra-Cardona, Banderas Montalva, et al., 2023; Wieling et al., 2017), and workplace interventions that help clinicians maintain focus and improve patient-doctor outcomes (Ajzen, 1991; Armitage & Conner, 2001; Baglioni et al., 2020; Fischer et al., 2020; Fischer & Hartle, 2022; Zulman et al., 2020). Interventions are often designed and implemented by healthcare systems or organizations in an attempt to address a specific behavioral, social, medical, or public health challenge. Given the costs, time and energy invested in designing an effective intervention, it is often more practical and efficient to adapt existing interventions to new contexts rather than design something new from the bottom-up.

However, any intervention that aims to change attitudes or behavior involves culturally shaped cognitions and habits because all cognition and behavior is culturally molded. This simple fact of human behavior requires careful attention to both culturally shaped affordances and barriers of relevance for the effectiveness of the intervention. For example, mental health challenges are strongly influenced by cultural processes and dynamics, with the etiology, symptom expression, diagnosis, treatment options, and compliance to treatment being intimately intertwiined with the problem that thet intervention aims to address. Interventions therefore require a thorough understanding of the local explanatory models and symptoms (Heim & Kohrt, 2019). Here we follow the definition of cultural adaptation widely used in the literature as "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 et al., 2009, p. 362).

To provide some overview of the current state of the literature on cross-cultural adaptations, we conducted a literature review on November 17, 2023 using the terms 'cultural adaptation' in combination with '*intervention'* and either '*review'* or '*meta-anal**' or '*framework'* in titles, abstract, and keywords to search for relevant publications indexed in PubMed and PsycINFO. We found a total of 627 unique articles (see Figure 1 and Tables 1 and 2 in the supplement for more information). We focused systematically on reviews and meta-analyses as these indicate a) areas of particular interest for researchers and practitioners, and b) areas with sufficient volume of studies to warrant a review of available evidence. We also included primary research and intervention studies from both the literature search as well as reference lists in our review.

The challenges of culture and levels of cultural adaptation

Definitions of culture are highly variable but within the social and behavioral sciences a few core features can be distinguished (A. B. Cohen, 2009; Faulkner et al., 2006; Fischer, 2012, 2017). Culture is most often defined as information or meaning that is shared within a community, transmitted from one generation to the next, that to some extent differentiates communities from each other (A. B. Cohen, 2009). Psychologically relevant elements within culture include beliefs, attitudes, norms, and values, as well as available knowledge relevant to and influencing the selection and execution of behaviors. Culturally shared practices and information may help stabilize or interfere in the intervention implementation process and as a result, culture needs to be considered by practitioners when deciding which interventions to implement and how they should be implemented. At the same time and probably not surprising given the complexity of the topic, studies reporting cultural adaptations typically evade explicitly defining the term culture (Albin et al., 2022). Culture in most cultural adaptation studies becomes a 'black-box' or 'unpacked concept' which is the target of the intervention but remains vaguely defined. Importantly, interventions that are successful and beneficial in one context may produce unintended negative consequences when applied in novel contexts (Farias et al., 2020; Farias & Wikholm, 2016; Gibson & Mace, 2006; Montero-Marin et al., 2022). The complex interdependence of the target of the intervention, the problem motivating the need to intervene, and the cultural context within which the intervention is situated is often not sufficiently recognized in cultural adaption research (Kalibatseva & Leong, 2014).

A Taxonomy of Cultural Adaptations

Cultural adaptation frameworks can be differentiated into models that consider which intervention content may need to be adapted (content adaptations, the '*what'* question), the processes or steps needed for a sucessful adaption (the '*how'* question), or a combination of the two (Ferrer-Wreder et al., 2012). Cutting across these differences, cultural adaptations can target elements at different levels and points within an intervention program (Sangraula et al., 2021). These are surface vs deep adaptations, adaptations of peripheral vs core components or elements in an intervention and the fidelity vs adaptation (cultural fit) trade-off.

Surface vs Deep Adaptations

The most frequently discussed distinction is between *surface* vs *deep adaptations* (Resnicow et al., 1999, 2000). Surface adaptations focus on relatively superficial aspects of an intervention such as translations of key terms or changing specific examples, whereas deep adaptations focus on underlying values, norms, traditions, beliefs, and perceptions. This deeper level is where discussions of fidelity-vs-adaptation are typically focused because it is assumed that deep adaptations affect the core aspects of the intervention. However, we separate the concept of deep adaptations and adaptations of core components, because deep interventions focusing on values, beliefs or goals may or may not intersect with the core components of the intervention. For example, the identification with a specific deity or location (e.g., natural spirits as guiding forces of individuals) may be a deeply held cultural belief and could influence cultural models of illness (Heim & Kohrt, 2019; Hinton & Patel, 2017; Kohrt

et al., 2014), yet referring to such deeply held beliefs for a specific behavioral intervention (e.g., smoking or dietary changes) may be peripheral to the change theory and may not be relevant for how the intervention actually works.

Adaptations of peripheral vs core components

Therefore, we argue that a second distinction can be made in terms of adapting *core* or *peripheral* elements of the intervention (Kreuter et al., 2003). Core elements are the main evidence-based ingredients of the intervention integral to the treatment, whereas peripheral elements include components that are relevant for the acceptability or the feasibility of the intervention; they are present to support the core elements and contribute to the achievement of the goals of the intervention (Carroll et al., 2007). However, these peripheral elements are not actually the active ingredients of the intervention, they only help to deliver and make the core ingredients relevant and meaningful for participants. Peripheral elements often help in making interventions accessible and engaging for participants and increase adherence (Baumann et al., 2015; Chu & Leino, 2017). An example might be redrawing picture cards or using culture-specific metaphors or rituals to make the examples relevant and relatable for participants and their local context, while keeping core messages constant across different versions of the interventions (Hinton et al., 2012; Nisar et al., 2020).

Fidelity vs adaptation

The last distinction that can be made when talking about the cultural adaptation of interventions is along the classic fidelity vs cultural adaptation dilemma (Castro et al., 2010). The former focuses on following tried and tested methods from previous settings to maintain its documented effectiveness, while the latter emphasizes enhancing the cultural fit, which may result in changing core aspects of the intervention program. Cultural adaptations are also more costly to develop and require additional work and time, which may make them less desirable for some implementers compared to an unaltered adoption of the original intervention. However, it should be noted that fidelity vs cultural adaptation questions are not necessarily in conflict with each other, if a clear change model exists and the 'functional fidelity' of the intervention within a specific cultural context can be identified (Evans et al., 2021). If the core aspects of the intervention are not clearly defined, then the adaptation process should ideally follow a balance between these two competing demands and careful validation is necessary.

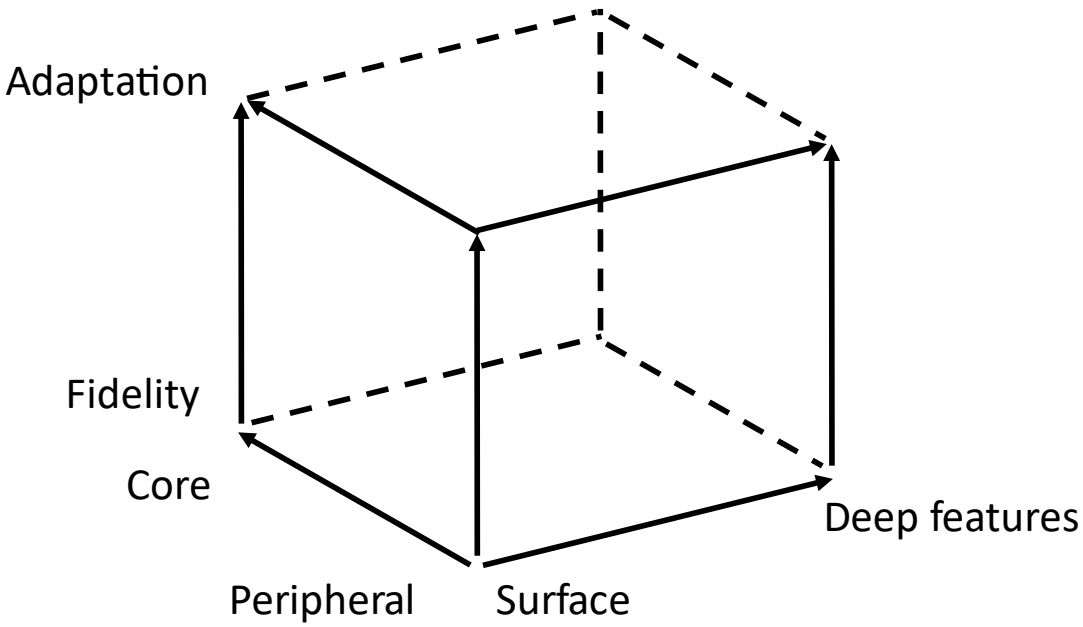
A Cultural Adaptation Cube – Integrating the Three Adaptation Dimensions

These three concerns of surface vs deep, peripheral vs core and fidelity vs adaption/fit can be considered semi-independent, and any intervention component may be analyzed along each of these dimensions (see Figure 1). For example, it may be possible to adapt a surface feature such as changing the colors of symbols or deep features such as invoking religious belief structures that are peripheral to the active ingredients of the intervention program (e.g., interaction patterns in patient-doctor communication). Or a practitioner may decide to keep a specific therapeutic exercise because it is considered core to the program (e.g., mindful breathing and yoga activities) even though it evokes slightly different values in the new cultural context (where yogic exercises are considered part of a

different spiritual context, therefore crossing deep cultural features but maintaining fidelity through the implementation of a core intervention component). It is important to note that these three distinctions in practice may blur and even may appear contradictory in specific contexts. One clear example of this dilemma is the discrepancy between the effectiveness of culturally adapted face-to-face interventions and the lack of documented effectiveness for culturally adapted digital and online interventions (Arundell et al., 2021; Fischer et al., 2020; Griner & Smith, 2006; Hall et al., 2016; Spanhel et al., 2021, 2021). Even though the choice of who delivers an intervention program (e.g., a therapist vs a local healer) may seem a surface change, it may actually alter core elements of the intervention by affecting the therapeutic alliance (Cuijpers et al., 2019), which may be one of the main drivers of the effectiveness of cultural adaptation of face-to-face interventions (Arundell et al., 2021). Carefully examining how different dimensions of an intervention take on new meaning in novel contexts can help bring clarity on which intervention characteristics require adapting.

Figure 1.

Schematic representation of three major cultural distinctions within cultural adaptation



Note: Any component of an intervention can theoretically be analyzed in relation to these three semi-independent dimensions. Surface adaptations focus on superficial cultural aspects (e.g., colors schemes, translations), whereas deeper adaptations modify underlying cultural values, norms, traditions, or beliefs. Core elements are the main evidence-based ingredients of the intervention integral to the treatment, whereas peripheral elements include components that are relevant for the acceptability or the feasibility of the intervention and support the goals of an intervention (but are not active ingredients of the intervention itself). Fidelity emphasizes maintaining content and methods according to theory, whereas cultural fit emphasizes adaptation to meet local cultural or social needs

(and may result in changes to theoretically relevant content as a result). Any intervention component may be high or low on any of these three gradients and therefore can be represented along a position within this three-dimensional theoretical space.

It is also important to stress that cultural adaptations typically involve discrete choices of whether to adapt or modify a specific feature of an intervention. For example, decisions need to be made on whether to change (or not) a specific example or illustration, whether to substitute a metaphor or not, whether to match the therapist to one or more demographic characteristic of the patient or client, or whether to maintain (or not) a specific activity in the program (e.g., is maintaining a written diary feasible for a population with basic literacy levels). The number and qualitative evaluation of these choices can then be arranged in terms of the degree of adaptation, leading to a continuum of cultural adaptation along these three considerations (see Figure 1). This view of cultural adaptation as a spectrum is gaining traction in the literature and underlies efforts to examine whether the degree of adaptation may enhance effectiveness (Castellanos et al., 2020; Degnan et al., 2018).

Evidence for the Effectiveness of Cultural Adaptations

In our review, we identified 25 quantitative reviews or meta-analyses that included statistical analyses of cultural adaptations within the last decade (Table 1 in the supplement). Twelve of these were concerned with mental health or psychopathology (Akarsu et al., 2019; Anik et al., 2021; Arundell et al., 2021; Castellanos et al., 2020; Degnan et al., 2018; Escobar & Gorey, 2018a, 2018a, 2018b; Hall et al., 2016; Huey et al., 2014; Li et al., 2023; Vally & Maggott, 2015; Wright et al., 2020), five analyses specifically considered the effectiveness of cultural adaptations of parenting interventions (Gardner et al., 2016; Gillespie et al., 2022; Lim et al., 2023; Liu et al., 2020; van Mourik et al., 2017), four on substance use (Bo et al., 2023; Contreras-Perez et al., 2023; Hernandez Robles et al., 2018; Steinka-Fry et al., 2017), one focused on HIV prevention (Ruiz-Perez et al., 2017), one on socio-emotional learning (H. Chen & Yu, 2022) and one on generic behavioral and cognitive variables (Sundell et al., 2016). Of these meta-analytic summaries, seventeen explicitly focused on interventions with historically marginalized communities. This distribution of meta-analyses suggests that mental health interventions and interventions within historically marginalized communities (predominantly within the US and Western Europe) have attracted the most interest. Using an unweighted average across all meta-analytic comparisons and excluding one study that focused on subgroup analyses (Escobar & Gorey, 2018b), the estimated Cohen's d was .523. Running a sample-size weighted random effect meta-analysis, the mean effect size was z_r = .244, 95%CI [197, .291], p < .001 that corresponds to a Cohen's d of .503.

However, we also found substantive heterogeneity across domains (QM = 8344.73, df = 4, p < .001, using a random effects model), with the largest mean effect for psychopathology focused interventions (z_r = .332, 95%CI[.323, .341]), followed by parenting interventions (z_r = .274, 95%CI[..254, .293]), and substance abuse focused interventions (z_r = .133, 95%CI[.117, .150], all

other interventions had an averaged effect of z_r = .147, 95%CI[.141, 154]). These effect sizes were not overlapping (except for the substance use with all other interventions) and suggest differential effectiveness of cultural adaptations across domains.

We found a lower effectiveness of cultural adaptations within historically marginalized communities (QM = 228.45, df = 1, $p < .001$; *beta* = -.095, 95%CI[.-.107, -.082]). Meta-analyses testing mostly cognitive behavioral interventions reported increased effectiveness compared to other interventions(QM = 115.67, df = 1, $p < .001$, *beta* = .064, 95%CI[.053, .076]).

Examining these broad patterns across the available meta-analytic summaries, the first conclusion to be drawn is that cultural adaptations overall are effective. However, there is substantive heterogeneity in the effect sizes as indicated in the original meta-analyses and by our broad assessment of comparing the target outcome, population, and intervention type. As shown in Supplementary Table 1, there is also concern about comparison groups, with effect sizes contrasted with waitlist and no intervention control groups typically showing greater effectiveness.

Five meta-analyses reported statistically significant advantages of deep adaptations, a greater number of adaptations, or cultural tailoring compared to more surface-level adaptations or general cultural adaptations (Degnan et al., 2018; Escobar & Gorey, 2018a, 2018b; Huey et al., 2014; van Mourik et al., 2017).

Focusing on the qualitative reviews, one clear trend is an increase in the number of cultural adaptations overall (e.g., Yim & Schmidt, 2023). At the same time, the qualitative evidence in the reviews points to low prevalence of cultural adaptation for specific populations and target problems, e.g., interventions supporting individuals with autism spectrum disorder (Davenport et al., 2018), cultural adaptations of mindfulness (DeLuca et al., 2018), or interventions to reduce stigma towards mental illness in low and medium income countries (Mascayano et al., 2020).

A recurring theme across the meta-analyses and reviews was the difficulty determining what counts as a deep level adaptation. For example, Heim and Kohrt (2019) highlighted that the target of interventions, the change theory, and delivery methods often vary across cultural contexts. However, they pointed out that the awareness of cultural impact on the intervention process has not led to a comprehensive research program that systematically addresses these questions. Furthermore, Chu and Leino (2017) reported that only 11% of interventions attempted core changes to intervention programs, but 60% added complementary core components to address culture-specific issues. Most reviews and meta-analyses used variations of the Ecological Validity Framework (Bernal et al., 1995) and deep vs surface modifications (Resnicow et al., 2000) to classify adaptations. Unfortunately, which of the adaptations identified in reviews may impact core change mechanisms within the intervention was often left unspecified. For example, matching of intervention provider (therapist, trainer, or counsellor) to the ethnicity of the participant is a person element in the EVF which is often a surface characteristic, but it may actually involve core treatment changes if this changes the therapeutic alliance (see our discussion above).

Cultural universals and the equivalence vs bias framework

The challenge of cultural adaptation is linked to fundamental questions in the development, delivery, and evaluation of intervention programs (Boness et al., 2021; Tolin et al., 2015). Two central questions in current best practice for recommending any intervention are a) the functions, core components or theory of change that underlie any intervention and b) the strength of the effect, including dose effects. Although behavioral interventions tend to produce significant effects on target behaviors overall, the factors underlying these effects are often unclear (Cuijpers et al., 2019, 2020; Lipsey, 1996; Lipsey & Cordray, 2000). Relatedly, what is deemed sufficient clinical evidence to support and recommend an intervention needs to be considered (Tolin et al., 2015). These concerns take on additional importance when considering the application of interventions in a different cultural context. Culturally based implicit knowledge and meaning systems, which influence the intervention's effectiveness, may be shared between the intervention implementer and end users of the implementation. These knowledge and meaning systems, that form part of the core or peripheral elements, may become disconnected when adapted to a new context (Castro et al., 2010; Hinton & Patel, 2017).

Within the cross-cultural literature, these issues relate to questions of cultural universals and the bias versus equivalence question (Fontaine, 2011; Norenzayan & Heine, 2005; Van De Vijver & Poortinga, 1982). Human cultural universals refer to the assumption that mental or behavioral attributes are shared by all of humanity, conversely cultural variability refers to the assumption that specific mental or behavioral attributes are distinct or different across human populations. Human cultural universals can be probed via systematic questions about equivalence or bias in concepts and measurement (Table 1). The most fundamental level of equivalence is functional equivalence, which assumes that the same mental construct exists in two or more cultural contexts. Structural equivalence assumes that a mental construct is expressed via the same behavioral manifestations. Metric equivalence assumes that specific behavioral manifestations are linked to the same degree with the specific mental construct in each of the cultural contexts. Full score or scalar equivalence assumes that the probability of a behavioral manifestation is fully accounted for by the mental construct (Fischer et al., 2023; Fontaine, 2005). The discussions of equivalence are often situated within a psychometric perspective, but the larger philosophical implications of the equivalence and bias framework, with a view on cultural universals, are directly relevant for culture theory in general (Fischer et al., 2023; Fontaine, 2011) and cultural adaptation work in particular (Day et al., 2023; Evans et al., 2021; Hall et al., 2016). Addressing these questions has led to the development of conceptual frameworks that can provide new insights for cultural adaptation of interventions. Here, we draw out some of the insights of relevance to our current discussion.

- Insert Table 1 about here -

Psychological universals are postulates that assume core mental attributes are shared among all of humanity (Norenzayan & Heine, 2005). Distinct types of universals can be differentiated depending on

how these mental attributes are operating and are expressed in day-to-day activities. For example, a specific mode of thinking (e.g., analytical vs holistic reasoning, Nisbett et al., 2001) may be available to all individuals independent of culture, but how this mode of thinking is used may differ across cultures, which leads to an existential universal. If people use the same mode of thinking for the same purposes but with different frequency, it is considered a functional universal (which nevertheless varies by accessibility across populations). If a mode of thinking is used in the same way and it is equally accessible, it is considered an accessibility universal. Other forms of universals have been suggested and we refer interested readers to these sources (Fontaine, 2011; Lonner, 2011; Norenzayan & Heine, 2005).

Although the discussion of universals is often rather abstract and philosophical, the practical implications are tremendous, as they challenge practitioners to systematically think through complex problems that motivate interventions (e.g., what is mental health, depression or addiction?). As the question about universals often focuses on the relative availability and expression of mental attributes, it also raises important questions for interventions such as mechanisms of behavior change. What kind of behavioral change would result in what type of mental change and to what degree in a specific cultural context? As these questions can only be answered relative to empirical observations, the quest for understanding universals is intimately tied to the quality of observational data that is generated across cultural groups (Fontaine, 2011; Van De Vijver & Poortinga, 1982).

At the most general level, we can ask about the basic functions of a concept. For example, what is the nature of depression and how is the concept understood across different cultures? This is often referred to as the search for functional equivalence (Fontaine, 2005). From a practical perspective, it is often useful to consider whether there is a linguistic representation of the concept or whether the concept can be said to be functionally useful or relevant for behavior, even though the specific cultural group may not have an explicit linguistic representation. Emotional processes are a good point in case, especially with recent claims about cultural relativism in emotion processing (Barrett, 2017; Barrett et al., 2019). A careful consideration of the specific context is necessary. It is possible to identify specific emotional states and processes such as shame or guilt via careful observation of behavioral expressions in specific contexts, even if the groups do not have explicit linguistic or mental representations of the concept (Breugelmans & Poortinga, 2006). Terms denoting states of anxiety or depression may be different or absent in a specific context, with no easily translatable term available to convey the core psychological concept or relevant behavioral expressions. Culture-specific expressions are most often studied in the context of culture-bound syndromes (Kohrt et al., 2014), culture-specific family models (Mayer et al., 2012) or ethno-historical discussions of substance use (Durrant & Thakker, 2003), but these cultural considerations are essential for understanding change theories underlying interventions (Asiimwe et al., 2023; Heim & Kohrt, 2019; Hinton & Patel, 2017).

The absence of a functionally equivalent concept is typically interpreted through the lens of cultural relativism, which make cultural adaptation challenging, if not practically impossible. In contrast to this

relativistic assumption, cultural adaptations may proceed if there is an assumption of functional equivalence, even in the absence of explicit linguistic or cultural terms that capture the psychological construct. Functional equivalence would imply that the concept of interest to be targeted by the intervention together with core design elements of the intervention are applicable. In such cases, considerably more work needs to be focused on translating, explaining and communicating the concerns in culturally appropriate ways. The concept of functional equivalence is also intimately related to recent discussions about the role of 'functional fidelity' (Evans et al., 2021), which implies that the same theory of change is applied but the specific activities or components are changed or adapted in line with the local expectations, norms and cognitive models. Considering these recent discussions within the intervention science, a more careful engagement with cultural psychology research can provide novel ways of moving forward.

If there is the assumption of functional equivalence, the relevant questions to be asked next are a) how the concept is expressed or b) how a core design element of the intervention needs to be expressed within the cultural context. At this stage, of examining construct equivalence, questions indicating relevance and representativeness become central (Fontaine, 2005). For example, a practitioner may ask about the relevant and representative symptoms of depression, which often include somatic symptoms that are difficult to identify (Fried et al., 2016; Tylee & Gandhi, 2005; Vaccarino et al., 2008) or may vary across cultural groups (Hinton & Otto, 2006; Kanazawa et al., 2007; Simon et al., 1999). At this stage, practitioners need to pay particular attention to culture-specific expressions that need to be considered for adapting the intervention, because failing to do so may miss important behavioral expressions that need to be included in the intervention.

Similarly, questions about the core design principles of the intervention and the peripheral supporting elements need to consider whether activities or tasks are connected to the target of the intervention. These questions span functional and structural equivalence discussions. In the mental health sphere, culturally variant expressions of non-ordinary experiences such as hearing voices, dissociative states or thought intrusions are classic examples (Taves, 2020; Taves & Barlev, 2022). Such experiences can be interpreted an individual as indicating a mental health problem which may require medical attention or having a particular spiritual or religious talent (e.g., connecting with a different existential sphere, which may be called upon for healing instead of being an expression of a mental health problem). An example of such can be seen in the Aotearoa New Zealand context, where hearing, seeing, and communicating with ancestors is normative within the Māori (the local indigenous peoples) worldview, and these abilities are seen as gifts, not as symptoms of mental illness (See NiaNia et al., 2017 for a rich reconciliation of Māori spiritual healing and psychiatric approaches).

Failing to understand specific expressions may result in misdiagnosis and inappropriate treatment (McCauley & Graham, 2020). Therefore, an important step for practitioners in this process is that they make sure that any screening instrument, protocol, or diagnostic tool captures the whole domain or range of the construct of interest. Are all relevant domains and symptoms captured? If not, the

instrument or protocol suffers from domain underrepresentation because it does not capture valid and representative information about the concept to be targeted by the intervention. Similarly, questions need to be asked about the specific core design principles and whether they are relevant for addressing the target behavior of the intervention in the specific cultural community. For example, culturally shaped practices that can be used to induce mindfulness vary significantly across cultures (Karl et al., 2022). Core change concepts embedded within intervention models may not be compatible with traditional health or illness models, leading to misunderstandings and intervention barriers (Waterman et al., 2019). Within the context of cognitive-behavioral therapy, the concept of explanatory model bridging refers to similar discussions between therapist and client to align mutual understanding of the therapeutic process (Hinton & Patel, 2017). Practitioners and interventionists may want to adopt relevant therapeutic principles that parallel the core intervention process within the local cultural context to enhance understanding and thereby effectiveness.

Two more stages can be differentiated in this equivalence and bias framework, which go beyond the conceptualization or presentation of symptoms or intervention mechanisms. An important further question is about the relative strength of association between a behavioral expression and the concept of interest, that is metric equivalence (Fontaine, 2005). Is there a comparative (ordinal) mapping of behavioral expressions to theoretical concepts? For example, can we use frequencies of specific problem behaviors to make judgements about the relative severity of symptoms, or can we use these observations to track therapeutic progress of clients (across cultural communities)? Are the guidelines and criteria for measuring progress appropriate? Does a change in a specific behavior (e.g., not feeling dizzy when being stressed) indicate the same level of progress across cultural groups?

Focusing on the implications for the intervention design itself, the consideration of metric equivalence is most relevant for discussing dose effects. For example, does the frequency of take-home tasks in therapy or the duration of time-out in parenting interventions result in similar behavioral responses across cultural groups? Alternatively, do dose effects differ across groups? The question of importance for judging the effectiveness of behavioral interventions is whether there is a differential dose effect, which requires both interventions and diagnostic instruments that satisfy conditions of metric equivalence – that is for example, one unit of behavioral intervention is associated with about the same psychological response across cultural groups. For example, do meditation practices have an overall stronger positive effect on mental health in one context compared to another, or are meditation dose effects equivalent (Karl et al., 2022; Zoogman et al., 2019)?

Finally, the question about scalar equivalence is concerned with the baselines of observations (Fontaine, 2005). Most relevant here are questions about whether there are different thresholds or baselines that lead to diagnostic criteria that a specific level of behavior is problematic within cultural contexts. These questions are relevant for making decisions on both entry and exit points for clients and are linked to clinical norms or thresholds for diagnosis or intervention recommendations. Because interventions may not be appropriate for clients with a specific severity of symptoms, such differences

may also lead to inappropriate recommendations or possibly even adverse effects (Fischer et al., 2020; Montero-Marin et al., 2022). Considering core components of interventions, scalar equivalence considerations are relevant for the accessibility of certain concepts that may be invoked by interventions, requiring more efforts on behalf of interventionist to activate relevant psychological processes within a cultural context (Norenzayan & Heine, 2005). For core design principles, an example would be the investigation of scalar equivalence in raising discussion points for minimal dose effects. Are minimal dose effects equivalent across cultural groups, and can we assume that dose levels are transferable across cultural groups? Such discussions are particularly important when considering public health interventions at scale, which require cost-considerations of a minimum to result in meaningful change at a population level.

In this discussion, we have focused on the conceptual implications of the equivalence and bias framework, as well as frameworks of psychological universals (see Table 1). These frameworks are most commonly known within the context of test design and evaluation (Fischer & Karl, 2019; Fontaine, 2005; Meredith, 1993; van de Vijver & Leung, 1997), which are relevant for evaluating the effectiveness of interventions. We discussed their conceptual relevance here and refer readers interested in the specific details to relevant sources that deal with these methodological and measurement processes in more detail.

Existing cultural adaptation frameworks

There has been significant interest in cultural adaptation of behavioral or health-related interventions in recent years, with a number of emerging frameworks. These can be broadly classified into content-focused frameworks, step- or process-oriented frameworks and stacked or combined content-step frameworks (Ferrer-Wreder et al., 2012). In our review, we have identified at least 68 different cultural adaptation frameworks that have been used in the literature when describing cultural adaptation work (please see Supplementary Table 3).

Beyond this relatively simplistic heuristic category of content, step and stacked interventions, a recent methods review in the mental health sphere (O'Cathain et al., 2019) differentiated between eight categories of interventions, including partnership, target population-centered, evidence and theory-based, implementation-based, efficiency-based, stepped or phased interventions, intervention-specific and combination approaches. These different approaches vary greatly in how research teams and the local population interact, how they are designed, who may be targeted, what kind of evidence exists for offering the intervention, how much effort goes into scaling and applying interventions, and how much attention is paid to documenting and evaluating effectiveness. At the same time, there were often common actions across intervention categories, that were summarized into 18 distinct actions during the intervention process, which resulted in an extended process or step-model (see Table 2).
Other process frameworks have been developed within specific fields and vary in their complexity. For example, within public health, 11 major program steps have been distinguished (Escoffery et al., 2019),

a 10-step process has been proposed for scalable adaptations for mental health interventions (Sangraula et al., 2021), four steps have been suggested sufficient for low-intensity humanitarian interventions (Perera et al., 2020), three phases for mental health interventions in low- and middle-income countries (Fendt-Newlin et al., 2020), and a highly influential framework for parenting research suggested two steps (Lau, 2006). In table 2, we provide a highly selective overview for illustrative purposes. In the supplement, we provide a longer list of adaptation frameworks that have been used by researchers in the field.

A substantive number of these frameworks have focused on historically marginalized communities within the US and Western Europe. We selected these frameworks in Table 2 because they build on earlier work, focused on health problems as a core area of cultural adaptation and are applicable to both minority and majority culture contexts. Our aim is to show the relative conceptual overlap between these recently developed frameworks which build on decades of intervention work. Examining these steps, it becomes evident that there is quite a bit of overlap conceptually, with differences mainly in detail, order and relative emphasis on specific stages of the overall adaptation process.

- Insert Table 2 about here -

Cultural considerations during the intervention adaptation process

Drawing on theory, existing frameworks, and our groups' experience, we propose several considerations and recommendations to strengthen cultural adaptation of behavioral interventions (see Figure 2 and Table 3). These recommendations integrate and synthesize major concerns raised in the literature and are formulated in a loose stacked-type framework that includes considerations of both content and process of adaptation. In highlighting these questions, we aim to link them back to cultural psychology questions, where possible, that can help in sharpening continuing debates in the adaptation literature. We highlight some guiding questions that we have found useful when considering adaptations (see Table 3 and the next section).

Before we discuss these specific questions and examples for each recommended step, we would like to highlight two overarching themes.

Community engagement throughout the full adaptation cycle as key for success

Based on our experience both theoretically and in the field, the key to successful intervention implementation, effectiveness, and sustainability beyond the initial research phases within a community is thorough community collaboration. This is critical throughout the adaptation process, from identifying the target behavior and interventions, to discussing possible adaptations to intervention implementation, documentation and effectiveness assessment (Apers et al., 2023; Goodman & Sanders Thompson, 2017). Community engagement can vary significantly (Attygalle, n.d.), especially when community *informed* approaches involve small numbers of community members or stakeholders who make crucial decisions. This can create blind spots due to individual differences in knowledge, community access or attitudes (Ennis et al., 2020). Our view is inspired by the Method for Program Adaptation through Community Engagement (M-PACE) (E. K. Chen et al., 2013) as a systematic

process of soliciting community feedback and involving the community in the decision process. We suggest broadening the proposed steering community approach, a more consultatory and symbolic form of participation, to also include more engaged participation through holding regular community meetings to feed-back information and maintain engagement at a wider community level (Goodman & Sanders Thompson, 2017). This suggestion contrasts somewhat with the most common forms of community engagement which often only involve community members at specific points of the process, to solicit feedback or for pilot testing (Concannon et al., 2014).

Ideally, cultural adaptation work is community owned or driven, with researchers being embedded within the community (Attygalle, n.d.; Domenech-Rodríguez & Wieling, 2005). For community outsiders, getting access can be challenging and may follow classic ethnographic field methodologies and help identify culturally appropriate and effective engagement methods as identified previous cultural research (Yeo et al., 2005). In highly connected communities, community partners could be identified via media advertising (Keyzer et al., 2005), but such strategies should be informed by the relevant cultural practices and standards as identified in previous literature or through knowledge developed via ethnographic methodology as mentioned. Other options include identifying culturally appropriate community meeting places to stage recruitment such as churches, farmers markets, or senior centers (Ibrahim & Sidani, 2014). Researcher already involved with a given community may want to leverage pre-existing relationships to form community feedback groups (Kuzel, 1999). As an outsider, humility, respect and open-minded listening are fundamental for establishing lasting relationships (Whitbeck, 2006).

However, it is also important to consider the implications and challenges associated with engagement. First, in some cases (such as refugee work), it may not be possible to identify community members for intervention adaptations yet if for example a refugee community is arriving in a new host setting without previous community presence (McCleary & Horn, 2023).

Second, expectations of what researchers can and cannot provide in terms of resources or services need to be carefully managed. For example, how can expectations about access to resources or immediate delivery of effective and free mental health interventions at scale be managed, without compromising the buy-in and motivation of the community? What are appropriate reinforcement gifts or incentives to keep the participants engaged in the program but without changing the motivation to participate (e.g., participation for food or money) (Waterman et al., 2019; Wieling et al., 2015). How can the community get involved without imposing an undue burden (e.g., taking time out from work, barriers due to transportation or safety concerns)? How can engagement be structured so that they coincide and support community priorities (rather than researchers seeking out community engagement at moments that are convenient for the researcher, but not the community)?

A third consideration is the need to incorporate community needs and concerns with the focus of the intervention target. Many contexts have multiple intersecting challenges and needs, which may not all be able to be addressed within the scope of a single intervention. These needs and expectations

of the target population may also influence how people interact with service providers and the feedback provided for adaptation of core components. One approach can be to include add-ons in the program to address potentially further needs (Chu & Leino, 2017). At the same time, communities often have multiple assets and resources such as strong social support networks, strong maternal hierarchies or deep oral traditions which often remain untapped by intervention researchers.

Holistic Cost-Benefit analysis

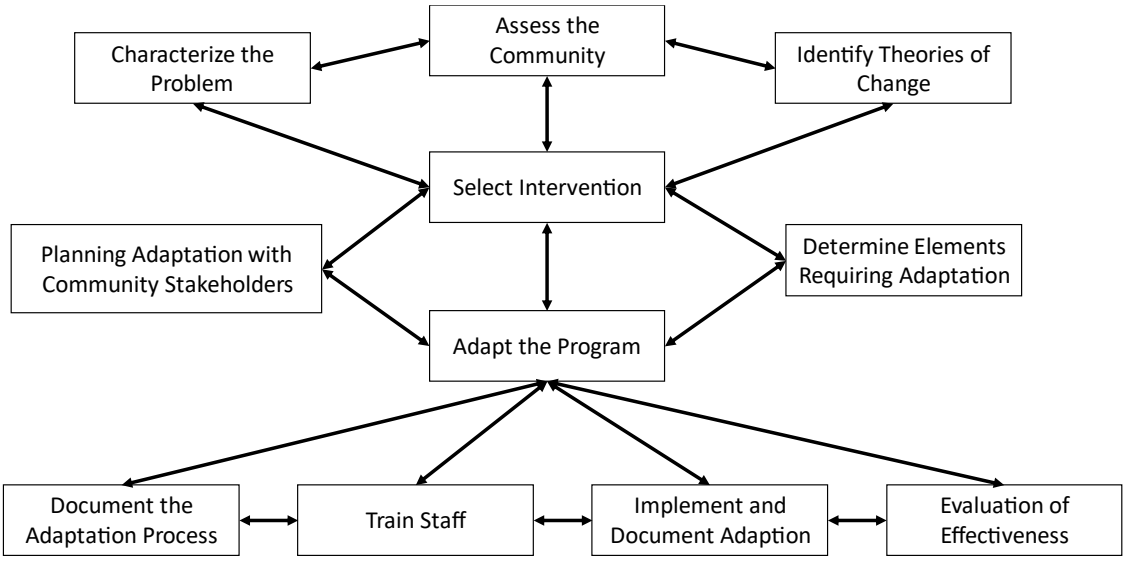
A second overarching consideration in our discussion of the adaptation process is the overall cost-benefit ratio of adapting vs non-adapting an intervention, and the long-term sustainability of the intervention. As our previous point implied, community engagement can be time and cost consuming, both for the community and the interventionist. This raises important questions about what options are available for scaling up and scaling out (to new groups or via new delivery formats) (Aarons et al., 2017)? There are often delicate cost-benefit decisions to be made around the degree of adaptation. Consider 'cultural dose' effects or questions regarding how culturally embedded an intervention needs to be – would the added cost of a more culturally embedded program adaptation yield proportional benefits in effectiveness, efficiency, compliance or reduce drop-out? Is there evidence of decreasing marginal utility returns? The current literature seems to suggest that increases in number of adaptations or deeper adaptations may have some benefits (Degnan et al., 2018). Yet, if the effectiveness of nonculturally adapted interventions is sizable, it may be asked whether the costs in terms of time, money and other resources is warranted if the non-adapted form would already address some urgent community needs. This is a serious point to discuss and is included a number of different frameworks (O'Cathain et al., 2019; Sangraula et al., 2021). At the same time, it may be worth considering whether a staggered roll-out is both beneficial for the community (immediate access to a non-culturally adapted program) as well as the adaptation effort (by providing important comparison and baseline data on the effectiveness of the intervention and to gain insights into what does and does not work well). For example, we decided to offer minimally adapted mental health material during the pandemic and used the feedback from users to sequentially adapt the material to more effectively meet the expectations and needs of communities (Moretti et al., 2023).

This approach may also provide useful information on the possible costs and time delays of adaptation, given the expected relative performance of the adapted intervention against the original intervention (Coser et al., 2021; Degnan et al., 2018). This is a central question within the Tolin criteria of the cost-benefit ratios (Tolin et al., 2015): to what extent does the evidence favor adapting an intervention that requires significant community effort, cost and time, or would the communities be better served via standard interventions that are available with much lower cost and less delay (Arundell et al., 2021; Barrera et al., 2017; Coser et al., 2021; Spanhel et al., 2021)?

- Insert Table 3 about here -

Figure 2.

Schematic representation of the adaptation framework



Cultural considerations for describing the problem in the target population(s)

The first step is to identify and clearly describe or characterize the core problem that the intervention aims to address, which is ultimately linked to questions of human universals and the issue of functional equivalence discussed above. What is the problem of concern? Are there specific terms that are used to denote the problem in the cultural community of interest? If not, is there evidence that the target concept is relevant to the community? A number of different intervention researchers have argued that the consideration of cultural concepts or idioms of distress are the central departure point for cultural adaptation (Heim & Kohrt, 2019; Hinton & Lewis-Fernández, 2010; Kohrt et al., 2014). Focusing on these phenomena, it becomes possible to understand the specific ways of suffering and its locally relevant expression, attached meanings and causal explanations, and thereby gain insights into possible treatment options. For example, Hikikomori is a severe form of social withdrawal which was first described in Japanese society and may be understood as a culture-bound syndrome at one level or a specific cultural expression of depression or psychosis (Kato et al., 2019). What are the cultural models explaining the problem and how do they align with the change model underlying the intervention? Interventionists may carefully consider steps of explanatory model bridging to make core ideas understandable and relatable for the target populations (Heim & Kohrt, 2019; Hinton & Patel, 2017).

To what extent is the problem open to alternative interpretations or biases? For example, are there specific stigmas attached to the behavior that affect how individuals may report or respond to screening instruments or interventions? In many contexts, a medical diagnosis or labelling a program as addressing a specific health problem such as dementia may involve significant stigma (e.g., a person is considered loco/a = crazy, see for example Ramirez et al., 2023), and any stigma may vary across

specific groups (Mascayano et al., 2020). It is important to consider stigma because it is likely that stigmas may influence how individuals engage with interventions.

Similarly, some screening instruments of depression include references to feeling hopeless, which may conflict with religious notions of hope and therefore may lead to distortions in reporting symptoms or engaging with interventions that use this terminology. Other examples include psychosis-like symptoms of hearing voices or feeling possessed, which are often utilized in specific religious ceremonies. Reference to such experiences may therefore be interpreted differently by participants compared to researchers (Maraldi et al., 2023). Religious, spiritual or supernatural explanations may actually help in such therapeutic process (Kreuter et al., 2003).

This is directly related to diagnostic and screening criteria. A cultural exploration may focus on the specific criteria that mark a behavior as problematic. For example, do community members agree with each other about what behaviors or symptoms cause distress or impede day-to-day functioning? The most common form to identify relevant information is via literature reviews (Contreras-Perez et al., 2023; Heim et al., 2021). We recommend using local language and databases in these searches, because there is often local knowledge which is not captured in international databases that capture primarily English-language publications. Alternatively, structured consensus analysis methods are available (e.g., via cultural consensus analysis, Batchelder & Anders, 2012) and the outcomes of such analyses can then be compared across cultural communities to examine whether cultural models and relevant assessment criteria are similar or different.

Relating all these issues back to the cultural psychology literature, functional and structural equivalence issues are of importance – is the target concept of the proposed intervention understood in the same way across community boundaries (functional equivalence)? How does the concept manifest itself within and across cultural communities (the issue of structural equivalence)? What is the magnitude of the problem in the target community? Who would benefit most and least from a potential intervention?

Cultural considerations for assessing the community

Closely related to the first point, the target of the intervention as well as specific risk factors, barriers and assets associated with the target concept need to be understood within the social, economic, historical, ecological, and cultural context of the target community. It is necessary to talk to diverse stakeholders and involve cultural experts, implementers of the intervention, and potential users or clients. What implicit cultural information and meanings are relevant in addressing the target behavior or concept? One of the core issues within any cultural analysis is the assessment of cultural heterogeneity and diversity within the community (D. Cohen, 2001; Coser et al., 2021; Degnan et al., 2018). A significant and often underestimated risk is to essentialize communities as homogenous entities and ignore internal diversity, leading to so-called ‘ethnic glossing’ or tokenism (Resnicow et al., 2000). This can be addressed, in part through the recruitment of community leaders or members from sub-cultural groups within a given culture to better represent the heterogenous nature of a

particular group as identified in previous research (Iwasaki et al., 2006). At the same time, it is important to not just focus negative aspects but also consider and examine possible assets and protective factors that are available in the community. Are there community support groups? Are there protective factors or resources available to individuals or groups?

Carefully conducted individual interviews and focus groups with a wide diversity of individuals from within a group would be essential, as well as needs assessments with diverse segments of the cultural population. For example, in our work focusing on mental health interventions in a marginalized community we had to understand the different perspectives and needs within the same community. This included considering whether the specific area was under control by an armed militia or the government, the level of violence within the specific area of the community, differences between individuals that had work outside the community and needed to travel for work vs those that either had no work or worked within the boundaries of the community, status and economic differences between genders, differences in access to internet and electricity, etc. (Moretti et al., 2023). Particular attention should be given to variability in responses by different community members, because these may highlight hidden diversity in the population that may be missed by focusing on the communalities. Within the work on refugees and migrants, a core concern is the extent of acculturation to the host culture (Lim et al., 2023; van Mourik et al., 2017). It is also useful to consider the broader economic, institutional, and social conditions beyond just cultural beliefs or values. For example, in economically deprived or in post-conflict areas, economic or institutional challenges may override specific cultural concerns (Wieling et al., 2015).

Institutional challenges are particularly important to identify. For example, HIV-positive adolescents need to take regular medication but the school context may create barriers for them to do so, as taking medication openly may require them to publicly declare their HIV-status leading to stigmatization or discrimination from other students, school teachers, and community members (Abubakar et al., 2016). Such barriers may not be immediately obvious to researchers and practitioners and require careful and sensitive probing of concerns by adolescents, their caretakers, school and medical staff. Given the complexities in accessing and reaching diverse groups within cultural communities and understanding their concerns and needs, we are reluctant to prescribe specific temporal guidelines of how much time should be spent on these steps (Perera et al., 2020). We believe that the exhaustiveness of this process needs to be decided on a case-by-case basis and likely also depends on pre-existing research and knowledge about the context.

Cultural considerations for identifying core components of existing interventions

In conjunction with the target problem and cultural community assessment, researchers should explore the available literature and conduct a broad scoping review of possible interventions. The previous two points help in identifying the target problem and specific needs, assets and barriers that exist in addressing the target. These insights help in searching for and identifying possible interventions. A core concern should be that researchers do not reinvent the wheel (Arundell et al., 2021; O'Cathain

et al., 2019). What options are available and might be applicable for addressing the problem in the population of interest? There are an increasing number of high quality interventions that are being developed in low resource contexts that may be adaptable and scalable to other low and medium income contexts. Instead of focusing on interventions that have been developed in high-income contexts which may carry additional cultural, social and economic 'baggage', interventions such as Friendship Bench, evidence-based mental health intervention originating in Zimbabwe, may be more appropriate for other low and middle-income contexts (Chibanda et al., 2016; Tran et al., 2022). One consideration for developing a systematic body of research on cultural adaptation is a greater effort to systematically build on previous efforts and carefully compare insights gained across different cultural contexts.

Possible interventions will need to be evaluated both from the perspective of the target behavior, as well as cultural characteristics of the community within which the intervention might be applied (for an example with parenting interventions, see Gardner et al., 2016). What interventions are available in or for the cultural community, in culturally similar contexts as well as culturally dissimilar contexts (Seward et al., 2022)? There can be unexpected challenges. For example, parenting interventions developed for Mexican families may not be directly applicable for Chilean families because of the differences in emotional expression, requiring careful considerations of how emotions are discussed, encouraged and expressed in role-playing activities (Parra-Cardona, Banderas Montalva, et al., 2023).

The examination of possible interventions involves issues of functional equivalence again, which are central for the issue of fidelity as discussed above. What are the change theories embedded within the respective program(s), and are their core components considered functional for behavior change within the local community? Are the theoretical assumptions underlying the program compatible with the cultural values, beliefs, knowledges, and practices within the community? For example, many communication-based models developed in Western individualistic settings focus on training assertiveness, but such strategies can be seen as disrespectful and disruptive in more community-oriented settings (Leong & Lee, 2006). This may require tailoring relevant components of the model to fit with the specific cultural expectations, leading to functional fidelity (Evans et al., 2021) and attempts to bridge explanatory models (Hinton & Patel, 2017). In this case, replacing the assertiveness component with culturally appropriate communication strategies achieves the same desired outcome.

Our focus here is on evaluating HOW change can be achieved within each intervention program. Understanding the mechanisms that lead to change is often one of the weaker points of intervention science in general (Chu & Leino, 2017; Cuijpers et al., 2019, 2019; Day et al., 2023; Lipsey & Cordray, 2000), despite being of central importance in deciding on effective cultural adaptations. What are the core components of the intervention program? What is the relative balance of fidelity vs adaptation in relation to these core or functional ingredients (Sangraula et al., 2021) (see Figure 1)? If the program was to be implemented with high fidelity, how effective would it be? Would it be perceived as culturally alienating by the target population (e.g., how would an assertive communication strategy

be perceived by others in the community)? Would core components be effective in bringing about behavioral change, considering the local cultural, social, economic, historic, and ecological context? A number of studies have pointed out that intervention effectiveness and sustainability is substantively increased if both implementers and clients understand the core mechanisms and buy-into the change theory (Heim & Kohrt, 2019; Waterman et al., 2019). For example, shifts towards being more relationship focused is associated with greater satisfaction in community-oriented Latin American contexts (González Moller et al., 2021). Furthermore, determinants of target behaviors may vary across cultural contexts (Aggarwal et al., 2021; Heim & Kohrt, 2019). For example, predictors of self-harm seem to be more socially driven (vs more individualistic mental health components) in low and medium income countries compared to North America, Western Europe and Australia (Knipe et al., 2019). In such a case, interventions need to consider the differential etiology of target behaviors.

What do we know about dose effects? For example, time out has been discussed as an important strategy for effective parenting, yet the timing (e.g., 10 min vs 40 min) of such time-out periods can vary significantly between different contexts (Wieling et al., 2015). Similarly, Arundell and colleagues (2021) reported that the single most important difference of adaptation programs is the number and length of sessions. Interventions that used more and longer sessions reported greater effectiveness. This is a clear dose effect and requires some consideration when implementing programs that are potentially novel and unusual within a specific context (Cardona et al., 2009; Parra-Cardona, Banderas Montalva, et al., 2023).

It is also useful to examine failures and learn from them. What other programs have been implemented, but have failed in this specific cultural context? Is it possible to identify cultural features that may have interfered with a successful implementation? Are there failures in other contexts (both culturally similar and dissimilar) that can shed some light on potential learning points? This step requires close collaboration with both content matter experts and stakeholders within the community. Unfortunately, from our observation it is often difficult to gain insights into failed or ineffective program adaptations as this information is often missing from the literature. There are numerous examples demonstrating the potential usefulness or possible effectiveness of programs using relatively small samples, but typically little information on why certain programs were not successful or not further implemented or developed. The publication and tenure pressures to report successful interventions may be partially responsible for this bias and we do encourage more comprehensive reporting (and publishing) of unsuccessful interventions and discussions of what may have contributed to this outcome.

Cultural considerations for selecting interventions

After a careful review and examination of the available alternatives, practitioners need to select a program that best meets the needs of the target population and cultural context. These decisions will require discussions around appropriateness, acceptability, and feasibility of adaptation, as well as the costs, time and expected efficiency gains. Again, the trade-off between fidelity and adaptation (Figure

1) is central to this point. These discussions should ideally involve the researchers/practitioners, cultural experts, and cultural community members (both the interventionist and users of the intended intervention). Presentation of the key findings of the previous steps, together with open sharing of concerns and opportunities, are key at this stage. For example, a survey on perceived needs of mental health interventions as well as core insights of what individuals have been doing to take care of their mental health can be presented back to the community to initiate a discussion of how these insights can be used, implemented and scaled (Fischer et al., 2022; Moretti et al., 2023). This may also involve discussions of how traditional providers such as religious or spiritual healers can be integrated into a medical health context (Abubakar et al., 2013).

During these discussions, the format and context of the intervention will also return to the center stage because it requires careful considerations of the social, economic and geographical barriers. Are face-to-face sessions possible (e.g., consider the recent pandemic context which did not allow face-to-face meetings for mental health interventions)? If face-to-face sessions are preferred, consider possible locations and temporal availability for the purposes of the intervention. Can users safely reach the location, or would specific locations decrease compliance and attendance? For example, in our work in some poor or marginalized communities, certain areas are difficult to reach due to violence, the presence of armed militias, or missing transport options. Are the available times suitable for working populations or for individuals with children or other caretaker responsibilities? What online options are available (e.g., network coverage, internet costs). Are digital tools available and accessible to community members?

We also want to stress the explicit possibility of the decision to *not* proceed with the cultural adaptation process. As discussed above and highlighted in more detail elsewhere (Arundell et al., 2021; Barrera et al., 2017; Coser et al., 2021; Dawson et al., 2020; Spanhel et al., 2021), adaptations are often costly and time consuming, may be intrusive, and may not help in addressing needs in a timely fashion. Yet, a review of cultural adaptations for mental health with historically marginalized populations suggested that most interventions made more peripheral changes that enhanced engagement and delivery, without changing core components (Chu & Leino, 2017). Such changes may be cheaper and more sustainable compared to deeper or core component changes. On the other hand, in European contexts it appears that bottom-up culturally grounded or novel interventions are overall more effective than adapting or adopting interventions coming from English-speaking contexts (Sundell et al., 2016). These discussions are obviously complex and sensitive, but are important to have with transparency and an open mind.

Planning the adaptation process with community stakeholders

Together with the decision about the best program to adapt, stakeholders and community members that will be involved in adapting, implementing and participating in the program, need to be identified and integrated throughout the process. As outlined in numerous cultural adaptation frameworks, the issue of positionality is important to consider when entering as an outsider and finding

collaboration partners on the ground (Domenech-Rodríguez & Wieling, 2005; McCleary & Horn, 2023). Who might be able to champion the intervention from within the community and would be interested in becoming a partner or co-leader in the adaptation process (Parra-Cardona, Banderas Montalva, et al., 2023)? Who will be affected and involved in this intervention?

At this point, it is useful to consider possible collateral effects and implications at various levels, from the individual, interpersonal, organizational to the community and societal level. For example, interventions empowering women community members will influence traditional power structures, which may create push-back from males across different roles (husbands, fathers, community leaders, religious leaders, etc.). Or, interventions focusing on child health are often involving mothers, but decision-making in communities may lie with the fathers, who are often not included in programs or more likely to be absent in training sessions (Abubakar et al., 2013). At the same time, fathers often express an interest to be involved in parenting interventions and feel marginalized by traditional service providers (Wieling et al., 2015, 2017).

It is also relevant to consider issues that may be often less centrally discussed in intervention research. For example, are there possible conflicts of interests? If an intervention is rolled out via a non-governmental organization, would this influence how complementary government services operate? How could those conflicts be managed? Who would benefit from the intervention, and are there individuals or groups who might perceive the intervention negatively? As discussed above, many communities globally have a complex ethnic, religious and social make-up. If an intervention is championed by a specific family, clan, political faction, religious group or economic community, would this lead to a rejection by a different part of the community? Sociocultural norms and discrimination can intersect in complex ways and may result in different segments of a population benefitting differently from an intervention (Apers et al., 2023). How much of an impact would the intervention have at different levels (again considering possible impact from the individual all the way up to the societal level) (McWha-Hermann et al., 2022). Spill-over effects can be positive (e.g., parents adopting communication strategies learnt within a parental context in interactions with neighbors, see (Wieling et al., 2015) or negative (e.g., microcrediting interventions decreasing instead of increasing business activity in low income contexts, (Karlan & Zinman, 2011).

Cultural considerations for deciding the components that require adaptation

Returning to the importance of the core functional principles of the intervention, practitioners at this stage need to carefully balance the fidelity vs adaptation question (see Figure 1). This step is about the theoretical ‘nuts and bolts’ of the intervention and what may need to be adapted to the local context. Bringing insights from points 1 to 3, what are the central cultural processes and dynamics that need to be considered when implementing the intervention? What content needs to be changed, and what surface- and deep-level features need to be adapted for both peripheral and core elements of the intervention? In mental health work with historically marginalized populations, most programs tend to add specific components instead of modifying or completely changing core components (Chu & Leino,

2017). In our review, we found that most interventions changed surface level features of the intervention to increase adherence and acceptability (see Table 1). Sometimes these changes may be rather minor but can make a significant difference in how community users interact with the program. For example, in one of our online interventions, we initially used food examples (e.g., a type of meat cut) from a manual developed in the UK, which were out of reach for many members of a marginalized community due to costs and availability. Changing such a simple detail changed the perceived acceptability of the intervention (Moretti et al., 2023).

How could the intervention be implemented, and what are possible, acceptable, and effective delivery methods? For example, it may be possible to print flyers or use radio programs to disseminate important mental health information. In contrast, apps on shared devices (e.g., mobile phones) may not be ideal if this discloses specific information to other users of the same device. Issues of privacy are of fundamental concern when considering digital applications which focus on issues that carry a certain risk of stigma or discrimination.

Who could or should deliver this project in the new cultural environment? One of the most widely used techniques is to match the person implementing the intervention to participants based on specific demographic criteria, to increase client-therapist concordance around key cultural or demographic characteristics (see Lovell et al., 2014 for more nuanced perspectives). However, this implies that demographically matched therapists or trainers are available, which may require substantive time and money for training individuals to deliver the program. Alternatives such as task shifting, that is delivery of treatment services by non-specialist workers or lay health workers in under resourced settings appear promising (Galvin & Byansi, 2020; Mabunda et al., 2022). The broader issues of costs and benefits that we outlined above typically are central during these discussions.

Cultural consideration for adapting the original program

After the identification of what elements need to be changed and an exploration of how these adaptations may be achieved, the intervention needs to be adapted and changed. We discuss this point separately because the conceptual or theoretical identification of what needs change is often different from actually implementing these ideas in a meaningful way for the users of an intervention program within their respective community context. This is in many ways similar to the creativity vs innovation leap in the innovation literature, moving from a creative idea to applying the idea as an innovation in a specific area or domain (Rank et al., 2004).

Generating ideas for solutions that will adapt intervention elements effectively is paramount. One option is to design collective brainstorming or focus group sessions with cultural experts and stakeholders to develop innovative and creative solutions. Again, such sessions may need to be considered within the cultural context – are there hierarchy or domain concerns that may hinder individuals from sharing their suggestions? Should the first brainstorming process be individual followed by group brainstorms to encourage optimal participation (Goldenberg & Wiley, 2011)?

In this process, it is also important to identify any cultural blind spots that may have been missed in the previous steps when discussions are often taking place at a rather abstract and general level. In our experience, cultural issues often emerge most clearly when discussing specific applications and implementations. Issues that might be obvious to insiders might not be obvious to outsiders, and vice versa, and these discontinuities in understanding or information only become apparent when trying to put abstract principles into practice (Fink et al., 2005; Romani et al., 2011). Collaborations with both content and cultural experts, as well as stakeholders and champions that will implement the program continue to be crucial.

At this stage, it is also important to run pilot tests of both the individual modules or core components, as well as the overall program (to the extent that this is feasible). Methods such as think aloud protocols and focus groups with potential users or clients can be used to identify issues relevant to culture (Khaled et al., 2006; Nisar et al., 2020). For example, specific intervention steps can be presented to potential end-users to gather feedback on acceptability (Moretti et al., 2023; Parra-Cardona, Retamal, et al., 2023; Wieling et al., 2015). Carefully consider whether the theoretically meaningful core components of the intervention are still active and operating, or whether the adaptation is changing core components (making them ineffective or functionally different). As implicated in Figure 1, any adaptation can be considered continuous along at least three different axes. Individual changes in specific features (e.g., including a different example or using a different phrase to address a problem) individually add up to make an intervention more or less acceptable and more or less effective. Addressing cultural values or beliefs in the adaptation may adjust surface elements that increase acceptability of the program (e.g., referring to specific values to highlight the importance of the intervention) or it may change a core component of how the intervention works (e.g., changing assertiveness communication strategies to communication patterns that are more culturally appropriate). Again, we would like to stress the relevance of deeper community engagement to collaborate with individuals or groups that can act as champions for the final intervention and help implement and sustain the intervention.

Cultural considerations for documenting the adapted intervention

An important point that is often overlooked is the documentation the adaptation process. Excellent general sources are available (Heim et al., 2021; Wiltsey Stirman et al., 2019). Here, we aim to expand on these points by focusing on more culturally relevant issues that may need documentation. First, it is important to understand cultural needs and expectations about documentation. There are consistent cultural differences in how individuals may deal with uncertainty and to what extent any changes need to be documented (Hofstede, 1980). A large number of studies in organizational settings have highlighted that issues of formalization are often one of the most central issues of conflict across cultural contexts and are deeply embedded within normative frameworks of practice (Fischer et al., 2017; Taras et al., 2011).

Second, practitioners and researchers need to discuss ownership of documentations, the format and process by which this information is stored and accessed within a culturally appropriate system. Such concerns are particularly salient for issues of data sovereignty and governance, that are currently at the forefront of work with indigenous communities. Who owns information and how is information access managed? Within cultural communities that rely on oral transmission even in professional settings, what is the relevant process for documenting and disseminating information? How is information to be documented if future trainers may not be literate or do not have the relevant background information to understand some technical points embedded within the change theory underlying the program? Issues of functional literacy are a significant challenge in many low and middle income countries (Wieling et al., 2015).

Third, the documentation processes may help increase compliance and adoption of the adapted intervention if these processes involve the cultural community in document ownership. It can also be beneficial to specifically highlight cultural elements that were embedded in the intervention, including a careful documentation of how and why these cultural elements or meanings were included, their significance for the cultural community and who suggested them (highlighting the importance of participatory approaches and community engagement) (E. K. Chen et al., 2013).

Overall, we echo the encouragement in the wider literature to encourage careful documentation of any changes, with a specific focus on the cultural dimension of what was changed, what components within the intervention were changed, by whom (to increase ownership and stress the inclusive and participatory nature), and the reasons for the change(Heim et al., 2021). There is often insufficient information available to assess the quality and process of cultural adaptation (Arundell et al., 2021; Barrera et al., 2017; Bernal et al., 2009; Coser et al., 2021; Huey et al., 2014; Spanhel et al., 2021). Furthermore, in our review, we found often scarce information on whether culturally appropriate measures were used for evaluating the effectiveness, which is of concern when considering the effectiveness of cultural adaptation (Hall et al., 2016; McCleary & Horn, 2023; Sanders et al., 2022).

Cultural consideration for training staff

The sustainability of an intervention depends on identifying and training staff that will implement the intervention over the long term. Intervention programs are always cultural, as we stated at the outset. As experts through experience, the specific cultural information that trainers bring to their work and how this information aligns with the implicit and explicit cultural baggage of the intervention program need to be considered. This is particularly important to avoid problems with drift, and the mistaken or misapplication of intervention models over repeated cycles (Aarons et al., 2012). For example, users of an intervention may utilize culture-specific mental models of the problem which may not align with the change process implemented in the intervention. In such a case, over repeated cycles of application the intervention may drift towards a different model of change. The running of a “train the trainers” program may highlight specific issues that may not have come to the fore previously and provide an opportunity for knowledge exchange between groups.

Furthermore, the issue of possible heterogeneity of the community and identifying issues of matching trainers and future users may warrant some specific attention. What are the most salient characteristics that need to be matched? For example, gender, ethnicity and sexual orientation can intersect in complex ways when dealing with mental health interventions. Is it more important or effective for treatment to match clients and intervention providers based on their gender, their racial or ethnic characteristics or their sexual orientation? As can be seen in Supplementary Table 1, the evidence is not very clear and there is evidence both for and against ethnic matching or concordance between clients and providers in terms of effectiveness (see Lovell et al., 2014 for further discussions on these issues). However, in interventions involving ethnic minorities, it appears to be an attainable adaptation option that may benefit overall adherence and effectiveness.

At the same time, there is significant worry within the practitioner community in terms of the quality of implementations (Coser et al., 2021; Dawson et al., 2020; Sangraula et al., 2021). Particular care needs to be taken to ensure quality control at the training stage, also taking into account cultural differences in adhering to formal protocols and implementation fidelity (Hofstede, 2001; Smith et al., 2002, 2013). There are marked cultural differences in which improvising is seen as acceptable or even desirable to appear authentic or spontaneous vs a strict adherence to a manualized protocol. The literature seems to stress adherence to manuals, but in our experience, many majority-world communities lower on cultural tightness (Gelfand et al., 2011) seem to prefer approaches that are more flexible and less 'manualized' It is important to consider to what extent there are cultural norms for adhering to protocols vs improvising and to discuss such questions within the training program so that trainers become aware of possible divergence in perspectives on these issues and provide opportunities for reflection on individual approaches and preferences.

Finally, organizational constraints and barriers need to be considered. For example, what is the demand on core staff for implementing these interventions? Do they have the time and resources to adequately implement the intervention? This is again linked to resource implications that we discussed above. It is important to identify and address possible barriers and obstacles during the training process.

Cultural consideration for implementing & documenting the final adaptation

It is important to note that an adaptation is never truly completed and is an ongoing long-term process (Gonzales, 2017). Nevertheless, as we discussed above, having a well-documented protocol and implementation plan that captures all relevant and available information derived from the previous steps helps to implement interventions more widely and with greater quality assurance. Such a manual or plan may include discussions on the requirements for trainers (consider their cultural background, the expected level of cultural proficiency, necessary background knowledge), and detail desirable behaviors and outcomes within the cultural context. It may also specify time frames for updating information and capturing innovations 'on-the-fly' as the intervention is implemented at scale (Heim et al., 2021).

As mentioned above, the form of the documentation and how it is stored, archived or disseminated needs to be appropriate for the cultural communities of focus in order to facilitate up-take. Implicit norms around rules, regulations and documentation need to be carefully considered, including questions about whether individuals would consult manuals or guidelines, their level of technical expertise, or what format training may take in order to disseminate the information in the most efficient manner. It is also important to consider these archiving steps in light of the local community needs as well as open-science needs of the research community to make work available for others.

Cultural consideration for evaluating effectiveness of cultural adaptations

As we have repeatedly mentioned, although there is evidence of the effectiveness of cultural adaptation programs, the quality of the evidence is often low or variable (Arundell et al., 2021; Balci et al., 2022; Griner & Smith, 2006) (see also Supplementary Table 1). To improve the effectiveness of cultural adaptation programs in general, we need high quality information on their effectiveness and quality standards in implementation (Lipsey & Cordray, 2000). There are good standards available in both the training and implementation science literature (Kirkpatrick & Kirkpatrick, 2006; Proctor et al., 2011). Both qualitative and quantitative methods should be considered (Abubakar et al., 2016; Abubakar & Fischer, 2012; Seward et al., 2022).

At this evaluation stage, the full potential of the toolkit available through the equivalence and bias framework, as well as their statistical implementation in the invariance literature become available (Fischer & Karl, 2019; Fischer & Poortinga, 2018; Matsumoto & Vijver, 2011; Vandenberg & Lance, 2000). Starting from the central questions of functional equivalence – what needs to be evaluated to show the effectiveness within this cultural context? What are culturally central outcomes and how can they be measured? In our review, we found that most studies used internationally established instruments or inventories to assess for effectiveness. One of the central challenges in this use of internationally validated instruments is that they miss out on the contextually relevant changes caused by the intervention which are not captured within those instruments (Hall et al., 2016; McCleary & Horn, 2023; Sanders et al., 2022). For example, if the cultural expression of depression involves more somatic symptoms as is the case in some Asian contexts, then using an internationally validated instrument that does not capture those symptoms well would not allow an adequate assessment of the effectiveness of the intervention. This is a central problem that has been highlighted repeatedly but remains under-appreciated. Culturally adapted interventions need to be evaluated against criteria that are sensitive to the culture-specific expression of problem behavior that is being tackled.

These questions of culturally appropriate assessment of effectiveness obviously have to be addressed throughout the design and adaptation process - what is relevant here is the implementation of the evaluation processes (e.g., what instruments, what population, what timeframe). It is useful to consider method and instrument biases when collecting this evaluation data, including instrument biases (e.g., inappropriate questions, translation problems) or method-specific biases (e.g. do interviewer expectations skew responses?). These data need to be collected, properly analyzed (including questions

of item biases when examining scores against instrument norms), (Fischer & Karl, 2019; Leitgöb et al., 2023), and reported.

We consider it essential that formal evaluation processes feedback into a continuing adaptation and modification cycle of implementations. Cultural systems are not static, and routine evaluations of the effectiveness in key target groups can pinpoint opportunities for further improvement. Cultural dynamics within communities do change (D. Cohen, 2001) in addition to conceptualizations of problem behaviors more generally (Baes et al., 2023). Therefore, we recommend a period update of the intervention material and checks of the continuing effectiveness of the intervention. The feedback and documentation mechanisms of such a process need to be carefully considered within the cultural context, in light of the points we mentioned above.

Summary

This discussion of theory, frameworks, and practical considerations in cultural adaptation of behavioral interventions aims to introduce ideas from the bias and equivalence framework and ideas from the psychological universals literature to current debates in the cultural adaptation literature and highlight new insights arising from the dialogue between psychological theory and cultural practice in the context of adapting behavioral and health interventions. There has been an increasing recognition that cultural adaptation may yield more effective, safer, and possibly more cost-effective interventions, yet there is often a lack of knowledge around the specific steps and process of how to adapt an intervention to culturally distinct locations. Our framework brings together diverse perspectives to help improve adaptation efforts, increase efficiency, and enhance the safety of interventions.

References

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., Silovsky, J. F., Hecht, D. B., & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation Science*, *7*(1), 32. https://doi.org/10.1186/1748-5908-7-32

Aarons, G. A., Sklar, M., Mustanski, B., Benbow, N., & Brown, C. H. (2017). "Scaling-out" evidence-based interventions to new populations or new health care delivery systems. *Implementation Science*, *12*(1), 111. https://doi.org/10.1186/s13012-017-0640-6

Abubakar, A., & Fischer, R. (2012). The factor structure of the 12-item general health Questionnaire in a Literate Kenyan population. *Stress and Health*, *28*(3), 248–254.

Abubakar, A., Van Baar, A., Fischer, R., Bomu, G., Gona, J. K., & Newton, C. R. (2013). Socio-cultural determinants of health-seeking behaviour on the Kenyan Coast: A qualitative study. *PLoS ONE*, *8*(11).

Abubakar, A., Van De Vijver, F. J. R., Fischer, R., Hassan, A. S., Gona, J. K., Dzombo, J. T., Bomu, G., Katana, K., & Newton, C. R. (2016). "Everyone has a secret they keep close to their hearts": Challenges faced by adolescents living with HIV infection at the Kenyan coast Infectious Disease epidemiology. *BMC Public Health*, *16*(1).

Aggarwal, S., Patton, G., Berk, M., & Patel, V. (2021). Psychosocial interventions for self-harm in low-income and middle-income countries: Systematic review and theory of change. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and*

Genetic Epidemiology and Mental Health Services, *56*(10), 1729–1750. https://doi.org/10.1007/s00127-020-02005-5

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Akarsu, N. E., Prince, M. J., Lawrence, V. C., & Das-Munshi, J. (2019). Depression in carers of people with dementia from a minority ethnic background: Systematic review and meta-analysis of randomised controlled trials of psychosocial interventions. *International Journal of Geriatric Psychiatry*, *34*(6), 790–806. https://doi.org/10.1002/gps.5070

Albin, M., Micsinszki, S., & Phoenix, M. (2022). Cultural Adaptation of Parent-Implemented Early Communication Interventions: A Scoping Review. *American Journal of Speech-Language Pathology*, *31*(5), 2229–2247. https://doi.org/10.1044/2022_AJSLP-21-00286

Anik, E., West, R. M., Cardno, A. G., & Mir, G. (2021). Culturally adapted psychotherapies for depressed adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *278*, 296–310. https://doi.org/10.1016/j.jad.2020.09.051

Apers, H., Van Praag, L., Nöstlinger, C., & Agyemang, C. (2023). Interventions to improve the mental health or mental well-being of migrants and ethnic minority groups in Europe: A scoping review. *Global Mental Health (Cambridge, England)*, *10*, e23. https://doi.org/10.1017/gmh.2023.15

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *The British Journal of Social Psychology*, *40*(Pt 4), 471–499. https://doi.org/10.1348/014466601164939

Arundell, L.-L., Barnett, P., Buckman, J. E. J., Saunders, R., & Pilling, S. (2021). The effectiveness of adapted psychological interventions for people from ethnic minority groups: A systematic review and conceptual typology. *Clinical Psychology Review*, *88*, 102063. https://doi.org/10.1016/j.cpr.2021.102063

Asiimwe, R., Dwanyen, L., Subramaniam, S., Kasujja, R., & Blow, A. J. (2023). Training of interventionists and cultural adaptation procedures: A systematic review of culturally adapted evidence-based parenting programs in Africa. *Family Process*, *62*(1), 160–181. https://doi.org/10.1111/famp.12780

Attygalle, L. (n.d.). *UNDERSTANDING COMMUNITY-LED APPROACHES TO COMMUNITY CHANGE*.

Baes, N., Haslam, N., & Vylomova, E. (2023). Semantic Shifts in Mental Health-Related Concepts. In N. Tahmasebi, S. Montariol, H. Dubossarsky, A. Kutuzov, S. Hengchen, D. Alfter, F. Periti, & P. Cassotti (Eds.), *Proceedings of the 4th Workshop on Computational Approaches to Historical Language Change* (pp. 119–128). Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.lchange-1.13

Baglioni, C., Bostanova, Z., Bacaro, V., Benz, F., Hertenstein, E., Spiegelhalder, K., Ruecker, G., Frase, L., Riemann, D., & Feige, B. (2020). A Systematic Review and Network Meta-Analysis of Randomized Controlled Trials Evaluating the Evidence Base of Melatonin, Light Exposure, Exercise, and Complementary and Alternative Medicine for Patients with Insomnia Disorder. In *JOURNAL OF CLINICAL MEDICINE* (Vol. 9, Issue 6). MDPI. https://doi.org/10.3390/jcm9061949

Balci, S., Spanhel, K., Sander, L. B., & Baumeister, H. (2022). Culturally adapting internet- and mobile-based health promotion interventions might not be worth the effort: A systematic review and meta-analysis. *NPJ Digital Medicine*, *5*(1), 34. https://doi.org/10.1038/s41746-022-00569-x

Barrera, M., Berkel, C., & Castro, F. G. (2017). Directions for the Advancement of Culturally Adapted Preventive Interventions: Local Adaptations, Engagement, and Sustainability. *Prevention Science*, *18*(6), 640–648. https://doi.org/10.1007/s11121-016-0705-9

Barrett, L. F. (2017). *How Emotions Are Made: The Secret Life of the Brain* (1st edition). Mariner Books.

Barrett, L. F., Adolphs, R., Marsella, S., Martinez, A. M., & Pollak, S. D. (2019). Emotional Expressions Reconsidered: Challenges to Inferring Emotion From Human Facial Movements. *Psychological Science in the Public Interest*, *20*(1), 1–68. https://doi.org/10.1177/1529100619832930

Batchelder, W. H., & Anders, R. (2012). Cultural Consensus Theory: Comparing different concepts of cultural truth. *Journal of Mathematical Psychology*, *56*(5), 316–332. https://doi.org/10.1016/j.jmp.2012.06.002

Baumann, A. A., Cabassa, L. J., & Stirman, S. W. (2017). Adaptation in Dissemination and Implementation Science. In R. C. Brownson, G. A. Colditz, & E. K. Proctor (Eds.), *Dissemination and Implementation Research in Health: Translating Science to Practice* (p. 0). Oxford University Press. https://doi.org/10.1093/oso/9780190683214.003.0017

Baumann, A. A., Powell, B. J., Kohl, P. L., Tabak, R. G., Penalba, V., Proctor, E. E., Domenech-Rodriguez, M. M., & Cabassa, L. J. (2015). Cultural Adaptation and Implementation of Evidence-Based Parent-Training: A Systematic Review and Critique of Guiding Evidence. *Children and Youth Services Review*, *53*, 113–120. https://doi.org/10.1016/j.childyouth.2015.03.025

Bernal, G., Bonilla, J., & Bellido, C. (1995). Ecological validity and cultural sensitivity for outcome research: Issues for the cultural adaptation and development of psychosocial treatments with Hispanics. *Journal of Abnormal Child Psychology*, *23*(1), 67–82. https://doi.org/10.1007/BF01447045

Bernal, G., Jiménez-Chafey, M. I., & Domenech Rodríguez, M. M. (2009). Cultural adaptation of treatments: A resource for considering culture in evidence-based practice. *Professional Psychology: Research and Practice*, *40*(4), 361–368. https://doi.org/10.1037/a0016401

Bo, A., Goings, T. C., Evans, C. B. R., Sharma, A., Jennings, Z., Durand, B., Bardeen, A., & Murray-Lichtman, A. (2023). Culturally sensitive prevention programs for substance use among adolescents of color: A systematic review and meta-analysis of randomized controlled trials. *Clinical Psychology Review*, *99*, 102233. https://doi.org/10.1016/j.cpr.2022.102233

Boness, C. L., Hershenberg, R., Grasso, D. J., Kaye, J., Mackintosh, M.-A., Nason, E., Shah, A., & Raffa, S. D. (2021). *The Society of Clinical Psychology's Manual for the Evaluation of Psychological Treatments Using the Tolin Criteria*. OSF Preprints. https://doi.org/10.31219/osf.io/8hcsz

Breugelmans, S. M., & Poortinga, Y. H. (2006). Emotion without a word: Shame and guilt among Rarámuri Indians and rural Javanese. *Journal of Personality and Social Psychology*, *91*(6), 1111–1122. https://doi.org/10.1037/0022-3514.91.6.1111

Cai, Q., Chan, A. C. Y., Lee, S.-K., Marsalis, S., & Gewirtz, A. H. (2022). Effectiveness of GenerationPMTO to Promote Parenting and Child Adjustment: A Meta-Analytic Review. *Clinical Child and Family Psychology Review*, *25*(4), 702–719. https://doi.org/10.1007/s10567-022-00400-9

Cardona, J. P., Holtrop, K., Córdova, D. J., Escobar-Chew, A. R., Horsford, S., Tams, L., Villarruel, F. A., Villalobos, G., Dates, B., Anthony, J. C., & Fitzgerald, H. E. (2009). "Queremos aprender": Latino immigrants' call to integrate cultural adaptation with best practice knowledge in a parenting intervention. *Family Process*, *48*(2), 211–231. https://doi.org/10.1111/j.1545-5300.2009.01278.x

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science*, *2*(1), 40. https://doi.org/10.1186/1748-5908-2-40

Carvalho, M. L., Honeycutt, S., Escoffery, C., Glanz, K., Sabbs, D., & Kegler, M. C. (2013). Balancing Fidelity and Adaptation: Implementing Evidence-Based Chronic Disease Prevention Programs. *Journal of Public Health Management and Practice*, *19*(4), 348. https://doi.org/10.1097/PHH.0b013e31826d80eb

Castellanos, R., Yildiz Spinel, M., Phan, V., Orengo-Aguayo, R., Humphreys, K. L., & Flory, K. (2020). A Systematic Review and Meta-Analysis of Cultural Adaptations of Mindfulness-Based

Interventions for Hispanic Populations. *Mindfulness*, *11*(2), 317–332. https://doi.org/10.1007/s12671-019-01210-x

Castro, F. G., Barrera, M., Jr., & Steiker, L. K. H. (2010). Issues and challenges in the design of culturally adapted evidence-based interventions. *Annual Review of Clinical Psychology*, *6*, 213–239. https://doi.org/10.1146/annurev-clinpsy-033109-132032

Chen, E. K., Reid, M. C., Parker, S. J., & Pillemer, K. (2013). Tailoring Evidence-Based Interventions for New Populations: A Method for Program Adaptation Through Community Engagement. *Evaluation & the Health Professions*, *36*(1), 73–92. https://doi.org/10.1177/0163278712442536

Chen, H., & Yu, Y. (2022). The impact of social-emotional learning: A meta-analysis in China. *Frontiers in Psychology*, *13*, 1040522. https://doi.org/10.3389/fpsyg.2022.1040522

Chibanda, D., Weiss, H. A., Verhey, R., Simms, V., Munjoma, R., Rusakaniko, S., Chingono, A., Munetsi, E., Bere, T., Manda, E., Abas, M., & Araya, R. (2016). Effect of a Primary Care–Based Psychological Intervention on Symptoms of Common Mental Disorders in Zimbabwe: A Randomized Clinical Trial. *JAMA*, *316*(24), 2618–2626. https://doi.org/10.1001/jama.2016.19102

Chu, J., & Leino, A. (2017). Advancement in the maturing science of cultural adaptations of evidence-based interventions. *Journal of Consulting and Clinical Psychology*, *85*(1), 45–57. https://doi.org/10.1037/ccp0000145

Cohen, A. B. (2009). Many forms of culture. *American Psychologist*, *64*(3), 194–204. https://doi.org/10.1037/a0015308

Cohen, D. (2001). Cultural variation: Considerations and implications. *Psychological Bulletin*, *127*(4), 451–471. https://doi.org/10.1037/0033-2909.127.4.451

Concannon, T. W., Fuster, M., Saunders, T., Patel, K., Wong, J. B., Leslie, L. K., & Lau, J. (2014). A Systematic Review of Stakeholder Engagement in Comparative Effectiveness and Patient-Centered Outcomes Research. *Journal of General Internal Medicine*, *29*(12), 1692–1701. https://doi.org/10.1007/s11606-014-2878-x

Contreras-Perez, M. E., Morris, S., Hospital, M., & Wagner, E. (2023). Culturally sensitive treatment for underrepresented adolescents with substance use: A systematic review. *Journal of Evidence-Based Social Work*, *20*(3), 404–424. https://doi.org/10.1080/26408066.2023.2168507

Coser, A., Kominsky, T. K., & White, E. J. (2021). For the Good of the Community: Considering the Impact of Evidence-Based Treatment Adaptation on Tribal Communities. *The Behavior Therapist*, *44*(4), 161–170.

Cuijpers, P., Karyotaki, E., de Wit, L., & Ebert, D. D. (2020). The effects of fifteen evidence-supported therapies for adult depression: A meta-analytic review. In *Psychotherapy Research* (Vol. 30, Issue 3, pp. 279–293). ROUTLEDGE JOURNALS, TAYLOR & FRANCIS LTD. https://doi.org/10.1080/10503307.2019.1649732

Cuijpers, P., Reijnders, M., & Huibers, M. J. H. (2019). The Role of Common Factors in Psychotherapy Outcomes. *Annual Review of Clinical Psychology*, *15*, 207–231. https://doi.org/10.1146/annurev-clinpsy-050718-095424

Davenport, M., Mazurek, M., Brown, A., & McCollom, E. (2018). A systematic review of cultural considerations and adaptation of social skills interventions for individuals with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *52*, 23–33. https://doi.org/10.1016/j.rasd.2018.05.003

Dawson, A. Z., Walker, R. J., Campbell, J. A., Davidson, T. M., & Egede, L. E. (2020). Telehealth and indigenous populations around the world: A systematic review on current modalities for physical and mental health. *mHealth*, *6*, 30. https://doi.org/10.21037/mhealth.2019.12.03

Day, S., Laver, K., Jeon, Y.-H., Radford, K., & Low, L.-F. (2023). Frameworks for cultural adaptation of psychosocial interventions: A systematic review with narrative synthesis. *Dementia (London, England)*, 14713012231192360. https://doi.org/10.1177/14713012231192360

Degnan, A., Baker, S., Edge, D., Nottidge, W., Noke, M., Press, C. J., Husain, N., Rathod, S., & Drake, R. J. (2018). The nature and efficacy of culturally-adapted psychosocial interventions for

schizophrenia: A systematic review and meta-analysis. *Psychological Medicine*, *48*(5), 714–727. https://doi.org/10.1017/S0033291717002264

DeLuca, S. M., Kelman, A. R., & Waelde, L. C. (2018). A systematic review of ethnoracial representation and cultural adaptation of mindfulness- and meditation-based interventions. *Psychological Studies*, *63*(2), 117–129. https://doi.org/10.1007/s12646-018-0452-z

Domenech-Rodríguez, M., & Wieling, E. (2005). Voices of Color: First-Person Accounts of Ethnic Minority Therapists. In *Voices of Color: First-Person Accounts of Ethnic Minority Therapists* (pp. 313–334). SAGE Publications, Inc. https://doi.org/10.4135/9781452231662

Durrant, R., & Thakker, J. (2003). *Substance Use & Abuse: Cultural and Historical Perspectives*. https://doi.org/10.4135/9781452229676

Ennis, N., Shorer, S., Shoval-Zuckerman, Y., Freedman, S., Monson, C. M., & Dekel, R. (2020). Treating posttraumatic stress disorder across cultures: A systematic review of cultural adaptations of trauma-focused cognitive behavioral therapies. *Journal of Clinical Psychology*, *76*(4), 587–611. https://doi.org/10.1002/jclp.22909

Escobar, K. M., & Gorey, K. M. (2018a). Cognitive behavioral interventions for depression among Hispanic people: Promising meta-analytic evidence for deep cultural adaptations. *Social Work in Mental Health*, *16*(6), 746–758. https://doi.org/10.1080/15332985.2018.1476284

Escobar, K. M., & Gorey, K. M. (2018b). Cognitive-behavioral interventions for anxiety disorders: Rapid review suggestion of larger effects among Hispanic than non-Hispanic White people. *Journal of Social Service Research*, *44*(2), 132–140. https://doi.org/10.1080/01488376.2018.1428923

Escoffery, C., Lebow-Skelley, E., Udelson, H., Böing, E. A., Wood, R., Fernandez, M. E., & Mullen, P. D. (2019). A scoping study of frameworks for adapting public health evidence-based interventions. *Translational Behavioral Medicine*, *9*(1), 1–10. https://doi.org/10.1093/tbm/ibx067

Evans, R. E., Moore, G., Movsisyan, A., & Rehfuess, E. (2021). How can we adapt complex population health interventions for new contexts? Progressing debates and research priorities. *J Epidemiol Community Health*, *75*(1), 40–45. https://doi.org/10.1136/jech-2020-214468

Farias, M., Maraldi, E., Wallenkampf, K. C., & Lucchetti, G. (2020). Adverse events in meditation practices and meditation-based therapies: A systematic review. *Acta Psychiatrica Scandinavica*, *142*(5), 374–393. https://doi.org/10.1111/acps.13225

Farias, M., & Wikholm, C. (2016). Has the science of mindfulness lost its mind? *BJPsych Bulletin*, *40*(6), 329–332. https://doi.org/10.1192/pb.bp.116.053686

Faulkner, S. L., Baldwin, J. R., Lindsley, S. L., & Hecht, M. L. (2006). Layers of Meaning: An Analysis of Definitions of Culture. In *Redefining culture: Perspectives across the disciplines* (pp. 27–52). Lawrence Erlbaum Associates Publishers.

Fendt-Newlin, M., Jagannathan, A., & Webber, M. (2020). Cultural adaptation framework of social interventions in mental health: Evidence-based case studies from low- and middle-income countries. *The International Journal of Social Psychiatry*, *66*(1), 41–48. https://doi.org/10.1177/0020764019879943

Ferrer-Wreder, L., Sundell, K., & Mansoory, S. (2012). Tinkering with perfection: Theory development in the intervention cultural adaptation field. *Child & Youth Care Forum*, *41*(2), 149–171. https://doi.org/10.1007/s10566-011-9162-6

Fink, G., Kölling, M., & Neyer, A.-K. (2005). *The cultural standard method* (Paper 62). Europainstitut, WU Vienna University of Economics and Business. https://epub.wu.ac.at/450/

Fischer, R. (2012). Intersubjective Culture. *Swiss Journal of Psychology*, *71*(1), 13–20. https://doi.org/10.1024/1421-0185/a000067

Fischer, R. (2017). *Personality, Values, Culture: An Evolutionary Approach*. Cambridge University Press. https://doi.org/10.1017/9781316091944

Fischer, R., Bortolini, T., Karl, J. A., Zilberberg, M., Robinson, K., Rabelo, A., Gemal, L., Wegerhoff, D., Nguyễn, T. B. T., Irving, B., Chrystal, M., & Mattos, P. (2020). Rapid Review and Meta-Meta-Analysis of Self-Guided Interventions to Address Anxiety, Depression, and Stress

During COVID-19 Social Distancing. *Frontiers in Psychology*, *11*. https://www.frontiersin.org/article/10.3389/fpsyg.2020.563876

Fischer, R., Bozza, B., Victorino, C., Motta, M., Arouca, L., & Bozza, F. A. (2022). What did you do to stay `sane' during the pandemic? A qualitative study to identify self-care mental health strategies utilized in a socially vulnerable population. *Gates Open Research*, *6*, 79. https://doi.org/10.12688/gatesopenres.13658.1

Fischer, R., Ferreira, M. C., Van Meurs, N., Gok, K., Jiang, D.-Y., Fontaine, J. R. J., Harb, C., Cieciuch, J., Achoui, M., Mendoza, M. S. D., & others. (2017). Does organizational formalization facilitate voice and helping organizational citizenship behaviors? It depends on (national) uncertainty norms. *Journal of International Business Studies*.

Fischer, R., & Hartle, L. (2022). Effective interventions to reduce loneliness in big cities. *Current Opinion in Psychiatry*. https://doi.org/10.1097/YCO.0000000000000844

Fischer, R., & Karl, J. A. (2019). A Primer to (Cross-Cultural) Multi-Group Invariance Testing Possibilities in R. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.01507

Fischer, R., Karl, J., & Luczak-Roesch, M. (2023). *The issue of measurement invariance – Rethinking mapping processes and their theoretical implications*. https://doi.org/10.31234/osf.io/3f9ca

Fischer, R., & Poortinga, Y. H. (2018). Addressing Methodological Challenges in Culture-Comparative Research. *Journal of Cross-Cultural Psychology*, *49*(5), 691–712. https://doi.org/10.1177/0022022117738086

Fontaine, J. R. J. (2005). Equivalence. In K. Kempf-Leonard (Ed.), *Encyclopedia of Social Measurement* (pp. 803–813). Elsevier. https://doi.org/10.1016/B0-12-369398-5/00116-X

Fontaine, J. R. J. (2011). A fourfold conceptual framework for cultural and cross-cultural psychology: Relativism, construct universalism, repertoire universalism and absolutism. In *Fundamental questions in cross-cultural psychology* (pp. 165–189). Cambridge University Press. https://doi.org/10.1017/CBO9780511974090.008

Fried, E. I., Epskamp, S., Nesse, R. M., Tuerlinckx, F., & Borsboom, D. (2016). What are "good" depression symptoms? Comparing the centrality of DSM and non-DSM symptoms of depression in a network analysis. *Journal of Affective Disorders*, *189*, 314–320. https://doi.org/10.1016/j.jad.2015.09.005

Galvin, M., & Byansi, W. (2020). A systematic review of task shifting for mental health in sub-Saharan Africa. *International Journal of Mental Health*, *49*(4), 336–360. https://doi.org/10.1080/00207411.2020.1798720

Gardner, F., Montgomery, P., & Knerr, W. (2016). Transporting evidence-based parenting programs for child problem behavior (age 3–10) between countries: Systematic review and meta-analysis. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 749–762. https://doi.org/10.1080/15374416.2015.1015134

Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., Duan, L., Almaliach, A., Ang, S., Arnadottir, J., Aycan, Z., Boehnke, K., Boski, P., Cabecinhas, R., Chan, D., Chhokar, J., D'Amato, A., Ferrer, M., Fischlmayr, I. C., … Yamaguchi, S. (2011). Differences between tight and loose cultures: A 33-nation study. *Science*, *332*(6033), 1100–1104.

Gibson, M. A., & Mace, R. (2006). An Energy-Saving Development Initiative Increases Birth Rate and Childhood Malnutrition in Rural Ethiopia. *PLOS Medicine*, *3*(4), e87. https://doi.org/10.1371/journal.pmed.0030087

Gillespie, S., Banegas, J., Maxwell, J., Chan, A. C. Y., Darawshy, N. A.-S., Wasil, A. R., Marsalis, S., & Gewirtz, A. (2022). Parenting interventions for refugees and forcibly displaced families: A systematic review. *Clinical Child and Family Psychology Review*, *25*(2), 395–412. https://doi.org/10.1007/s10567-021-00375-z

Goldenberg, O., & Wiley, J. (2011). Quality, Conformity, and Conflict: Questioning the Assumptions of Osborn's Brainstorming Technique. *The Journal of Problem Solving*, *3*(2). https://doi.org/10.7771/1932-6246.1093

Gonzales, N. A. (2017). Expanding the Cultural Adaptation Framework for Population-Level Impact. *Prevention Science: The Official Journal of the Society for Prevention Research*, *18*(6), 689–693. https://doi.org/10.1007/s11121-017-0808-y

González Moller, J., Heaphy, G., & Urrutia Ortiz, J. (2021). The feasibility of systemic interventions for the prevention and treatment of children and adolescent mental health difficulties in Latin American countries: A mixed studies systematic review. *Journal of Family Therapy*, *43*(4), 576–620. https://doi.org/10.1111/1467-6427.12327

Goodman, M. S., & Sanders Thompson, V. L. (2017). The science of stakeholder engagement in research: Classification, implementation, and evaluation. *Translational Behavioral Medicine*, *7*(3), 486–491. https://doi.org/10.1007/s13142-017-0495-z

Griner, D., & Smith, T. B. (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy (Chicago, Ill.)*, *43*(4), 531–548. https://doi.org/10.1037/0033-3204.43.4.531

Haft, S. L., O'Grady, S. M., Shaller, E. A. L., & Liu, N. H. (2022). Cultural adaptations of dialectical behavior therapy: A systematic review. *Journal of Consulting and Clinical Psychology*, *90*(10), 787–801. https://doi.org/10.1037/ccp0000730

Hall, G. C. N., Ibaraki, A. Y., Huang, E. R., Marti, C. N., & Stice, E. (2016). A Meta-Analysis of Cultural Adaptations of Psychological Interventions. *Behavior Therapy*, *47*(6), 993–1014. https://doi.org/10.1016/j.beth.2016.09.005

Heim, E., & Kohrt, B. A. (2019). Cultural Adaptation of Scalable Psychological Interventions: *Clinical Psychology in Europe*, *1*(4), Article 4. https://doi.org/10.32872/cpe.v1i4.37679

Heim, E., Mewes, R., Abi Ramia, J., Glaesmer, H., Hall, B., Harper Shehadeh, M., Ünlü, B., Kananian, S., Kohrt, B. A., Lechner-Meichsner, F., Lotzin, A., Moro, M. R., Radjack, R., Salamanca-Sanabria, A., Singla, D. R., Starck, A., Sturm, G., Tol, W., Weise, C., & Knaevelsrud, C. (2021). Reporting Cultural Adaptation in Psychological Trials—The RECAPT criteria. *Clinical Psychology in Europe*, *3*(Spec Issue), e6351. https://doi.org/10.32872/cpe.6351

Hernandez Robles, E., Maynard, B. R., Salas-Wright, C. P., & Todic, J. (2018). Culturally Adapted Substance Use Interventions for Latino Adolescents: A Systematic Review and Meta-Analysis. *Research on Social Work Practice*, *28*(7), 789–801. https://doi.org/10.1177/1049731516676601

Hinton, D. E., & Lewis-Fernández, R. (2010). Idioms of distress among trauma survivors: Subtypes and clinical utility. *Culture, Medicine and Psychiatry*, *34*(2), 209–218. https://doi.org/10.1007/s11013-010-9175-x

Hinton, D. E., & Otto, M. W. (2006). Symptom Presentation and Symptom Meaning Among Traumatized Cambodian Refugees: Relevance to a Somatically Focused Cognitive-Behavior Therapy. *Cognitive and Behavioral Practice*, *13*(4), 249–260. https://doi.org/10.1016/j.cbpra.2006.04.006

Hinton, D. E., & Patel, A. (2017). Cultural adaptations of cognitive behavioral therapy. *Psychiatric Clinics of North America*, *40*(4), 701–714. https://doi.org/10.1016/j.psc.2017.08.006

Hinton, D. E., Rivera, E. I., Hofmann, S. G., Barlow, D. H., & Otto, M. W. (2012). Adapting CBT for traumatized refugees and ethnic minority patients: Examples from culturally adapted CBT (CA-CBT). *Transcultural Psychiatry*, *49*(2), 340–365. https://doi.org/10.1177/1363461512441595

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. SAGE Publications.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*. SAGE.

Huey, S. J., Tilley, J. L., Jones, E. O., & Smith, C. A. (2014). The contribution of cultural competence to evidence-based care for ethnically diverse populations. *Annual Review of Clinical Psychology*, *10*, 305–338. https://doi.org/10.1146/annurev-clinpsy-032813-153729

Ibrahim, S., & Sidani, S. (2014). Strategies to Recruit Minority persons: A Systematic Review. *Journal of Immigrant and Minority Health*, *16*(5), 882–888. https://doi.org/10.1007/s10903-013-9783-y

Iwasaki, Y., Mackay, K. J., Mactavish, J. B., Ristock, J., & Bartlett, J. (2006). Voices from the Margins: Stress, Active Living, and Leisure as a Contributor to Coping with Stress. *Leisure Sciences*, *28*(2), 163–180. https://doi.org/10.1080/01490400500484065

Kalibatseva, Z., & Leong, F. T. L. (2014). A critical review of culturally sensitive treatments for depression: Recommendations for intervention and research. *Psychological Services*, *11*(4), 433–450. https://doi.org/10.1037/a0036047

Kanazawa, A., White, P. M., & Hampson, S. E. (2007). Ethnic Variation in Depressive Symptoms in a Community Sample in Hawai'i. *Cultural Diversity & Ethnic Minority Psychology*, *13*(1), 35–44. https://doi.org/10.1037/1099-9809.13.1.35

Karl, J. A., Johnson, F. N., Bucci, L., & Fischer, R. (2022). In search of mindfulness: A review and reconsideration of cultural dynamics from a cognitive perspective. *Journal of the Royal Society of New Zealand*, *52*(2), 168–191. https://doi.org/10.1080/03036758.2021.1915804

Karlan, D., & Zinman, J. (2011). Microcredit in theory and practice: Using randomized credit scoring for impact evaluation. *Science (New York, N.Y.)*, *332*(6035), 1278–1284. https://doi.org/10.1126/science.1200138

Kato, T. A., Kanba, S., & Teo, A. R. (2019). Hikikomori: Multidimensional understanding, assessment, and future international perspectives. *Psychiatry and Clinical Neurosciences*, *73*(8), 427–440. https://doi.org/10.1111/pcn.12895

Keyzer, J. F., Melnikow, J., Kuppermann, M., Birch, S., Kuenneth, C., Nuovo, J., Azari, R., Oto-Kent, D., & Rooney, M. (2005). Recruitment Strategies for Minority Participation: Challenges and Cost Lessons from the POWER Interview. *Ethnicity & Disease*, *15*(3), 395–406.

Khaled, R., Barr, P., Fischer, R., Noble, J., & Biddle, R. (2006). Factoring culture into the design of a persuasive game. *Proceedings of the 18th Australia Conference on Computer-Human Interaction: Design: Activities, Artefacts and Environments*, 213–220. https://doi.org/10.1145/1228175.1228213

Kirkpatrick, D. L., & Kirkpatrick, J. D. (2006). *Evaluating Training Programs: The Four Levels* (3rd edition). Berrett-Koehler Publishers.

Knipe, D., Williams, A. J., Hannam-Swain, S., Upton, S., Brown, K., Bandara, P., Chang, S.-S., & Kapur, N. (2019). Psychiatric morbidity and suicidal behaviour in low- and middle-income countries: A systematic review and meta-analysis. *PLOS Medicine*, *16*(10), e1002905. https://doi.org/10.1371/journal.pmed.1002905

Kohrt, B. A., Rasmussen, A., Kaiser, B. N., Haroz, E. E., Maharjan, S. M., Mutamba, B. B., de Jong, J. T. V. M., & Hinton, D. E. (2014). Cultural concepts of distress and psychiatric disorders: Literature review and research recommendations for global mental health epidemiology. *International Journal of Epidemiology*, *43*(2), 365–406. https://doi.org/10.1093/ije/dyt227

Kreuter, M. W., Lukwago, S. N., Bucholtz, D. C., Clark, E. M., & Sanders-Thompson, V. (2003). Achieving Cultural Appropriateness in Health Promotion Programs: Targeted and Tailored Approaches. *Health Education & Behavior*, *30*(2), 133–146. https://doi.org/10.1177/1090198102251021

Kuzel, A. (1999). *Sampling in qualitative inquiry. Doing Qualitative Research. 2nd. Edited by Crabtree BF, Miller WL*. Thousand Oaks, CA: Sage Publications.

Lau, A. S. (2006). Making the Case for Selective and Directed Cultural Adaptations of Evidence-Based Treatments: Examples From Parent Training. *Clinical Psychology: Science and Practice*, *13*(4), 295–310. https://doi.org/10.1111/j.1468-2850.2006.00042.x

Leitgöb, H., Seddig, D., Asparouhov, T., Behr, D., Davidov, E., De Roover, K., Jak, S., Meitinger, K., Menold, N., Muthén, B., Rudnev, M., Schmidt, P., & van de Schoot, R. (2023). Measurement invariance in the social sciences: Historical development, methodological challenges, state of the art, and future perspectives. *Social Science Research*, *110*, 102805. https://doi.org/10.1016/j.ssresearch.2022.102805

Leong, F. T., & Lee, S.-H. (2006). A cultural accommodation model for cross-cultural psychotherapy: Illustrated with the case of Asian Americans. *Psychotherapy: Theory, Research, Practice, Training*, *43*(4), 410–423. https://doi.org/10.1037/0033-3204.43.4.410

Li, S., Xi, Z., Barnett, P., Saunders, R., Shafran, R., & Pilling, S. (2023). Efficacy of culturally adapted interventions for common mental disorders in people of Chinese descent: A systematic review and meta-analysis. *The Lancet Psychiatry*, *10*(6), 426–440. https://doi.org/10.1016/S2215-0366(23)00118-9

Lim, N., O'Reilly, M., Russell-George, A., & Londoño, F. V. (2023). A meta-analysis of parenting interventions for immigrants. *Prevention Science*. https://doi.org/10.1007/s11121-022-01488-9

Lipsey, M. W. (1996). Key issues in intervention research: A program evaluation perspective. *American Journal of Industrial Medicine*, *29*(4), 298–302. https://doi.org/10.1002/(SICI)1097-0274(199604)29:4<298::AID-AJIM4>3.0.CO;2-L

Lipsey, M. W., & Cordray, D. S. (2000). Evaluation methods for social intervention. *Annual Review of Psychology*, *51*, 345–375. https://doi.org/10.1146/annurev.psych.51.1.345

Liu, Q., Hsieh, W.-Y., & Chen, G. (2020). A systematic review and meta-analysis of parent-mediated intervention for children and adolescents with autism spectrum disorder in mainland China, Hong Kong, and Taiwan. *Autism*, *24*(8), 1960–1979. https://doi.org/10.1177/1362361320943380

Lonner, W. J. (2011). Universals. In *The Encyclopedia of Cross-Cultural Psychology* (pp. 1308–1311). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118339893.wbeccp553

Lovell, K., Lamb, J., Gask, L., Bower, P., Waheed, W., Chew-Graham, C., Lamb, J., Aseem, S., Beatty, S., Burroughs, H., Clarke, P., Dowrick, A., Edwards, S., Gabbay, M., Lloyd-Williams, M., & Dowrick, C. (2014). Development and evaluation of culturally sensitive psychosocial interventions for under-served people in primary care. *BMC Psychiatry*, *14*(1), 217. https://doi.org/10.1186/s12888-014-0217-8

Mabunda, D., Oliveira, D., Sidat, M., Cavalcanti, M. T., Cumbe, V., Mandlate, F., Wainberg, M., Cournos, F., & de Jesus Mari, J. (2022). Cultural adaptation of psychological interventions for people with mental disorders delivered by lay health workers in Africa: Scoping review and expert consultation. *International Journal of Mental Health Systems*, *16*, 16. https://doi.org/10.1186/s13033-022-00526-x

Maraldi, E. O., Taves, A., Moll, J., Hartle, L., Moreira-de-Oliveira, M. E., Bortolini, T., & Fischer, R. (2023). Nonordinary experiences, wellbeing and mental health: A systematic review of the evidence and recommendations for future research. *Journal of Religion and Health*.

Mascayano, F., Toso-Salman, J., Ho, Y. C. S., Dev, S., Tapia, T., Thornicroft, G., Cabassa, L. J., Khenti, A., Sapag, J., Bobbili, S. J., Alvarado, R., Yang, L. H., & Susser, E. (2020). Including culture in programs to reduce stigma toward people with mental disorders in low- and middle-income countries. *Transcultural Psychiatry*, *57*(1), 140–160. https://doi.org/10.1177/1363461519890964

Matsumoto, D. R., & Vijver, F. J. R. van de (Eds.). (2011). *Cross-cultural research methods in psychology*. Cambridge University Press.

Mayer, B., Trommsdorff, G., Kagitcibasi, C., & Mishra, R. C. (2012). Family models of independence/interdependence and their intergenerational similarity in Germany, Turkey, and India. *Family Science*, *3*(1), 64–74. https://doi.org/10.1080/19424620.2011.671503

McCauley, R. N., & Graham, G. (2020). *Hearing Voices and Other Matters of the Mind: What Mental Abnormalities Can Teach Us About Religions*. Oxford University Press.

McCleary, J. S., & Horn, T. L. (2023). Processes for culturally adapting behavioral health interventions for people with refugee backgrounds: A scoping review. *American Journal of Community Psychology*. https://doi.org/10.1002/ajcp.12709

McWha-Hermann, I., Jandric, J., Cook-Lundgren, E., & Carr, S. C. (2022). Toward fairer global reward: Lessons from international non-governmental organizations. *International Business Review*, *31*(1), 101897. https://doi.org/10.1016/j.ibusrev.2021.101897

Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika*, *58*(4), 525–543. https://doi.org/10.1007/BF02294825

Montero-Marin, J., Allwood, M., Ball, S., Crane, C., Wilde, K. D., Hinze, V., Jones, B., Lord, L., Nuthall, E., Raja, A., Taylor, L., Tudor, K., Team, M., Blakemore, S.-J., Byford, S., Dalgleish, T., Ford, T., Greenberg, M. T., Ukoumunne, O. C., … Kuyken, W. (2022). School-based mindfulness training in early adolescence: What works, for whom and how in the MYRIAD trial? *Evidence-Based Mental Health*, *25*(3), 117–124. https://doi.org/10.1136/ebmental-2022-300439

Moretti, F., Fischer, R., Bozza, F. A., & Arouca, L. (2023). Usability, preferences and content design adaptations for a mental health platform: Lessons learnt with a mixed method approach in vulnerable communities. *Manuscript in Preparation*, 1–35.

NiaNia, W., Bush, A., & Epston, D. (2017). *Collaborative and indigenous mental health therapy: Tātaihono, stories of Māori healing and psychiatry*. Routledge, Taylor & Francis Group.

Nisar, A., Yin, J., Yiping, N., Lanting, H., Zhang, J., Wang, D., Rahman, A., & Li, X. (2020). Making therapies culturally relevant: Translation, cultural adaptation and field-testing of the Thinking Healthy Programme for perinatal depression in China. *BMC Pregnancy and Childbirth*, *20*(1), 368. https://doi.org/10.1186/s12884-020-03044-1

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, *108*(2), 291–310. https://doi.org/10.1037/0033-295X.108.2.291

Norenzayan, A., & Heine, S. J. (2005). Psychological universals: What are they and how can we know? *Psychological Bulletin*, *131*(5), 763–784. https://doi.org/10.1037/0033-2909.131.5.763

O'Cathain, A., Croot, L., Sworn, K., Duncan, E., Rousseau, N., Turner, K., Yardley, L., & Hoddinott, P. (2019). Taxonomy of approaches to developing interventions to improve health: A systematic methods overview. *Pilot and Feasibility Studies*, *5*(1), 41. https://doi.org/10.1186/s40814-019-0425-6

Parra Cardona, J. R., Domenech-Rodriguez, M., Forgatch, M., Sullivan, C., Bybee, D., Holtrop, K., Escobar-Chew, A. R., Tams, L., Dates, B., & Bernal, G. (2012). Culturally Adapting an Evidence-Based Parenting Intervention for Latino Immigrants: The Need to Integrate Fidelity and Cultural Relevance. *Family Process*, *51*(1), 56–72. https://doi.org/10.1111/j.1545-5300.2012.01386.x

Parra-Cardona, R., Banderas Montalva, J. M., Muñoz Retamal, V., Cantizano Rioseco, L., Perry Mitchell, R., Amador Buenabad, N., & Domenech Rodríguez, M. (2023). Culturally adapting an evidence-based parenting intervention for the Chilean context: Balancing fidelity, context, and cultural relevance. *Family Process*, *62*(1), 182–200. https://doi.org/10.1111/famp.12837

Parra-Cardona, R., Retamal, V. M., Fajuri, P. P., Rioseco, L. C., Mitchell, R. P., Molina, M. L. C., & Buenabad, N. A. (2023). A culturally adapted parenting intervention for the Chilean context: Qualitative indicators of participant satisfaction and contextual and cultural relevance. *Journal of Marital and Family Therapy*, *49*(2), 293–316. https://doi.org/10.1111/jmft.12622

Perera, C., Salamanca-Sanabria, A., Caballero-Bernal, J., Feldman, L., Hansen, M., Bird, M., Hansen, P., Dinesen, C., Wiedemann, N., & Vallières, F. (2020). No implementation without cultural adaptation: A process for culturally adapting low-intensity psychological interventions in humanitarian settings. *Conflict and Health*, *14*, 46. https://doi.org/10.1186/s13031-020-00290-0

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. *Administration and Policy in Mental Health*, *38*(2), 65–76. https://doi.org/10.1007/s10488-010-0319-7

Ramirez, M., Duran, M. C., Penfold, R. B., Pabiniak, C. J., Hansen, K. E., & Ornelas, I. J. (2023). STAR-Caregivers Virtual Training and Follow-up: A cultural adaptation for Latino caregivers of people with dementia. *Translational Behavioral Medicine*, *13*(9), 625–634. https://doi.org/10.1093/tbm/ibad028

Rank, J., Pace, V. L., & Frese, M. (2004). Three Avenues for Future Research on Creativity, Innovation, and Initiative. *Applied Psychology*, *53*(4), 518–528. https://doi.org/10.1111/j.1464-0597.2004.00185.x

Resnicow, K., Baranowski, T., Ahluwalia, J. S., & Braithwaite, R. L. (1999). Cultural sensitivity in public health: Defined and demystified. *Ethnicity & Disease*, *9*(1), 10–21.

Resnicow, K., Soler, R., Braithwaite, R. L., Ahluwalia, J. S., & Butler, J. (2000). Cultural sensitivity in substance use prevention. *Journal of Community Psychology*, *28*(3), 271–290. https://doi.org/10.1002/(SICI)1520-6629(200005)28:3<271::AID-JCOP4>3.0.CO;2-I

Romani, L., Primecz, H., & Topçu, K. (2011). Paradigm Interplay for Theory Development: A Methodological Example With the Kulturstandard Method. *Organizational Research Methods*, *14*(3), 432–455. https://doi.org/10.1177/1094428109358270

Ruiz-Perez, I., Murphy, M., Pastor-Moreno, G., Rojas-García, A., & Rodríguez-Barranco, M. (2017). The effectiveness of HIV prevention interventions in socioeconomically disadvantaged ethnic minority women: A systematic review and meta-analysis. *American Journal of Public Health*, *107*(12), e13–e21. https://doi.org/10.2105/AJPH.2017.304067

Sanders, M. R., Divan, G., Singhal, M., Turner, K. M. T., Velleman, R., Michelson, D., & Patel, V. (2022). Scaling Up Parenting Interventions is Critical for Attaining the Sustainable Development Goals. *Child Psychiatry & Human Development*, *53*(5), 941–952. https://doi.org/10.1007/s10578-021-01171-0

Sangraula, M., Kohrt, B. A., Ghimire, R., Shrestha, P., Luitel, N. P., Van't Hof, E., Dawson, K., & Jordans, M. J. D. (2021). Development of the mental health cultural adaptation and contextualization for implementation (mhCACI) procedure: A systematic framework to prepare evidence-based psychological interventions for scaling. *Global Mental Health (Cambridge, England)*, *8*, e6. https://doi.org/10.1017/gmh.2021.5

Seward, N., Hanlon, C., Abdella, A., Abrahams, Z., Alem, A., Araya, R., Bachmann, M., Bekele, A., Bogale, B., Brima, N., Chibanda, D., Curran, R., Davies, J., Beyene, A., Fairall, L., Farrant, L., Frissa, S., Gallagher, J., Gao, W., … Prince, M. (2022). HeAlth System StrEngThening in four sub-Saharan African countries (ASSET) to achieve high-quality, evidence-informed surgical, maternal and newborn, and primary care: Protocol for pre-implementation phase studies. *Global Health Action*, *15*(1), 1987044. https://doi.org/10.1080/16549716.2021.1987044

Simon, G. E., VonKorff, M., Piccinelli, M., Fullerton, C., & Ormel, J. (1999). An international study of the relation between somatic symptoms and depression. *The New England Journal of Medicine*, *341*(18), 1329–1335. https://doi.org/10.1056/NEJM199910283411801

Smith, P. B., Fischer, R., Vignoles, V. L., & Bond, M. H. (2013). *Understanding Social Psychology Across Cultures: Engaging with Others in a Changing World* (Second edition). SAGE Publications Ltd.

Smith, P. B., Peterson, M. F., Schwartz, S. H., Ahmad, A. H., Akande, D., Andersen, J. A., Ayestaran, S., Bochner, S., Callan, V., Davila, C., Ekelund, B., François, P.-H., Graversen, G., Harb, C., Jesuino, J., Kantas, A., Karamushka, L., Koopman, P., Leung, K., … Yanchuk, V. (2002). Cultural values, sources of guidance, and their relevance to managerial behavior: A 47-nation study. *Journal of Cross-Cultural Psychology*, *33*(2), 188–208. https://doi.org/10.1177/0022022102033002005

Spanhel, K., Balci, S., Feldhahn, F., Bengel, J., Baumeister, H., & Sander, L. B. (2021). Cultural adaptation of internet- and mobile-based interventions for mental disorders: A systematic review. *NPJ Digital Medicine*, *4*(1), 128. https://doi.org/10.1038/s41746-021-00498-1

Steinka-Fry, K. T., Tanner-Smith, E. E., Dakof, G. A., & Henderson, C. (2017). Culturally sensitive substance use treatment for racial/ethnic minority youth: A meta-analytic review. *Journal of Substance Abuse Treatment*, *75*, 22–37. https://doi.org/10.1016/j.jsat.2017.01.006

Sundell, K., Beelmann, A., Hasson, H., & von Thiele Schwarz, U. (2016). Novel programs, international adoptions, or contextual adaptations? Meta-analytical results from German and

Swedish intervention research. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 784–796. https://doi.org/10.1080/15374416.2015.1020540

Taras, V., Steel, P., & Kirkman, B. L. (2011). Three decades of research on national culture in the workplace: Do the differences still make a difference? *Organizational Dynamics*, *40*(3), 189–198. https://doi.org/10.1016/j.orgdyn.2011.04.006

Taves, A. (2020). Mystical and Other Alterations in Sense of Self: An Expanded Framework for Studying Nonordinary Experiences. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, *15*(3), 669–690. https://doi.org/10.1177/1745691619895047

Taves, A., & Barlev, M. (2022). A feature-based approach to the comparative study of "nonordinary" experiences. *The American Psychologist*. https://doi.org/10.1037/amp0000990

Tolin, D. F., McKay, D., Forman, E. M., Klonsky, E. D., & Thombs, B. D. (2015). Empirically Supported Treatment: Recommendations for a New Model. *Clinical Psychology: Science and Practice*, *22*(4), 317–338. https://doi.org/10.1111/cpsp.12122

Tran, H. V., Nong, H. T. T., Tran, T. T. T., Filipowicz, T. R., Landrum, K. R., Pence, B. W., Le, G. M., Nguyen, M. X., Chibanda, D., Verhey, R., Go, V. F., Ho, H. T., & Gaynes, B. N. (2022). Adaptation of a Problem-solving Program (Friendship Bench) to Treat Common Mental Disorders Among People Living With HIV and AIDS and on Methadone Maintenance Treatment in Vietnam: Formative Study. *JMIR Formative Research*, *6*(7), e37211. https://doi.org/10.2196/37211

Tylee, A., & Gandhi, P. (2005). The Importance of Somatic Symptoms in Depression in Primary Care. *Primary Care Companion to The Journal of Clinical Psychiatry*, *7*(4), 167–176.

Vaccarino, A. L., Sills, T. L., Evans, K. R., & Kalali, A. H. (2008). Prevalence and association of somatic symptoms in patients with Major Depressive Disorder. *Journal of Affective Disorders*, *110*(3), 270–276. https://doi.org/10.1016/j.jad.2008.01.009

Vally, Z., & Maggott, C. (2015). Evaluating the outcome of cultural adaptations of cognitive-behavioural therapy for adult depression: A meta-analysis of treatment studies in developing countries. *International Journal for the Advancement of Counselling*, *37*(4), 293–304. https://doi.org/10.1007/s10447-015-9244-5

van de Vijver, F. J. R., & Leung, K. (1997). *Methods and data analysis for cross-cultural research* (pp. xiii, 186). Sage Publications, Inc.

Van De Vijver, F. J. R., & Poortinga, Y. H. (1982). Cross-Cultural Generalization and Universality. *Journal of Cross-Cultural Psychology*, *13*(4), 387–408. https://doi.org/10.1177/0022002182013004001

van Mourik, K., Crone, M. R., de Wolff, M. S., & Reis, R. (2017). Parent Training Programs for Ethnic Minorities: A Meta-analysis of Adaptations and Effect. *Prevention Science : The Official Journal of the Society for Prevention Research*, *18*(1), 95–105. https://doi.org/10.1007/s11121-016-0733-5

Vandenberg, R. J., & Lance, C. E. (2000). A Review and Synthesis of the Measurement Invariance Literature: Suggestions, Practices, and Recommendations for Organizational Research. *Organizational Research Methods*, *3*(1), 4–70. https://doi.org/10.1177/109442810031002

Waterman, S., Cole, C. L., Greenberg, N., Rubin, G. J., & Beck, A. (2019). A qualitative study assessing the feasibility of implementing a group cognitive–behavioural therapy-based intervention in Sierra Leone. *BJPsych International*, *16*(2), 31–34. https://doi.org/10.1192/bji.2018.7

Whitbeck, L. B. (2006). Some guiding assumptions and a theoretical model for developing culturally specific preventions with Native American people. *Journal of Community Psychology*, *34*(2), 183–192. https://doi.org/10.1002/jcop.20094

Wieling, E., Mehus, C., Möllerherm, J., Neuner, F., Achan, L., & Catani, C. (2015). Assessing the Feasibility of Providing a Parenting Intervention for War-Affected Families in Northern Uganda. *Family & Community Health*, *38*(3), 252–267. https://doi.org/10.1097/FCH.0000000000000064

Wieling, E., Mehus, C., Yumbul, C., Möllerherm, J., Ertl, V., Laura, A., Forgatch, M., Neuner, F., & Catani, C. (2017). Preparing the field for feasibility testing of a parenting intervention for war-affected mothers in Northern Uganda. *Family Process*, *56*(2), 376–392. https://doi.org/10.1111/famp.12189

Wiltsey Stirman, S., Baumann, A. A., & Miller, C. J. (2019). The FRAME: An expanded framework for reporting adaptations and modifications to evidence-based interventions. *Implementation Science*, *14*(1), 58. https://doi.org/10.1186/s13012-019-0898-y

Wright, A., Reisig, A., & Cullen, B. (2020). Efficacy and cultural adaptations of narrative exposure therapy for trauma-related outcomes in refugees/asylum-seekers: A systematic review and meta-analysis. *Journal of Behavioral and Cognitive Therapy*, *30*(4), 301–314. https://doi.org/10.1016/j.jbct.2020.10.003

Yeo, S. S., Meiser, B., Barlow-Stewart, K., Goldstein, D., Tucker, K., & Eisenbruch, M. (2005). Understanding community beliefs of Chinese-Australians about cancer: Initial insights using an ethnographic approach. *Psycho-Oncology*, *14*(3), 174–186. https://doi.org/10.1002/pon.831

Yim, S. H., & Schmidt, U. (2023). The effectiveness and cultural adaptations of psychological interventions for eating disorders in east asia: A systematic scoping review. *International Journal of Eating Disorders*. https://doi.org/10.1002/eat.24061

Zoogman, S., Goldberg, S. B., Vousoura, E., Diamond, M. C., & Miller, L. (2019). Effect of yoga-based interventions for anxiety symptoms: A meta-analysis of randomized controlled trials. *Spirituality in Clinical Practice*, *6*(4), 256–278. https://doi.org/10.1037/scp0000202

Zulman, D. M., Haverfield, M. C., Shaw, J. G., Brown-Johnson, C. G., Schwartz, R., Tierney, A. A., Zionts, D. L., Safaeinili, N., Fischer, M., Thadaney Israni, S., Asch, S. M., & Verghese, A. (2020). Practices to Foster Physician Presence and Connection With Patients in the Clinical Encounter. *JAMA*, *323*(1), 70–81. https://doi.org/10.1001/jama.2019.19003

Table 1.

Cultural equivalence levels

Level of equivalence	Main concern	Application for cultural adaptation work
Functional equivalence	The same theoretical concept can account for behavior across cultural groups	a) What are culture-specific concerns or issues (e.g., culture-bound syndromes, cultural idioms or concepts of distress) b) Is there a culture-specific etiology (e.g., is the target behavior influenced by the same variables and to the same degree) c)What are culture-specific (illness) models (how well do core change models implemented within the intervention align with cultural models of change?), issues of functional fidelity of interventions, explanatory model bridging
Structural equivalence	Is the theoretical concept linked to the same behavioral expressions across cultures?	a) Culture-specific symptom presentation (e.g., somatic complaints) b) Screening tools may feature irrelevant or non-representative symptoms or may miss important local symptoms c) Core components of the intervention may carry different meanings changing the effectiveness of the intervention
Metric equivalence	Are score patterns comparable? Are behavioral expressions linked to the theoretical concept to the same degree across groups?	a) Are dose effects of the intervention comparable? b) Are indicators of behavioral change during the intervention indicating comparable improvement in the target concept (e.g., are changes in specific observed behaviors indicative of comparable progress in the target behavior?), this is a key question of progress evaluation
Full score or scalar equivalence	Are levels of behavioral observations directly comparable? Are behavioral expressions systematically influenced by factors other than the concept of interest?	a) Are diagnostic thresholds or baselines comparable across groups? Important for diagnosing individuals & monitoring progress during the intervention, often linked to test or diagnostic norms (culture-specific norming) b) Are core components equally accessible, that is can interventionist assume that key concepts are equally accessible to participants or is greater elaboration and explanation needed? a) Are minimal dose effects of an intervention comparable?

Table 2.

Common steps in intervention design among cultural adaptation frameworks

Escoffery et al. (2019)	**O'Cathain et al. (2019)**		**Perera et al. (2020)**	**Fendt-Newlin et al. (2020)**		**Sangraula et al. (2021)**
	Phase	Intervention Design Steps		Phase	Intervention design steps	
1.Assess community	1. Conception	1. Identify problem in need of new intervention	1. Information gathering – rapid desk review on relevant pre-existing information	0. Input of evidence & theory		1. Identify mechanisms of action
2.Understand the intervention	2. Planning	2. Establish a group or set of groups to guide the development process, thinking about engagement of relevant stakeholders such as the public, patients, practitioners and policy makers	2. Adaptation hypotheses – identify components of adaptation (Ecological Validity Model)	Phase 1	Feasibility & acceptability study	2. In-depth literature review
3.Select intervention		3. Understand the problems or issues to be addressed	3. Local Consultations – focus group discussions & local specialists, community members & implementers to elaborate & validate previous findings		Assess sociocultural context	3. Training of trainers
4.Consult with experts		4. Make a decision about the specific problem/s that an intervention will address, & the aims or goals for the intervention. This may involve defining the behaviours to target	4. External evaluation – engage 2 external reviewers	Phase 2	Model & validate intervention components	4. Translation of the manual
5.Consult with stakeholders		5. Identify possible ways of making changes to address the problems. This involves identifying what needs to change, how to bring about this change and what might need to change at individual, interpersonal, organizational, community or societal levels			Develop intervention & training program	5. Expert read through
6.Decide what needs adaptation		6. Specify who will change, how and when. Selections may depend on consideration of the likely impact of the		Phase 3	Pilot study	6. Formative qualitative study

		change, how easy it is to change, how influential it is for the problem being addressed, and how easy it is to measure				
7.Adapt the original program		7. Consider real-world issues about cost and delivery of any intervention at this early stage to reduce the risk of implementation failure at a later stage			Assess intervention in local setting	7. Practice rounds
8.Train staff		8. Consider whether it is worthwhile continuing with the process of developing an intervention		Post-development	Scale-up the intervention & work towards service implementation	8. Team adaptation workshop
9.Test the adapted materials	3. Designing	9. Generate ideas about solutions, and components and features of an intervention				9. Implementation & supervision
10.Implement		10. Re-visit decisions about where to intervene. This can involve consideration of the different levels at which to intervene, and the wider system in which the intervention will operate				10. Review through process evaluation
11.Evaluate as implemented		11. Make decisions about the content, format and delivery of the intervention				
		12. Design an implementation plan, thinking about who will adopt the intervention and maintain it				
	4. Creating	13. Make prototypes or mock-ups of the intervention, where relevant				
	5. Refining	14. Test on small samples for feasibility and acceptability and make changes to the intervention if possible				
		15. Test on a more diverse population, moving away from the single setting where early development of the intervention took place and seeking a more diverse sample. This can involve asking questions such as ‘is it working as intended?’, ‘is it				

		achieving short term goals?', 'is it having serious adverse effects?'				
		16. Optimize the intervention for efficiency prior to full RCT				
	6. Documenting	17. Document the intervention, describing the intervention so others can use it and offer instructions on how to train practitioners delivering the intervention and on how to implement the intervention				
	7 Planning for future evaluation	18. Develop the objectives of the outcome and process evaluations. This includes determining how outcomes and mediators of change can be measured, developing measures, specifying evaluation design, planning recruitment and considering feasibility of a full RCT				

Table 2.

Select core steps with relevant cultural considerations and salient tasks and partners

Step in Adaptation Process	Cultural Considerations	Tasks & Partners	Key Questions to consider
Characterize the problem in the target population(s)	Issues around cultural universals, functional & structural equivalence of psychological concepts and identification of cultural bias in both theory and application of concepts	Identifying & interviewing both content matter & cultural experts; literature reviews in data bases relevant for the language & cultural/social context	What are cultural concepts/idioms of distress? What are relevant criteria/symptoms? What are relevant illness/behavior models? Is the etiology comparable?
Assess the community	Identify social, economic, historical, ecological & cultural context; identify possible cultural heterogeneity; identify patterns of diversity	Identify, interview & conduct focus groups with diverse stakeholders in the community	Who is most/least affected? Identify diversity within the community that may be relevant for the target behavior. What are economic, social, cultural barriers or assets?
Identify core components of existing interventions	Identify available interventions that may address the problem; identify HOW change may be achieved within the context (see Figure 1); issues of cultural universals & questions of functional and structural equivalence need to be identified; identify stories of both success and failures to identify learning points	Scoping review of possible interventions, interviews with previous users & content experts	What options are available for change? What is the change model underlying available interventions? What are local change theories? Are interventions models compatible with local mental models of the problem? What is known about dose effects? Is there information on failed interventions in the community (or other comparable contexts)?
Select intervention	Identify trade-offs in cost, efficacy, fidelity vs cultural fit, time lines, safety of locations & application formats, etc.; keeping an open mind about decision to adapt vs not adapt	Group discussions with practitioners/users, cultural experts, community members	What is the acceptability, feasibility, cost, time and expected effectiveness? What are possible delivery formats? Should an intervention be culturally adapted given costs and efforts involved?
Planning adaptation with Community Stakeholders	Consider collateral effects & implications of a possible intervention at various levels within the community and beyond; identify possible conflicts of interest	Identify & interview stakeholders & community members that may be affected by the intervention (may involve calling individuals from previous steps for further discussion)	How can meaningful community engagement and collaboration be sustained throughout the process? Who can champion the intervention? What are possible conflicts of interest?

Determine elements that require adaptation	Integrating insights from previous steps, identify core components that are essential & evaluate cultural dynamics that need to be considered in relation to each component; identify necessity of surface & deep-level changes and fidelity vs fit (see Figure 1), estimate costs, compliance, drop-out, return rates	Interviews & close collaborations with local cultural and content experts as well as community stakeholders	What specific deep vs surface features need to be adapted in relation to what core vs peripheral elements of the intervention? What are locally effective delivery methods? Who can or should deliver the intervention?
Adapting the program	Identify HOW to adapt specific components (see Figure 1), consider cultural bias in intervention steps, evaluate fidelity vs fit, core vs peripheral component questions	Interviews & group discussions with local experts, stakeholders, domain content experts of the specific intervention; pilot tests focusing on individual modules or core components, implementing think aloud & usability design protocols	How can local knowledge best be integrated into the adaptation process? How can sharing be optimized? Are there cultural blindspots that have been missed in previous more conceptual discussions? How can adaptations be tested or validated (e.g., pilot tests, focus groups)? How are specific changes perceived by stakeholders?
Documenting intervention adaptation process	Identify cultural needs & expectations around documentation, consider ownership, storage formats & access	Collaboration with local community members & future users/practitioners	What are local needs and expectations for documentation? Who owns documentation and how manages access? What is the best format for documentation the intervention?
Training staff	Identify cultural needs around 'train the trainer' programs, consider heterogeneity of the community & cultural biases, address quality concerns in the implementation, address time & resource constraints	Interviews & focus groups with current & future trainers; alignment with funders & agencies that will support the program	Who can deliver the intervention? What are specific training needs? What cultural models need to be considered when training future interventionists? How likely are manuals to be followed (vs likelihood of improvisation)? What cultural norms for following guidelines? What resources are required for delivering training?
Implementing & documenting final adaptation	Finalize & distribute intervention manuals & further information in culturally/socially appropriate manner to users & stakeholders; document any final changes	Collaboration with relevant public health agencies, users and practitioners & community leaders	What are local norms around protocol and implementation plans? How often are updates necessary? How can intervention material be disseminated?
Evaluation of implemented intervention	Design evaluation protocols to document & evaluate the effectiveness of the implemented intervention in the community; use the cultural bias &	Collaboration between end-users, design experts and statisticians to design culturally appropriate evaluation protocols	How can the intervention be evaluated? What are culture-specific evaluation criteria? Are internationally normed instruments sensitive to cultural expressions of improvement? What are possible method and instrument biases during

	equivalence framework for identifying measurement & analysis issues	the evaluation stage? How often should evaluations be conducted? What is the appropriate comparison standard for evaluating the intervention?

Supplementary Material

Cultural challenges for adapting behavioral intervention frameworks: A critical examination from a cultural psychology perspective

Supplementary Figure 1
PRISMA flow diagram

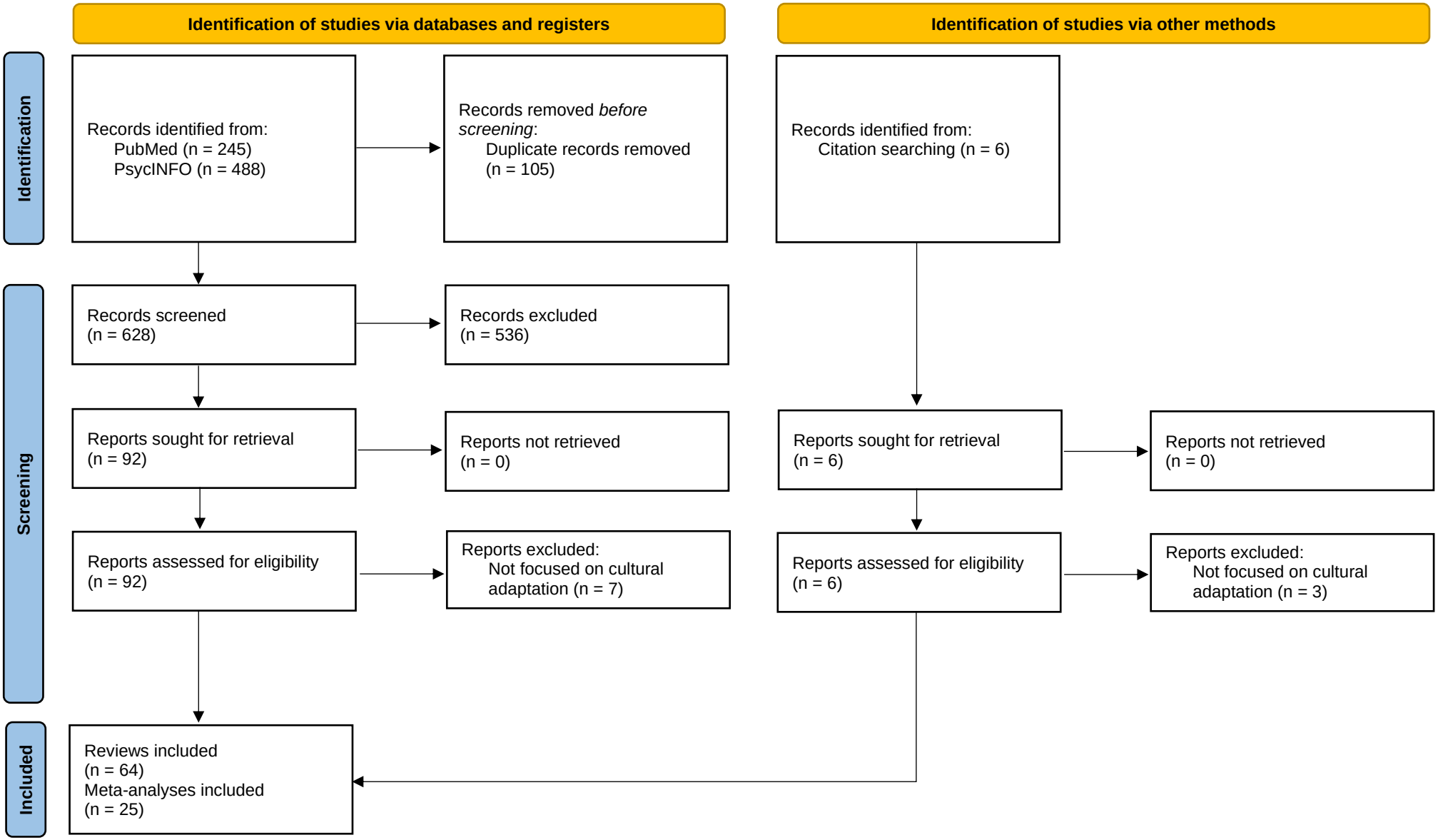
Supplementary Figure 2
An overview of the frameworks cited when reporting cultural adaptation by country of corresponding author and log-transformed citations.

Supplementary Table 1
Overview of meta-analytic evidence of cultural adaptations 2014-2023

Supplementary Table 2
Overview of systematic reviews

Supplementary Table 3
Overview of adaptation frameworks cited in the literature when reporting cultural adaptations

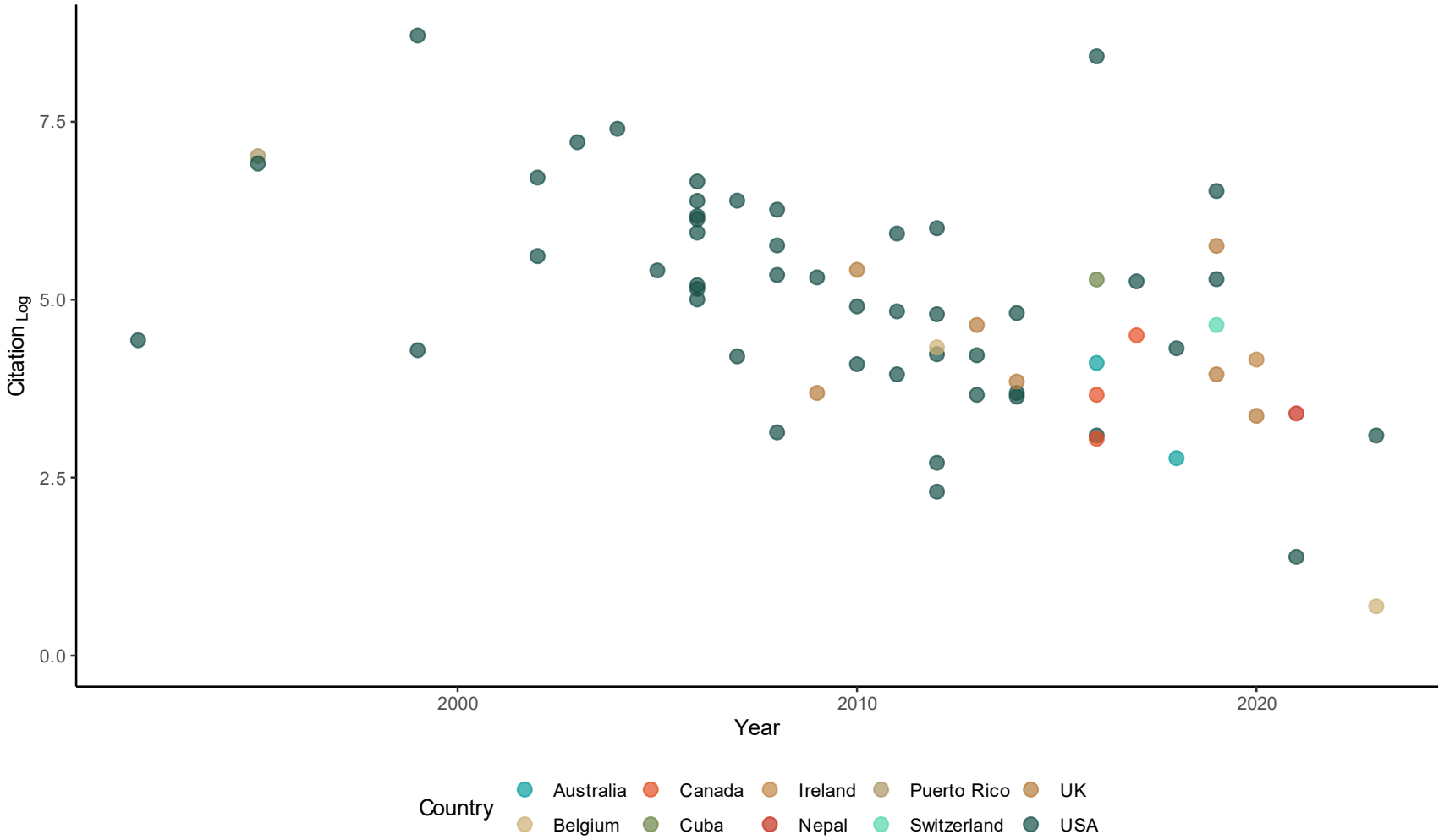
Data availability
Code and data are available on the OSF (https://osf.io/fwrb3/).



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Figure 2.

An overview of the frameworks cited when reporting cultural adaptation by country of corresponding author and log-transformed citations.



Note. The figures highlight how a) there is a continuing development of frameworks, b) an increasing cultural diversity of corresponding authors, and c) some recently published frameworks have had a significant impact on the field already as judged by the log citations (see Table 3 below).

Supplementary Table 1.

Overview of meta-analytic evidence of cultural adaptations 2014-2023

Author	Target	Cultural target groups	Intervention types	Cultural frameworks & cultural adaptations	Participants (focus of intervention)	Cultural Effectiveness	Adaptation Moderators	Risk of bias
(Sundell et al., 2016)	Behavioral & cognitive variables	Germany, Sweden	Mixed	Differentiated between novel (innovations of existing programs, conceptually new programs), adapted (cultural vs pragmatic vs eclectic) and adopted programs; most frequent were novel programs (73.4% Germany, 69.1% Sweden)	Children, adolescents, adults	German sample: innovations most effective (d = .31), cultural adaptions d = .27, adoptions, pragmatic adaptations & eclectic adaptations least effective (d = .16, .06, .14); Swedish sample: pragmatic adaptions (d=.73) most effective, cultural adoptions d = .45, least effective adoptions d = .26	Comparing the main program types - German sample: innovations most effective (p < .03), Swedish sample: adaptations most effective (p = .09)	Overall results remain when excluding low quality design studies, noted conflict of interest in novel intervention designs without independent replication
(Ruiz-Perez et al., 2017)	HIV prevention	Low SES minority women in OECD countries	CBT & information	Majority (24 studies, 72%) culturally adapted, 18 studies adapted material to age & ethnicity, 7 studies adapted based on previous research	Adults	Increase in knowledge 0.59 (95% CI = 0.43, 0.75), condom use: OR=1.60; 95%CI=1.16, 2.19; STI incidence RR = 0.59; 95% CI= 0.46, 0.75	NA	5 studies high risk of bias, most common bias - randomization, allocation concealment, blinding
(Gillespie et al., 2022)	Parenting	Refugees	Mixed	All studies used surface level adaptations	Adults & children	Interventions produced small to	Approaches to cultural adaptation did	Report overall good scientific standards

				(translation, identifying appropriate delivery settings, matching staff), no study used deep level adaptations		large effects (|d| = .14 - .97)	not systematically vary by setting, note that most rapid development takes place in high-income settings	
(Lim et al., 2023)	Parenting	Immigrants	Mixed	Deep vs surface adaptations (using Barrera et al., 2013, van Mourik et al., 2017): 10 studies with deep adaptations, 8 with surface adaptations		Positive child outcomes: g=0.16, 95% CI [0.00, 0.31]; negative child outcomes: g= −0.39, 95% CI[−0.63,−0.15]	Slightly stronger effects for negative parent & child outcomes in non-US vs US settings (-.74 vs -.22; -.52 vs -.34), comparable results for surface vs deep adaptation (with slight advantage of surface adaptations)	Suggest low bias
(van Mourik et al., 2017)	Parenting	Immigrants	Mixed	8 of 18 studies adapted language, 12 of 18 studies adapted persons (e.g., staff matching), 7 of 18 adapted material, 7 of 18 studies made deep structure adaptations (mainly content)	Adults & children	Parenting behavior d = .30 [95%CI .17-.44], child behavior d = .13 [95%CI .05-.22], parental perspectives d = .19 [95%CI .04-.35]	Basic adaptations d = .10, surface d = .24, deep d = .54, difference significant p < .05	Reported larger effect sizes in underpowered (N < 35) studies
(Liu et al., 2020)	Parenting (autism)	Chinese	Parent education	Only 3 of 21 studies reported	Children & adolescents	Overall effects varied from SMD = .63 [95%CI .44, .83] for	Outline various steps for improving	Only 1 RCT judged as high risk, all others

				cultural adaptation		social competence to 1.00[95%CI .77, 1.23] for symptom severity	research, not sufficient information to judge what makes interventions practicable within Chinese societies	considered adequate
(Gardner et al., 2016)	Parenting (problem behaviors)	US, European, Iran, Hong Kong, Puerto Rico	Mixed	2 of 17 trials reported small cultural adaptations	Children (their parents)	Overall effect SMD = -.71 [95%CI -.97, -.44], observed negative child behavior SMD -.21[95%CI -.61,.20]	Economic development showed inconclusive results, comparisons of Western vs non-Western countries showed higher effectiveness in non-Western (d=1.08) compared to Western (d = .49)	Low to moderate risk (but 7 of 17 reported insufficient information for risk assessment)
(Arundell et al., 2021)	Psychopathology	Black & Minority groups	Mixed	Developed typology: treatment specific: therapist focused & content focused, organization-specific; 809% of studies made adjustments in more than 1 area	Adults	Symptom severity: Hedge's g = -0.78 [95% CI: -0.97 to -0.60],	Organisation-specific adaptation (time or length) was the only overarching adaptation area significantly associated with increased effectiveness (β = -0.37, 95% CI: -0.65, -0.09, p = .009).	Active control comparisons report weaker effects

(Hall et al., 2016)	Psychopathology	24 of 78 studies international, remainder minorities in US	Cognitive behavioral, mixed	Top-down vs bottom-up (Hwang, 2006), translation/language, ethnicity matching	Children, adolescents, adults	Overall effect g = 0.63	Bottom-up (g = 34, 95%CI -.42, 1.10) smaller effect compared to top-down adaptation (g = .69, 95%CI 50, .87, diff ns.), ES comparable for matching/non-matched therapist, same non-adapted intervention g = .52 95%CI .15, .90) , ES comparable to other meta-analyses of non-adapted interventions	Evidence of publication bias
(Huey et al., 2014)	Psychopathology	Asian Americans	Mixed, majority CBT	91% of studies used some form of cultural adaptation, no specific framework mentioned	Adults	d =.75, SE = .14, overall, 78% of treated Asian Americans were better off at posttreatment than the average control participant. Effect stronger when compared to TAU or waitlist	significant moderator effects were found for cultural tailoring, Q(2) = 6.60, p = .037, with the largest effects evident for treatments tailored specifically for Asian American subgroups and the smallest effects found for treatments that	Describe lack of key details on cultural adaptation

							were tailored broadly for minorities or not tailored at all	
(Li et al., 2023)	Psychopathology	Chinese descent	Mixed culturally adapted	Classified studies as culturally specific vs adapted (therapist vs content vs organizational adapted)	Adults	End of intervention g = .77 for self-rated symptoms, g = .75 for clinician-rated symptoms, effect maintained at all follow up points	Culturally specific vs adapted did not differ from each other	Inadequate reporting restricted quality appraisal
(Escobar & Gorey, 2018b)	Psychopathology (anxiety)	Hispanic in US	Cognitive behavioral	Resnicow et al surface vs deep distinction, only surface adaptations reported in RCT, some deep cultural adaption in non-RCT	Children, Adolescents, Adults	Overall effectiveness of intervention for all participants (no ES reported), lower effectiveness for hispanic participants (see next column)	Focus is on the effectiveness of CBT for hispanic vs non-hispanic white participants: Overall d = -.01[95%CI -.19, .17], controlling for drop-out d = -.12, 95%CI -.24, .00, suggesting non-hispanic white individuals benefit more from CBT; in non-RCT: deep cultural adaptation associated with increased effectiveness for Hispanic participants (one-tailed $z=2.44$, $p < .01$)	Bias in non-RCT studies

(Akarsu et al., 2019)	Psychopathology (depression)	Ethnic minorities in US	Community-based interventions for carers with depression	No framework, consider ethnicity matching & community preferences	Adults	Pre-post effects SMD = -.17 [95%CI -.29, -.05]	No statistically sign effect of ethnicity matching on effect sizes, qualitative evidence that translation is less effective than culturally grounding interventions or using preferred methods of engagement	9 of the 13 studies are deemed of good quality
(Anik et al., 2021)	Psychopathology (depression)	Mixed: minorities in US, majority groups in NZ, HK, India, Iran, Nigeria, Pakistan	Mixed, most commonly CBT and Behavior Activation	Medical Research Council (MRC) framework for the development and evaluation of complex interventions (Craig et al., 2008): 40% of studies followed all four stages of the framework, 80% included a modeling stage, 80% involved consultation with stakeholders, 46% included a pilot test	Adults	SMD = -.63 [95%CI −0.87, −0.39], IMPORTANT: The treatment effect however is greater for majority ethnic groups (SMD= 0.82, 95% CI [−1.04 to −0.59], p< 0.0001 with a significant heterogeneity (Chi^2=23.52, df =8, p= 0.003, I^2= 66%)) than minority groups (SMD= 0.39, 95% CI [−0.72 to −0.05], p= 0.002 ,	effects with active control groups (vs waiting list/no treatment) comparison is weaker, smallest effect sizes when CAPs are compared with an evidence based psychotherapy (SMD= −0.30, −0.30 (95% CI −0.76 to 0.16)).	Concern with incomplete reporting

(Escobar & Gorey, 2018a)	Psychopathology (depression)	Hispanic in US	Cognitive Behavioral	Resnicow et al. deep vs surface distinction	Adults	immediate post-intervention d = .41, 95%CI .30, 52; 6 to 12 months follow up d = .44, 95%CI .30, .58, but both highly heterogeneous;	comparing deep vs surface level adaptation, U3 at immediate test 70.2% vs 61.8%, long term follow up test 71.2% vs 64.0%; removing 2 studies of pregnant women showed even stronger effectiveness	Not mentioned
(Vally & Maggott, 2015)	Psychopathology (depression)	Developing countries (Pakistan (4), SA (2), Colombia, Turkey, China, Iran, Mexico (1))	Cognitive behavioral	No specific framework, report that all protocols were modified to account for cultural & regional needs	Adults	Pre-post d = 1.12 (95 % CI 0.78–1.46), individual therapy performed better (d=0.82, 95 %, CI 0.71–0.94) compared to group treatment (d=0.55, 95 % CI 0.33–0.78).	Compare ES to other meta-analyses, note the overall comparable effectiveness, but also high heterogeneity suggesting functional non-equivalence	Controlling for sampling bias reduced overall effectiveness (d = .78)
(Wright et al., 2020)	Psychopathology (depression, trauma)	Refugees & asylum seekers in Germany, Norway, USA	Narrative exposure therapy	Use Bernal and Saez-Santiago (2006), all interventions adapted language, 4 adapted context features, only 1 study made adaptations across all 8 domains,	Adults	SMD depression -0.59 [95%CI -1.07, -0.11]; SMD for trauma -0.75 [95%CI -1.19, -0.31]	Qualitatively report lack of support for superiority of cultural adaptation, one key problem is the cultural diversity of the target group, challenging adaptation	Most common bias was lack of detail on key procedures or outcomes
(Castellanos et al., 2020)	Psychopathology (Mental health)	Hispanic	Mindfulness	Studies rated using EVM (Bernal et al.,	Adults	Overall g = -.55[95%CI -101, -.08]	Negative association between	Lack of randomization &

				1995), most often adapted: Language & People, least often adapted: concept & goal			number of cultural adaptions & outcome effectiveness (r = -.34, ns.), greater methodological rigor associated with more cultural adaptations (r = .27, ns.)	underpowered studies
(Degnan et al., 2018)	Psychopathology (schizophrenia)	75% Asian countries, 20% in the Americas, 15% adapted for minorities	Mixed	Developed adaptation scheme bottom up, identified themes: a) Language - all studies, b) concepts & illness models: 78% incorporated culturally appropriate presentations of concepts & belief systems (incl 2 studies with spiritual & supernatural agents), stigma discussions; c) family; communication 48% adapted communication & learning strategies	Adults	Overall post-treatment effect g = -.23[95%CI -.36, -.09], positive symptoms g = -.56[95%CI −0.86, −0.26), negative g = −0.39[95% CI −0.63,−0.15], general g= −0.75[CI −1.21,−0.29]	Effectiveness significantly stronger in minority samples (in US & Europe) compared to majority samples (transfer to different cultural context, p < .05), significant correlation between number of adaptations & total symptom efficiency (r = -49, p < .05), 2 studies compared culturally adapted vs non-adapted: no advantage of	Focused on RCT only, higher quality of evidence compared to previous reviews

	(conflict, problem solving), disclosure of private information; d) content - 43% adaptations to content to increase cultural relevance; e) cultural norms & practices - 67%, incl spiritual & religious practices, prayers, karaoke, relaxation, folk stories; f) context & delivery - 48% adapted to facilitate feasibility (locations, flexibility in scheduling, duration, group vs individual), g) therapeutic alliance - 28% adapted, mostly matching therapists; h) treatment goals - 28% adapted realistic & congruent goals	culturally adapted

				with cultural values				
(H. Chen & Yu, 2022)	Socio-emotional learning	China	Diverse	Discuss the cultural mismatch of SEL programs in China as a high-context culture which clashes with the implicit individualistic values of choice, personal responsibility, autonomy & subjective experience in SEL programs	Adolescents	SEL skills (mean ES = 0.361, $p < 0.01$), attitudes (mean ES = 0.334, $p < 0.01$), positive social behavior (mean ES = 0.372, $p < 0.01$), and significantly reduced emotional distress (mean ES = −0.265, $p < 0.05$), no effect on conduct problems (mean ES = -.348, ns.]	Report similar or larger effects in China compared to other meta-analyses, attribute this to the low level of socio-emotional learning skills & Hawthorne effect in small intervention studies, sinicized SEL frameworks worked better for positive outcomes, but less efficient for reducing negative outcomes (all $p < .05$)	Some evidence of publication bias for negative outcome studies, report some design effects on effect sizes
(Bo et al., 2023)	Substance use	Minorities in US	Mixed	19 culturally grounded vs 11 culturally adapted (difference was not tested)	Adolescents	Overall g = -.20 [95%CI -.24, -.16]	Race differences detected (e.g., smaller ES for Hispanic & Black vs Native American groups, but $p < .10$)	Higher risk in bias associated with reduced effect sizes
(Contreras-Perez et al., 2023)	Substance use	Minorities in US	Mixed	All used some form of cultural adaptation	Adolescents	Overall d = .27 (no Cis reported)	NA	Overall low risk
(Hernandez Robles et al., 2018)	Substance use	Latinos in US	Mixed	All but 3 studies used a specific adaptation model, 70% of studies used	Adolescents	Post-test g = .06, 95%CI .01, .10; Follow-up g = .26, 95%CI .10, .42	Found only little heterogeneity, no sign. Difference between non-	Report overall high risk of performance & selection bias

				literature as strategy for cultural adaptation			adapted and adapted versions	
(Steinka-Fry et al., 2017)	Substance use	Minorities in US	Mixed	NA	Adolescents	Overall g = .37, 95%CI .12, 62	Comparisons with 'bona fide' non-adapted version g = -.08, 95%CI -.51, .35	Suggest low risk of publication bias

Supplementary Table 2

Overview of systematic reviews

Author	Title	Domain	Target behavior	Country *	Target group	Target culture(s) of adaptation	k
(Aceituno et al., 2021)	Implementation of early psychosis services in Latin America: A scoping review	Mental health	Early intervention for psychosis	UK	Latin Americans (Argentina, Brazil, Chile, Mexico	Latin Americans	10
(Aggarwal et al., 2021)	Psychosocial interventions for self-harm in low-income and middle-income countries: Systematic review and theory of change	Mental health	Self-Harm	Australia/India	Adolescents and adults	China, Malaysia, Pakistan, Sri Lanka, Brazil, India, Iran	13
(Albin et al., 2022)	Cultural Adaptation of Parent-Implemented Early Communication Interventions: A Scoping Review.	Parenting	Parent-implemented early communication intervention	Canada	Children and Parents	USA (Lantinx), Netherlands (Turkish & Moroccan), Mexico, Kenya, China, South Africa, Senegal, India, Hong Kong, Pakistan, Germany, Ethiopia, and Brazil	21
(Alcántara et al., 2021)	Cultural adaptations of psychological interventions for prevalent sleep disorders and sleep disturbances: A systematic review of randomized controlled trials in the United States	Mental health	Sleep-wake disorders	USA	Traditionally underserved groups (e.g. veterans, women, racial/ethnic minorities, low socioeconomic status, disability status)	Traditionally underserved groups in USA	56
(Anakwenze, 2022)	The cultural sensitivity continuum of mental health interventions in Sub-Saharan Africa: A systematic review.	Mental health	Depression, Grief, PTSD	USA	People with mental illness in sub-Saharan Africa	Sub-Saharan Africa	27
(Apers et al., 2023)	Interventions to improve the mental health or mental well-being of migrants and ethnic minority groups in Europe: A scoping review.	Mental health	Mental health and mental wellbeing	Belgium	Ethnic minority groups	Europe	27
(Arora et al., 2021)	Cultural adaptations to youth mental health interventions: A systematic review	Mental health	PTSD, trauma, anxiety, depression	USA	People with mental illness	African American, Hispanic, Native American, Asian, Pacific Islander	52
(Asiimwe et al., 2023)	Training of interventionists and cultural adaptation procedures: A systematic review of culturally adapted evidence-based parenting programs in Africa.	Parenting	Parenting	USA	Parents in Africa	Uganda, South Africa, Kenya, Rwanda, Egypt, Nigeria, Liberia, Zimbabwe, Burundi	18

(Ba-Break et al., 2023)	Systematic review of intervention functions, theoretical constructs and cultural adaptations of school-based smoking prevention interventions in low-income and middle-income countries.	Substance use	Smoking	UK	Adolescents (10-17yrs)	Low and middle income countries	11
(Baumann et al., 2015)	Cultural Adaptation and Implementation of Evidence-Based Parent-Training: A Systematic Review and Critique of Guiding Evidence.	Parenting	Parenting	USA	Parents (ethnic/racial minorities)	USA	8
(Casas et al., 2020)	Latinos, anxiety, and cognitive behavioral therapy: A systematic review	Mental health	Anxiety	USA	Latino adults	Latino culture in the US	4
(Chu & Leino, 2017)	Advancement in the maturing science of cultural adaptations of evidence-based interventions	Mental health	Mental health	USA	Ethnic/racial minorities	USA	45
(Contreras-Perez et al., 2023)	Culturally sensitive treatment for underrepresented adolescents with substance use: A systematic review	Substance use	Substance Use	USA	Latine, American Indian, and Hispanic adolescents & their parents	USA	7
(Corralejo & Domenech Rodríguez, 2018)	Technology in parenting programs: A systematic review of existing interventions	Parenting	Technology-based parenting interventions	USA	Parents wanting to reduce problematic behaviour in their children	USA	31
(Cycyk et al., 2021)	Cultural and linguistic adaptations of early language interventions: Recommendations for advancing research and practice	Communication	Early language learning	USA	Children of non-english speaking immigrants in early childhood special education	USA	33
(Davenport et al., 2018)	A systematic review of cultural considerations and adaptation of social skills interventions for individuals with autism spectrum disorder	Social skills	Social skills interventions for ASD	USA	Children with ASD	USA	5
(Day et al., 2023)	Frameworks for cultural adaptation of psychosocial interventions: A systematic review with narrative synthesis.	Health	Dementia	Australia	Interventionalists	USA, Switzerland, Canda, UK, Nepal	12
(DeLuca et al., 2018)	A systematic review of ethnoracial representation and cultural adaptation of mindfulness- and meditation-based interventions	Mental health	Mindfulness and Meditation-	USA	Ethnoracial minoritites	USA	24

			based interventions				
(Deng et al., 2019)	Nutrition Interventions for Type 2 Diabetes in Chinese Populations: A Scoping Review.	Lifestyle	Nutrition	Canada	People with Type 2 Diabetes	China, Chinese immigrants in USA, Hong Kong	14
(Ennis et al., 2020)	Treating posttraumatic stress disorder across cultures: A systematic review of cultural adaptations of trauma?focused cognitive behavioral therapies	Mental health	PTSD	Canada	Trauma focused CBT	Global (e.g. Japan, USA, Jordan)	17
(Galvin & Byansi, 2020)	A systematic review of task shifting for mental health in sub-Saharan Africa	Health Services	Task shifting for mental health services	USA	Individuals with mental illnesses	Sub-Saharan Africa	14
(Gershon & Pellitteri, 2018)	Promoting emotional intelligence in preschool education: A review of programs	Social skills	Emotional Intelligence	USA	Children	Pakistan, Croatia, Turkey	5
(Goldberg et al., 2023)	Meditation, mindfulness, and acceptance methods in psychotherapy: A systematic review	Mental health	Depression, anxiety, epilepsy	USA	Adults	USA, Germany	3
(González Moller et al., 2021)	The feasibility of systemic interventions for the prevention and treatment of children and adolescent mental health difficulties in Latin American countries: A mixed studies systematic review	Mental health	Mental illness	Chile	Children and adolescents	Chile, Venezuela, Honduras, Colombia, Equador, Brazil, Puerto Rico, Argentina	18
(Haft et al., 2022)	Cultural adaptations of dialectical behavior therapy: A systematic review	Mental health	Suicide risk, ideation, depression, anxiety	USA	non-WEIRD people of any age	Mexican, Nepali, Latina, Spanish, Chinese, Alaska Native, Native American	18
(Heim et al., 2019)	Reducing mental health-related stigma among medical and nursing students in low- and middle-income countries: a systematic review.	Mental health	Stigmatising attitudes and discriminatory behaviours towards mental illness	Switzerland	Mental health practitioners	Low and middle income countries (multi-national and therefore multi-cultural)	9
(Heim et al., 2018)	Reducing mental health-related stigma in primary health care settings in low- and middle-income countries: a systematic review.	Mental health	Mental health stigma	Switzerland	Primary health care staff	Low and middle income countries (e.g. Turkey, Iran, Nigeria)	18

(Horne et al., 2018)	A systematic review of interventions to increase physical activity among South Asian adults	Lifestyle	Physical activity	UK	South Asian adults	South Asia	16
(Hu et al., 2020)	The Effectiveness of Collaborative Care on Depression Outcomes for Racial/Ethnic Minority Populations in Primary Care: A Systematic Review.	Mental health	Depression	USA	Racial/ethnic minorities in USA (Black, Hispanic, Asian, Native American)	Racial/ethnic minorities in USA (Black, Hispanic, Asian, Native American)	19
(James et al., 2021)	Implementing civic engagement within mental health services in South East Asia: A systematic review and realist synthesis of current evidence	Health Services	Civic engagement within mental health services	UK	Patients in South East Asia	South East Asia	57
(Kalibatseva & Leong, 2014)	A critical review of culturally sensitive treatments for depression: Recommendations for intervention and research	Mental health	Depression	USA	Latinos and African American	Ethnic minorities	16
(Kamilu Sulaiman et al., 2023)	The use of mobile health technology in the management of osteoarthritis: A scoping review with scientometric analyses.	Health	Management of osteoarthritis	Iraq	Populations with Osteoarthritis	Global	28
(Kayrouz & Hansen, 2020)	I don't believe in miracles: Using the ecological validity model to adapt the miracle question to match the client's cultural preferences and characteristics	Social skills	Client-practitioner relationship	Australia	Clients receiving delivered in individual or group format	Global	24
(Lee-Tauler et al., 2018)	A systematic review of interventions to improve initiation of mental health care among racial-ethnic minority groups	Mental health	Mental health interventions	USA	Racial-ethnic minority groups	USA	29
(Lofton et al., 2016)	A systematic review of literature on culturally adapted obesity prevention interventions for African American youth	Lifestyle	Obesity Prevention Interventions	USA	African American Youth	USA	11
(Mabunda et al., 2022)	Cultural adaptation of psychological interventions for people with mental disorders delivered by lay health workers in Africa: Scoping review and expert consultation	Mental health	Mental Disorders	Mozambique	Lay health workers	Zimbabwe, Uganda, South Africa, Zambia	10
(Machalicek et al., 2022)	Recommendations for Diversifying Racial and Ethnic Representation in Autism Intervention Research: A Crossover Review of Recruitment and	Mental health	Autism	USA	Children with autism	USA (but multi-ethnic)	68

	Retention Practices in Pediatric Mental Health.						
(Mak & Wieling, 2022)	A Systematic Review of Evidence-Based Family Interventions for Trauma-Affected Refugees.	Mental health	PTSD	USA	Refugees	Myanmar, Uganda, Bosnia, Bhutan, Afghanistan, etc	12
(Marshall et al., 2022)	Cultural adaptations of obesity-related behavioral prevention interventions in early childhood: A systematic review.	Lifestyle	Lifestyle change, physical activity, nutritional change	Australia	Children 0-5	African-American, Latino, Alaskan, Arabic, Australian Aboriginal, Chinese, etc	12
(Mascayano et al., 2020)	Including culture in programs to reduce stigma toward people with mental disorders in low- and middle-income countries.	Mental health	Mental Disorders Stigma	USA	Low and medium income countries	Turkey, China, Malaysia, Croatia, South Africa, India, Lebanon, Kenya, Nepal, Zambia, Chile, Malawi, Nigeria, Serbia, Uganda, Thailand	25
(McCarthy et al., 2021)	A systematic review of psychosocial interventions for Latinx and American Indian patient-family caregiver dyads coping with chronic health conditions	Mental health	Wellbeing	USA	Adults	Latinx, Native American	7
(McCleary & Horn, 2023)	Processes for culturally adapting behavioral health interventions for people with refugee backgrounds: A scoping review	Mental health	Mental Health	USA	Refugees	Refugees	18
(Mishu et al., 2023)	Cross-culturally adapted psychological interventions for the treatment of depression and/or anxiety among young people: A scoping review.	Mental health	Depression and/or Anxiety symptoms	UK	non-Western (various)	non-Western countries, ethnic minorities, and migrated populations in Western countries	17
(Mpofu et al., 2021)	Trending the evidence on opioid use disorder (OUD) continuum of care among rural American Indian/Alaskan Native (AI/AN) tribes: A systematic scoping review	Substance use	Management of Opioid Use Disorder	USA	Rural AI/AN	American Indian/Native Alaskan	8
(Naeem et al., 2023)	Culturally adapted CBT—The evolution of psychotherapy adaptation frameworks and evidence	Mental health	Mental health	Canada	all cultural minorities	cultural minorities (implied)	18
(Nava et al., 2015)	Nutrition-based interventions to address metabolic syndrome in the Navajo: a systematic review.	Health	Metabolic syndrome	Italy	Navajo peoples	Navajo	19

(Netto et al., 2010)	How can health promotion interventions be adapted for minority ethnic communities? Five principles for guiding the development of behavioural interventions	Health	Coronary Heart Disease	UK	Pakistani, Chinese, and Indian communities where they are minoritites	Pakistani, Chinese, and Indian communities where they are minoritites	18
(Nierkens et al., 2013)	Effectiveness of cultural adaptations of interventions aimed at smoking cessation, diet, and/or physical activity in ethnic minorities. a systematic review.	Lifestyle	Smoking Cessation, Diet, and/or Physical Activity	The Netherlands	African Americans, Latino, Chinese American	USA	17
(Pei et al., 2022)	Decision Aid Interventions for Family Caregivers of Persons With Advanced Dementia in Decision-Making About Feeding Options: A Scoping Review.	Health Services	Feeding decisions for dementia patients	USA	Family Caregivers of Persons With Advanced Dementia	American, Japanese, Brazilian	6
(Ramírez-Guarín et al., 2023)	A systematic review of psychosocial interventions for child soldiers: Types, length and main findings	Mental health	Child soldier recovery	Spain	Mostly African children, some adult studies	Sierra Leone, Congo, Palestine, Uganda, Nepal, Burundi, Indonesia, Israel, Kosovo, Liberia, Mozambique, Syria	28
(Rathod et al., 2018)	The current status of culturally adapted mental health interventions: A practice-focused review of meta-analyses	Mental health	Mental health problems	UK	Ethnic minorities not otherwise specificed	Non-Western cultural backgrounds (including those living in the West)	12
(Richardson et al., 2022)	A systematic review of trauma intervention adaptations for indigenous caregivers and children: Insights and implications for reciprocal collaboration	Mental health	Mental trauma	Canada	Indigenous parents and children	Native American, First Nations, Māori, Australian Aboriginals	13
(Riley et al., 2019)	A Systematic Review of Patient- and Family-Level Inhaled Corticosteroid Adherence Interventions in Black/African Americans.	Health	Medication adherence asthma	USA	African American adults with asthma, or their parents/caregivers	African Americans	4
(Rostami-Moez et al., 2019)	Cultural adaptation for country diversity: A systematic review of injury prevention interventions caused by domestic accidents in children under five years old.	Health	Domestic accidents in children	Iran	Families with children under five	Global (six countries)	15
(Ruiz-Pérez et al., 2019)	Effectiveness of interventions to improve cancer treatment and follow?up care in socially disadvantaged groups	Health	Cancer treatment and follow-up care	Spain	"Socially vulnerable" population groups	OECD countries (primarily the USA)	31

(Sidze et al., 2022)	Inequalities in access and utilization of maternal, newborn and child health services in sub-Saharan Africa: A special focus on urban settings	Health Services	Access and utilization of health services (maternal, newborn, child)	Kenya	Mothers of young children and other carers in urban sub-Saharan Africa	Urban communities in sub-Saharan Africa	53
(Soklaridis et al., 2020)	Mental health interventions and supports during COVID-19 and other medical pandemics: A rapid systematic review of the evidence	Mental health	Mental health interventions during public health crises (e.g. Covid-19)	Canada	Populations experiencing public health crises (e.g. primary-care health workers, patients)	Global (nine countries)	21
(Tan et al., 2023)	A systematic review of the impact of cancer survivorship interventions with Asian American cancer survivors	Cancer	Cancer survivorship	USA	Asian American adults	Chinese American	18
(Taylor et al., 2023)	Review: Cultural adaptations to psychosocial interventions for families with refugee/asylum-seeker status in the United Kingdom - a systematic review.	Mental health	Complex mental health outcomes	UK	Refugees and asylum seekers in UK	Refugees	11
(Venner et al., 2022)	A scoping review of cultural adaptations of substance use disorder treatments across Latinx communities: Guidance for future research and practice.	Substance use	Substance Use	USA	Latinx populations	Latinx	30
(Vincze et al., 2021)	Cultural adaptation of health interventions including a nutrition component in Indigenous peoples: a systematic scoping review.	Health	Physical Health	Australia	Indigenous people	Native America, Hawiian and Alaskan	98
(Washington et al., 2015)	Family-level factors and African American children's behavioral health outcomes: A systematic review	Health	Childrens behavioural health outcomes	USA	Children under 18	African American	35
(Yim & Schmidt, 2023)	The effectiveness and cultural adaptations of psychological interventions for eating disorders in east asia: A systematic scoping review	Mental health	Eating Disorders	UK	East Asia	Japan, South Korea, China, Hong Kong	32
(Zhang & Tang, 2022)	Cultural adaptation in HPV vaccine intervention among racial and ethical minority population: a systematic literature review.	Health	Vaccine uptake	USA	Adult ethnic minorities	American ethnic minorities mainly African American	26

Note: * country of corresponding author

Supplementary Table 3

Overview of adaptation frameworks cited in the literature when reporting cultural adaptations

Authors	Name of Framework	Country Corresponding Author	Type	Focus	Target population	Number of citations
(Aarons et al., 2012)	Dynamic adaptation process (DAP)	USA	Step	EBT	Generic (not culture focused)	405
(Airhihenbuwa, 1995)	PEN-3	USA	Content	EBP (HIV)	General	1006
(Apers et al., 2023)	Strategies for cultural adaptation	Belgium	Step	Clinical EBT	Minorities Europe	2
(Backer, 2002)	Finding the balance between programme fidelity \and adaptation	USA	Step	EBT (substance use)	Generic	274
(Barrera & Castro, 2006)	A Heuristic Framework for the cultural adaptation of interventions	USA	Step	Clinical EBT	Not specified	460
(Bartholomew et al., 1998)	Intervention mapping (IM)	USA	Step	EBT	Generic	4,533
(Bernal & Sáez-Santiago, 2006)	Culturally centred psycho-social interventions	USA	Content	Clinical EBT	Hispanics	595
(Bernal et al., 1995)	Ecological Validity Framework	Puerto Rico	Content	Clinical EBT	Hispanics	1116
(Burrow-Sanchez et al., 2011)	Cultural accommodation framework	USA	Step	EBP (substance abuse)	Latinos	52
(Card et al., 2011)	How to adapt effective programmes for use in new contexts	USA	Step	Clinical EBT (HIV)	Generic (resource limited contexts)	126
(Cardemil, 2010)	A Four-Component Model of Cultural Adaptation	USA	Content	Clinical EBT	Minorities	135
(Castro et al., 2004)	Hybrid Prevention Program Model	USA	Content	EBP	Minorities	1639
(E. K. Chen et al., 2013)	Method for Program Adaptation through Community Engagement (M-PACE)	USA	Step	EBT	Minorities	121
(Chu & Leino, 2017)	Cultural Treatment Adaptation Framework (CTAF)	USA	Stacked	Clinical EBT	Multiple groups	192
(Davidson et al., 2013)	A tool kit of adaptation approaches	UK	Stacked	EBT	Minorities	104
(Domenech Rodríguez et al., 2011)	The Cultural Adaptation Process Model	USA	Stacked	EBT	Latinos	376

(Domenech-Rodríguez & Wieling, 2005)	Culturally appropriate EBTs for ethnic minority populations	USA	Stacked	EBT (parenting)	Latinos/Minorities	224
(Escoffery et al., 2019)	Framework for adapting public health evidence-based interventions	USA	Step	EBT	General	198
(Fendt-Newlin et al., 2020)	Cultural adaptation framework of social interventions in mental health: Evidence-based case studies from low- and middle-income countries	UK	Step	Clinical EBT	Low & middle-income countries	29
(Glasgow et al., 1999)	RE-AIM	USA	Step	EBP	General	6071
(Goldstein et al., 2012)	Guidelines for adapting manualised interventions for new populations	USA	Step	Manualized interventions	Not specified	69
(Healey et al., 2017)	Conceptual framework for cultural adaptations	Canada	Content	EBP	Minorities	90
(Heim & Kohrt, 2019)	New framework for cultural adaptation	Switzerland	Content	Clinical EBT	Multiple groups	104
(Hwang, 2009)	The Formative Method for Adapting Psychotherapy (FMAP)	USA	Step	Clinical EBT	Asian Americans	203
(Hwang, 2006)	Psychotherapy Adaptation and Modification Framework (PAMF)	USA	Content	Clinical EBT	Asian Americans	381
(Kemp, 2016)	Adaptation and fidelity: a recipe analogy	Australia	Stacked	EBT	General	61
(Kilbourne et al., 2007)	Application of the Replicating Effective Program (REP) framework	USA	Step	EBT	Not specified	597
(Koss-Chioino & Vargas, 1992)	The Multidimensional Model for Understanding Culturally Responsive Psychotherapists	USA	Content	Clinical EBT	Minorities	84
(Kreuter et al., 2003)	Health promotion programs - targeted & tailored approaches	USA	Content	EBP (health promotion	Minorities US	1357
(Kumpfer et al., 2008)	Adaptation for Family Therapy	USA	Step	EBP (substance use)	General	318
(Lau, 2006)	Selective and Directed Treatment Adaptation Framework	USA	Step	EBP (parenting)	Minorites	781
(Lee et al., 2008)	Planned adaptation framework	USA	Step	EBP	General	210
(Leong & Lee, 2006)	Cultural Accommodation Model (CAM)	USA	Step	Clinical EBT	Asian Americans	182
(López et al., 1989)	The Social Cognitive Framework	USA	Developmental	Clinical EBT	General	218
(Lovell et al., 2014)	Psychosocial interventions for under-served people in primary care	UK	Step	Clinical EBT	Minorities Europe	47

(Maríñez-Lora et al., 2016)	A framework for translating an EBI from English to Spanish	USA	Step	EBP	Spanish	22
(McKleroy et al., 2006)	Map of adaptation process (MAP)	USA	Step	EBP (HIV)	Minorities	481
(Naeem et al., 2016)	Framework for cultural adaptation of cognitive behaviour therapy	Canada	Stacked	CBT	General	39
(Naeem et al., 2009)	The Southampton Adaptation Framework	UK	Content	CBT	General	40
(Nápoles et al., 2013)	Methods for translating EBIs for health-disparity communities	USA	Step	EBP	General	68
(Nápoles & Stewart, 2018)	Transcreation Framework for Community-engaged Behavioral Interventions to Reduce Health Disparities	USA	Step	EBP	Minorities	75
(National Cancer Institute, n.d.)	Guidelines for choosing and adapting programs	USA	Stacked	EBP (cancer)	General	NA
(Netto et al., 2010)	How to adapt health promotion interventions: five principles	UK	Step	EBP	Minorities	226
(O'Cathain et al., 2019)	Taxonomy of health interventions	UK	Step	EBP	General	316
(Okamoto et al., 2014)	Continuum approach to developing culturally focused prevention interventions	USA	Step	EBP	Not described	123
(Patchell et al., 2012)	Circular model of cultural tailoring: An intervention Adaptation	USA (Cherokee)	Content	Substance abuse	Native American	10
(Perera et al., 2020)	Process of cultural adaptation of low-intensity psychological interventions in humanitarian settings	Ireland	Step	Clinical EBT	General	64
(Pérez et al., 2016)	A modified theoretical framework to assess implementation fidelity	Cuba	Step	EBP	General	197
(Poulsen et al., 2010)	Cultural adaptation of parenting intervention	USA	Step	EBP (HIV)	General	60
(Rathod et al., 2019)	The Cultural Adaptation Framework (Triple A framework)	UK	Content	CBT	Not defined	52
(Resnicow et al., 2000)	Cultural sensitivity in public health	USA	Stacked (althought limited)	EBP (substance use)	Minorities	825
(Rolleri et al., 2014)	Adaptation guidance for evidence-based teen pregnancy prevention	USA	Step	EBP (HIV/teen pregnancy)	General	38
(Sangraula et al., 2021)	mental health Cultural Adaptation and Contextualization for Implementation (mhCACI)	Nepal	Step	Clinical EBT	humanitarian contexts	30
(Smith & Caldwell, 2007)	Adapting evidence-based programs to new contexts	USA	Step	EBP (substance use)	General	23

(Solomon et al., 2006)	Adapting efficacious interventions	USA	Step	EBP (HIV)	Not defined	149
(Sorenson & Harrell, 2021)	4-Domain Cultural Adaptation Model (CAM4)	USA	Content	Clinical EBT	General	4
(Tomioka & Braun, 2013)	A four-step protocol for assuring replication with fidelity	USA	Step	EBP	General	22
(Tseng, 1999)	Influence of culture on therapies	USA	Content	Clinical EBT	General	73
(Turner et al., 2017)	Collaborative Partnership Adaptation model	Australia	Step	EBP (parenting)	Minorities	16
(Van Daele et al., 2014)	Empowerment implementation: enhancing fidelity and adaptation	Belgium	Step	Clinical EBT	General	76
(Wainberg et al., 2007)	A model for adapting EBIs to a new culture	USA	Step	EBP (HIV)	General	67
(Wang-Schweig et al., 2014)	A conceptual framework for cultural adaptation at the deep-structure level	USA	Step	EBP	Asian Americans	40
(Whitbeck, 2006)	Theoretical model for developing culturally specific preventions with Native American people	USA	Step	Substance use	Native American	173
(Williams et al., 2013)	Cultural adaptation of an evidence-based nursing intervention	USA	Step	EBP (HIV)	China	39
(Wiltsey Stirman et al., 2019)	The FRAME: an expanded framework for reporting adaptations and modifications to evidence-based interventions	USA	Stacked	Public health	Multiple groups	683
(Wingood & DiClemente, 2008)	ADAPT-ITT: a method for adapting evidence-based HIV interventions	USA	Step	EBP (HIV)	General	526
(Yong et al., 2016)	Framework for cultural adaptation of preventive health programmes	Canada	Content	EBP (vaccination)	Migrants	21

Note: References in this table were included if the framework was cited as a guiding theoretical or methodological framework for adaptation, even if the framework itself was not directly focused on culture; EBP – evidence-based practices, EBT – evidence-based therapy , CBT – cognitive behavioral therapy

References

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., Silovsky, J. F., Hecht, D. B., & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation Science*, *7*(1), 32. https://doi.org/10.1186/1748-5908-7-32

Aceituno, D., Mena, C., Vera, N., Gonzalez-Valderrama, A., Gadelha, A., Diniz, E., Crossley, N., Pennington, M., & Prina, M. (2021). Implementation of early psychosis services in Latin America: A scoping review. *Early Intervention in Psychiatry*, *15*(5), 1104–1114. . https://doi.org/10.1111/eip.13060

Aggarwal, S., Patton, G., Berk, M., & Patel, V. (2021). Psychosocial interventions for self-harm in low-income and middle-income countries: Systematic review and theory of change. *Social Psychiatry and Psychiatric Epidemiology: The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services*, *56*(10), 1729–1750. . https://doi.org/10.1007/s00127-020-02005-5

Airhihenbuwa, C. O. (1995). *Health and Culture: Beyond the Western Paradigm*. SAGE. https://us.sagepub.com/en-us/nam/health-and-culture/book4927

Akarsu, N. E., Prince, M. J., Lawrence, V. C., & Das-Munshi, J. (2019). Depression in carers of people with dementia from a minority ethnic background: Systematic review and meta-analysis of randomised controlled trials of psychosocial interventions. *International Journal of Geriatric Psychiatry*, *34*(6), 790–806. . https://doi.org/10.1002/gps.5070

Albin, M., Micsinszki, S., & Phoenix, M. (2022). Cultural Adaptation of Parent-Implemented Early Communication Interventions: A Scoping Review. *American Journal of Speech-Language Pathology*, *31*(5), 2229–2247. https://doi.org/10.1044/2022_AJSLP-21-00286

Alcántara, C., Giorgio Cosenzo, L., McCullough, E., Vogt, T., Falzon, A. L., & Perez Ibarra, I. (2021). Cultural adaptations of psychological interventions for prevalent sleep disorders and sleep disturbances: A systematic review of randomized controlled trials in the United States. *Sleep Medicine Reviews*, *56*, 24. . https://doi.org/10.1016/j.smrv.2021.101455

Anakwenze, O. (2022). The cultural sensitivity continuum of mental health interventions in Sub-Saharan Africa: A systematic review. *Social Science & Medicine (1982)*, *306*, 115124. https://doi.org/10.1016/j.socscimed.2022.115124

Anik, E., West, R. M., Cardno, A. G., & Mir, G. (2021). Culturally adapted psychotherapies for depressed adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *278*, 296–310. https://doi.org/10.1016/j.jad.2020.09.051

Apers, H., Van Praag, L., Nöstlinger, C., & Agyemang, C. (2023). Interventions to improve the mental health or mental well-being of migrants and ethnic minority groups in Europe: A scoping review. *Global Mental Health (Cambridge, England)*, *10*, e23. https://doi.org/10.1017/gmh.2023.15

Arora, P. G., Parr, K. M., Khoo, O., Lim, K., Coriano, V., & Baker, C. N. (2021). Cultural adaptations to youth mental health interventions: A systematic review. *Journal of Child and Family Studies*. . https://doi.org/10.1007/s10826-021-02058-3

Arundell, L.-L., Barnett, P., Buckman, J. E. J., Saunders, R., & Pilling, S. (2021). The effectiveness of adapted psychological interventions for people from ethnic minority groups: A systematic review and conceptual typology. *Clinical Psychology Review*, *88*, 102063. https://doi.org/10.1016/j.cpr.2021.102063

Asiimwe, R., Dwanyen, L., Subramaniam, S., Kasujja, R., & Blow, A. J. (2023). Training of interventionists and cultural adaptation procedures: A systematic review of culturally adapted evidence-based parenting programs in Africa. *Family Process*, *62*(1), 160–181. https://doi.org/10.1111/famp.12780

Ba-Break, M., Bewick, B., Huss, R., Ensor, T., Abahussin, A., Alhakimi, H., & Elsey, H. (2023). Systematic review of intervention functions, theoretical constructs and cultural adaptations of school-based smoking prevention interventions in low-income and middle-income countries. *BMJ Open*, *13*(2), e066613. https://doi.org/10.1136/bmjopen-2022-066613

Backer, T. E. (2002). *Finding the balance: Program fidelity and adaptation in substance abuse prevention: A state-of-the-art review*. Center for Substance Abuse Prevention. https://www.csun.edu/sites/default/files/FindingBalance1.pdf

Barrera, M., Jr., & Castro, F. G. (2006). A Heuristic Framework for the Cultural Adaptation of Interventions. *Clinical Psychology: Science and Practice*, *13*(4), 311–316. . https://doi.org/10.1111/j.1468-2850.2006.00043.x

Bartholomew, L. K., Parcel, G. S., & Kok, G. (1998). Intervention mapping: A process for developing theory- and evidence-based health education programs. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, *25*(5), 545–563. https://doi.org/10.1177/109019819802500502

Baumann, A. A., Powell, B. J., Kohl, P. L., Tabak, R. G., Penalba, V., Proctor, E. E., Domenech-Rodriguez, M. M., & Cabassa, L. J. (2015). Cultural Adaptation and Implementation of Evidence-Based Parent-Training: A Systematic Review and Critique of Guiding Evidence. *Children and Youth Services Review*, *53*, 113–120. https://doi.org/10.1016/j.childyouth.2015.03.025

Bernal, G., Bonilla, J., & Bellido, C. (1995). Ecological validity and cultural sensitivity for outcome research: Issues for the cultural adaptation and development of psychosocial treatments with Hispanics. *Journal of Abnormal Child Psychology*, *23*(1), 67–82. https://doi.org/10.1007/BF01447045

Bernal, G., & Sáez-Santiago, E. (2006). Culturally centered psychosocial interventions. *Journal of Community Psychology*, *34*(2), 121–132. https://doi.org/10.1002/jcop.20096

Bo, A., Goings, T. C., Evans, C. B. R., Sharma, A., Jennings, Z., Durand, B., Bardeen, A., & Murray-Lichtman, A. (2023). Culturally sensitive prevention programs for substance use among adolescents of color: A systematic review and meta-analysis of randomized controlled trials. *Clinical Psychology Review*, *99*, 102233. https://doi.org/10.1016/j.cpr.2022.102233

Burrow-Sanchez, J. J., Martinez Jr., C. R., Hops, H., & Wrona, M. (2011). Cultural Accommodation of Substance Abuse Treatment for Latino Adolescents. *Journal of Ethnicity in Substance Abuse*, *10*(3), 202–225. https://doi.org/10.1080/15332640.2011.600194

Card, J. J., Solomon, J., & Cunningham, S. D. (2011). How to Adapt Effective Programs for Use in New Contexts. *Health Promotion Practice*, *12*(1), 25–35. https://doi.org/10.1177/1524839909348592

Cardemil, E. V. (2010). Cultural adaptations to empirically supported treatments: A research agenda. *The Scientific Review of Mental Health Practice: Objective Investigations of Controversial and Unorthodox Claims in Clinical Psychology, Psychiatry, and Social Work*, *7*(2), 8–21.

Casas, J. B., Benuto, L. T., & González, F. (2020). Latinos, anxiety, and cognitive behavioral therapy: A systematic review. *International Journal of Psychology & Psychological Therapy*, *20*(1), 91–104. .

Castellanos, R., Yildiz Spinel, M., Phan, V., Orengo-Aguayo, R., Humphreys, K. L., & Flory, K. (2020). A Systematic Review and Meta-Analysis of Cultural Adaptations of Mindfulness-Based Interventions for Hispanic Populations. *Mindfulness*, *11*(2), 317–332. https://doi.org/10.1007/s12671-019-01210-x

Castro, F. G., Barrera, M., Jr., & Martinez, C. R., Jr. (2004). The Cultural Adaptation of Prevention Interventions: Resolving Tensions Between Fidelity and Fit. *Prevention Science*, *5*(1), 41–45. . https://doi.org/10.1023/B:PREV.0000013980.12412.cd

Chen, E. K., Reid, M. C., Parker, S. J., & Pillemer, K. (2013). Tailoring Evidence-Based Interventions for New Populations: A Method for Program Adaptation Through Community Engagement. *Evaluation & the Health Professions*, *36*(1), 73–92. https://doi.org/10.1177/0163278712442536

Chen, H., & Yu, Y. (2022). The impact of social-emotional learning: A meta-analysis in China. *Frontiers in Psychology*, *13*, 1040522. https://doi.org/10.3389/fpsyg.2022.1040522

Chu, J., & Leino, A. (2017). Advancement in the maturing science of cultural adaptations of evidence-based interventions. *Journal of Consulting and Clinical Psychology*, *85*(1), 45–57. . https://doi.org/10.1037/ccp0000145

Contreras-Perez, M. E., Morris, S., Hospital, M., & Wagner, E. (2023). Culturally sensitive treatment for underrepresented adolescents with substance use: A systematic review. *Journal of Evidence-Based Social Work*, *20*(3), 404–424. . https://doi.org/10.1080/26408066.2023.2168507

Corralejo, S. M., & Domenech Rodríguez, M. M. (2018). Technology in parenting programs: A systematic review of existing interventions. *Journal of Child and Family Studies*, *27*(9), 2717–2731. . https://doi.org/10.1007/s10826-018-1117-1

Cycyk, L. M., De Anda, S., Moore, H., & Huerta, L. (2021). Cultural and linguistic adaptations of early language interventions: Recommendations for advancing research and practice. *American Journal of Speech-Language Pathology*, *30*(3), 1224–1246. . https://doi.org/10.1044/2020_AJSLP-20-00101

Davenport, M., Mazurek, M., Brown, A., & McCollom, E. (2018). A systematic review of cultural considerations and adaptation of social skills interventions for individuals with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *52*, 23–33. . https://doi.org/10.1016/j.rasd.2018.05.003

Davidson, E. M., Liu, J. J., Bhopal, R., White, M., Johnson, M. R. d., Netto, G., Wabnitz, C., & Sheikh, A. (2013). Behavior Change Interventions to Improve the Health of Racial and Ethnic Minority Populations: A Tool Kit of Adaptation Approaches. *The Milbank Quarterly*, *91*(4), 811–851. https://doi.org/10.1111/1468-0009.12034

Day, S., Laver, K., Jeon, Y.-H., Radford, K., & Low, L.-F. (2023). Frameworks for cultural adaptation of psychosocial interventions: A systematic review with narrative synthesis. *Dementia (London, England)*, *22*(8), 1921–1949. https://doi.org/10.1177/14713012231192360

Degnan, A., Baker, S., Edge, D., Nottidge, W., Noke, M., Press, C. J., Husain, N., Rathod, S., & Drake, R. J. (2018). The nature and efficacy of culturally-adapted psychosocial interventions for schizophrenia: A systematic review and meta-analysis. *Psychological Medicine*, *48*(5), 714–727. https://doi.org/10.1017/S0033291717002264

DeLuca, S. M., Kelman, A. R., & Waelde, L. C. (2018). A systematic review of ethnoracial representation and cultural adaptation of mindfulness- and meditation-based interventions. *Psychological Studies*, *63*(2), 117–129. . https://doi.org/10.1007/s12646-018-0452-z

Deng, F., Zhang, A., & Chan, C. (2019). Nutrition Interventions for Type 2 Diabetes in Chinese Populations: A Scoping Review. *Journal of Immigrant and Minority Health*, *21*(6), 1416–1431. https://doi.org/10.1007/s10903-018-0845-z

Domenech Rodríguez, M. M., Baumann, A. A., & Schwartz, A. L. (2011). Cultural adaptation of an evidence based intervention: From theory to practice in a Latino/a community context. *American Journal of Community Psychology*, *47*(1–2), 170–186. https://doi.org/10.1007/s10464-010-9371-4

Domenech-Rodríguez, M., & Wieling, E. (2005). Voices of Color: First-Person Accounts of Ethnic Minority Therapists. In *Voices of Color: First-Person Accounts of Ethnic Minority Therapists* (pp. 313–334). SAGE Publications, Inc. https://doi.org/10.4135/9781452231662

Ennis, N., Shorer, S., Shoval-Zuckerman, Y., Freedman, S., Monson, C. M., & Dekel, R. (2020). Treating posttraumatic stress disorder across cultures: A systematic review of cultural adaptations of trauma-focused cognitive behavioral therapies. *Journal of Clinical Psychology*, *76*(4), 587–611. . https://doi.org/10.1002/jclp.22909

Escobar, K. M., & Gorey, K. M. (2018a). Cognitive behavioral interventions for depression among Hispanic people: Promising meta-analytic evidence for deep cultural adaptations. *Social Work in Mental Health*, *16*(6), 746–758. . https://doi.org/10.1080/15332985.2018.1476284

Escobar, K. M., & Gorey, K. M. (2018b). Cognitive-behavioral interventions for anxiety disorders: Rapid review suggestion of larger effects among Hispanic than non-Hispanic White people. *Journal of Social Service Research*, *44*(2), 132–140. . https://doi.org/10.1080/01488376.2018.1428923

Escoffery, C., Lebow-Skelley, E., Udelson, H., Böing, E. A., Wood, R., Fernandez, M. E., & Mullen, P. D. (2019). A scoping study of frameworks for adapting public health evidence-based interventions. *Translational Behavioral Medicine*, *9*(1), 1–10. https://doi.org/10.1093/tbm/ibx067

Fendt-Newlin, M., Jagannathan, A., & Webber, M. (2020). Cultural adaptation framework of social interventions in mental health: Evidence-based case studies from low- and middle-income countries. *The International Journal of Social Psychiatry*, *66*(1), 41–48. https://doi.org/10.1177/0020764019879943

Galvin, M., & Byansi, W. (2020). A systematic review of task shifting for mental health in sub-Saharan Africa. *International Journal of Mental Health*, *49*(4), 336–360. . https://doi.org/10.1080/00207411.2020.1798720

Gardner, F., Montgomery, P., & Knerr, W. (2016). Transporting evidence-based parenting programs for child problem behavior (age 3–10) between countries: Systematic review and meta-analysis. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 749–762. . https://doi.org/10.1080/15374416.2015.1015134

Gershon, P., & Pellitteri, J. (2018). Promoting emotional intelligence in preschool education: A review of programs. *The International Journal of Emotional Education*, *10*(2), 26–41. .

Gillespie, S., Banegas, J., Maxwell, J., Chan, A. C. Y., Darawshy, N. A.-S., Wasil, A. R., Marsalis, S., & Gewirtz, A. (2022). Parenting interventions for refugees and forcibly displaced families: A systematic review. *Clinical Child and Family Psychology Review*, *25*(2), 395–412. . https://doi.org/10.1007/s10567-021-00375-z

Glasgow, R. E., Vogt, T. M., & Boles, S. M. (1999). Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *American Journal of Public Health*, *89*(9), 1322–1327. https://doi.org/10.2105/AJPH.89.9.1322

Goldberg, S. B., Anders, C., Stuart-Maver, S. L., & Kivlighan, D. M., III. (2023). Meditation, mindfulness, and acceptance methods in psychotherapy: A systematic review. *Psychotherapy Research*, *33*(7), 873–885. . https://doi.org/10.1080/10503307.2023.2209694

Goldstein, N. E. S., Kemp, K. A., Leff, S. S., & Lochman, J. E. (2012). Guidelines for adapting manualized interventions for new target populations: A step-wise approach using anger management as a model. *Clinical Psychology: Science and Practice*, *19*(4), 385–401. https://doi.org/10.1111/cpsp.12011

González Moller, J., Heaphy, G., & Urrutia Ortiz, J. (2021). The feasibility of systemic interventions for the prevention and treatment of children and adolescent mental health difficulties in Latin American countries: A mixed studies systematic review. *Journal of Family Therapy*, *43*(4), 576–620. . https://doi.org/10.1111/1467-6427.12327

Haft, S. L., O'Grady, S. M., Shaller, E. A. L., & Liu, N. H. (2022). Cultural adaptations of dialectical behavior therapy: A systematic review. *Journal of Consulting and Clinical Psychology*, *90*(10), 787–801. . https://doi.org/10.1037/ccp0000730

Hall, G. C. N., Ibaraki, A. Y., Huang, E. R., Marti, C. N., & Stice, E. (2016). A Meta-Analysis of Cultural Adaptations of Psychological Interventions. *Behavior Therapy*, *47*(6), 993–1014. https://doi.org/10.1016/j.beth.2016.09.005

Healey, P., Stager, M. L., Woodmass, K., Dettlaff, A. J., Vergara, A., Janke, R., & Wells, S. J. (2017). Cultural adaptations to augment health and mental health services: A systematic review. *BMC Health Services Research*, *17*(1), 8. https://doi.org/10.1186/s12913-016-1953-x

Heim, E., Henderson, C., Kohrt, B. A., Koschorke, M., Milenova, M., & Thornicroft, G. (2019). Reducing mental health-related stigma among medical and nursing students in low- and middle-income countries: A systematic review. *Epidemiology and Psychiatric Sciences*, *29*, e28. https://doi.org/10.1017/S2045796019000167

Heim, E., & Kohrt, B. A. (2019). Cultural Adaptation of Scalable Psychological Interventions: *Clinical Psychology in Europe*, *1*(4), Article 4. https://doi.org/10.32872/cpe.v1i4.37679

Heim, E., Kohrt, B. A., Koschorke, M., Milenova, M., & Thornicroft, G. (2018). Reducing mental health-related stigma in primary health care settings in low- and middle-income countries: A systematic review. *Epidemiology and Psychiatric Sciences*, *29*, e3. https://doi.org/10.1017/S2045796018000458

Hernandez Robles, E., Maynard, B. R., Salas-Wright, C. P., & Todic, J. (2018). Culturally Adapted Substance Use Interventions for Latino Adolescents: A Systematic Review and Meta-Analysis. *Research on Social Work Practice*, *28*(7), 789–801. https://doi.org/10.1177/1049731516676601

Horne, M., Tierney, S., Henderson, S., Wearden, A., & Skelton, D. A. (2018). A systematic review of interventions to increase physical activity among South Asian adults. *Public Health*, *162*, 71–81. . https://doi.org/10.1016/j.puhe.2018.05.009

Hu, J., Wu, T., Damodaran, S., Tabb, K. M., Bauer, A., & Huang, H. (2020). The Effectiveness of Collaborative Care on Depression Outcomes for Racial/Ethnic Minority Populations in Primary Care: A Systematic Review. *Psychosomatics*, *61*(6), 632–644. https://doi.org/10.1016/j.psym.2020.03.007

Huey, S. J., Tilley, J. L., Jones, E. O., & Smith, C. A. (2014). The contribution of cultural competence to evidence-based care for ethnically diverse populations. *Annual Review of Clinical Psychology*, *10*, 305–338. https://doi.org/10.1146/annurev-clinpsy-032813-153729

Hwang, W.-C. (2006). The psychotherapy adaptation and modification framework: Application to Asian Americans. *American Psychologist*, *61*(7), 702–715. https://doi.org/10.1037/0003-066X.61.7.702

Hwang, W.-C. (2009). The formative method for adapting psychotherapy (FMAP): A community-based developmental approach to culturally adapting therapy. *Professional Psychology: Research and Practice*, *40*(4), 369–377. https://doi.org/10.1037/a0016240

James, T., Mukadam, N., Sommerlad, A., Guerra Ceballos, S., & Livingston, G. (2021). Culturally tailored therapeutic interventions for people affected by dementia: A systematic review and new conceptual model. *The Lancet. Healthy Longevity*, *2*(3), e171–e179. https://doi.org/10.1016/S2666-7568(21)00001-5

Kalibatseva, Z., & Leong, F. T. L. (2014). A critical review of culturally sensitive treatments for depression: Recommendations for intervention and research. *Psychological Services*, *11*(4), 433–450. . https://doi.org/10.1037/a0036047

Kamilu Sulaiman, S., Wong, A. Y. L., Liangchi Li, L., Fordjour Antwi-Afari, M., Ou, H., & Wh Tsang, H. (2023). The use of mobile health technology in the management of osteoarthritis: A scoping review with scientometric analyses. *International Journal of Medical Informatics*, *170*, 104937. https://doi.org/10.1016/j.ijmedinf.2022.104937

Kayrouz, R., & Hansen, S. (2020). I don't believe in miracles: Using the ecological validity model to adapt the miracle question to match the client's cultural preferences and characteristics. *Professional Psychology: Research and Practice*, *51*(3), 223–236. . https://doi.org/10.1037/pro0000283

Kemp, L. (2016). Adaptation and Fidelity: A Recipe Analogy for Achieving Both in Population Scale Implementation. *Prevention Science*, *17*(4), 429–438. https://doi.org/10.1007/s11121-016-0642-7

Kilbourne, A. M., Neumann, M. S., Pincus, H. A., Bauer, M. S., & Stall, R. (2007). Implementing evidence-based interventions in health care: Application of the replicating effective programs framework. *Implementation Science*, *2*(1), 42. https://doi.org/10.1186/1748-5908-2-42

Koss-Chioino, J. D., & Vargas, L. A. (1992). Through the cultural looking glass: A model for understanding culturally responsive psychotherapies. In *Working with culture: Psychotherapeutic interventions with ethnic minority children and adolescents* (pp. 1–22). Jossey-Bass/Wiley.

Kreuter, M. W., Lukwago, S. N., Bucholtz, D. C., Clark, E. M., & Sanders-Thompson, V. (2003). Achieving Cultural Appropriateness in Health Promotion Programs: Targeted and Tailored Approaches. *Health Education & Behavior*, *30*(2), 133–146. https://doi.org/10.1177/1090198102251021

Kumpfer, K. L., Pinyuchon, M., de Melo, A. T., & Whiteside, H. O. (2008). Cultural adaptation process for international dissemination of the Strengthening Families Program. *Evaluation & the Health Professions*, *31*(2), 226–239. . https://doi.org/10.1177/0163278708315926

Lau, A. S. (2006). Making the Case for Selective and Directed Cultural Adaptations of Evidence-Based Treatments: Examples From Parent Training. *Clinical Psychology: Science and Practice*, *13*(4), 295–310. https://doi.org/10.1111/j.1468-2850.2006.00042.x

Lee, S. J., Altschul, I., & Mowbray, C. T. (2008). Using Planned Adaptation to Implement Evidence-Based Programs with New Populations. *American Journal of Community Psychology*, *41*(3–4), 290–303. https://doi.org/10.1007/s10464-008-9160-5

Lee-Tauler, S. Y., Eun, J., Corbett, D., & Collins, P. Y. (2018). A systematic review of interventions to improve initiation of mental health care among racial-ethnic minority groups. *Psychiatric Services*, *69*(6), 628–647. . https://doi.org/10.1176/appi.ps.201700382

Leong, F. T., & Lee, S.-H. (2006). A cultural accommodation model for cross-cultural psychotherapy: Illustrated with the case of Asian Americans. *Psychotherapy: Theory, Research, Practice, Training*, *43*(4), 410–423. https://doi.org/10.1037/0033-3204.43.4.410

Li, S., Xi, Z., Barnett, P., Saunders, R., Shafran, R., & Pilling, S. (2023). Efficacy of culturally adapted interventions for common mental disorders in people of Chinese descent: A systematic review and meta-analysis. *The Lancet Psychiatry*, *10*(6), 426–440. . https://doi.org/10.1016/S2215-0366(23)00118-9

Lim, N., O'Reilly, M., Russell-George, A., & Londoño, F. V. (2023). A meta-analysis of parenting interventions for immigrants. *Prevention Science*. . https://doi.org/10.1007/s11121-022-01488-9

Liu, Q., Hsieh, W.-Y., & Chen, G. (2020). A systematic review and meta-analysis of parent-mediated intervention for children and adolescents with autism spectrum disorder in mainland China, Hong Kong, and Taiwan. *Autism*, *24*(8), 1960–1979. . https://doi.org/10.1177/1362361320943380

Lofton, S., Julion, W. A., McNaughton, D. B., Bergren, M. D., & Keim, K. S. (2016). A systematic review of literature on culturally adapted obesity prevention interventions for African American youth. *The Journal of School Nursing*, *32*(1), 32–46. . https://doi.org/10.1177/1059840515605508

López, S. R., Grover, K. P., Holland, D., Johnson, M. J., Kain, C. D., Kanel, K., Mellins, C. A., & Rhyne, M. C. (1989). Development of culturally sensitive psychotherapists. *Professional Psychology: Research and Practice*, *20*(6), 369–376. https://doi.org/10.1037/0735-7028.20.6.369

Lovell, K., Lamb, J., Gask, L., Bower, P., Waheed, W., Chew-Graham, C., Lamb, J., Aseem, S., Beatty, S., Burroughs, H., Clarke, P., Dowrick, A., Edwards, S., Gabbay, M., Lloyd-Williams, M., & Dowrick, C. (2014). Development and evaluation of culturally sensitive psychosocial interventions for under-served people in primary care. *BMC Psychiatry*, *14*(1), 217. https://doi.org/10.1186/s12888-014-0217-8

Mabunda, D., Oliveira, D., Sidat, M., Cavalcanti, M. T., Cumbe, V., Mandlate, F., Wainberg, M., Cournos, F., & de Jesus Mari, J. (2022). Cultural adaptation of psychological interventions for people with mental disorders delivered by lay health workers in Africa: Scoping review and expert consultation. *International Journal of Mental Health Systems*, *16*, 16. . https://doi.org/10.1186/s13033-022-00526-x

Machalicek, W., Glugatch, L., Erturk, B., Brafford, T., Kunze, M., Drew, C., Douglas, A., Storie, S., Crowe, R., & Magaña, S. (2022). Recommendations for Diversifying Racial and Ethnic Representation in Autism Intervention Research: A Crossover Review of Recruitment and Retention Practices in Pediatric Mental Health. *Journal of Clinical Medicine*, *11*(21). https://doi.org/10.3390/jcm11216468

Mak, C., & Wieling, E. (2022). A Systematic Review of Evidence-Based Family Interventions for Trauma-Affected Refugees. *International Journal of Environmental Research and Public Health*, *19*(15). https://doi.org/10.3390/ijerph19159361

Maríñez-Lora, A. M., Boustani, M., del Busto, C. T., & Leone, C. (2016). A Framework for Translating an Evidence-Based Intervention from English to Spanish. *Hispanic Journal of Behavioral Sciences*, *38*(1), 117–133. https://doi.org/10.1177/0739986315612769

Marshall, S., Taki, S., Laird, Y., Love, P., Wen, L. M., & Rissel, C. (2022). Cultural adaptations of obesity-related behavioral prevention interventions in early childhood: A systematic review. *Obesity Reviews : An Official Journal of the International Association for the Study of Obesity*, *23*(4), e13402. https://doi.org/10.1111/obr.13402

Mascayano, F., Toso-Salman, J., Ho, Y. C. S., Dev, S., Tapia, T., Thornicroft, G., Cabassa, L. J., Khenti, A., Sapag, J., Bobbili, S. J., Alvarado, R., Yang, L. H., & Susser, E. (2020). Including culture in programs to reduce stigma toward people with mental disorders in low- and middle-income countries. *Transcultural Psychiatry*, *57*(1), 140–160. https://doi.org/10.1177/1363461519890964

McCarthy, M. J., Sanchez, A., Garcia, Y. E., & Bakas, T. (2021). A systematic review of psychosocial interventions for Latinx and American Indian patient-family caregiver dyads coping with chronic health conditions. *Translational Behavioral Medicine*, *11*(9), 1639–1654. . https://doi.org/10.1093/tbm/ibab051

McCleary, J. S., & Horn, T. L. (2023). Processes for culturally adapting behavioral health interventions for people with refugee backgrounds: A scoping review. *American Journal of Community Psychology*. . https://doi.org/10.1002/ajcp.12709

McKleroy, V. S., Galbraith, J. S., Cummings, B., Jones, P., Harshbarger, C., Collins, C., Gelaude, D., Carey, J. W., & Adapt Team. (2006). Adapting Evidence–Based Behavioral Interventions for New Settings and Target Populations. *AIDS Education and Prevention*, *18*(supp), 59–73. https://doi.org/10.1521/aeap.2006.18.supp.59

Mishu, M. P., Tindall, L., Kerrigan, P., & Gega, L. (2023). Cross-culturally adapted psychological interventions for the treatment of depression and/or anxiety among young people: A scoping review. *PloS One*, *18*(10), e0290653. https://doi.org/10.1371/journal.pone.0290653

Mpofu, E., Ingman, S., Matthews-Juarez, P., Rivera-Torres, S., & Juarez, P. D. (2021). Trending the evidence on opioid use disorder (OUD) continuum of care among rural American Indian/Alaskan Native (AI/AN) tribes: A systematic scoping review. *Addictive Behaviors*, *114*, 8. . https://doi.org/10.1016/j.addbeh.2020.106743

Naeem, F., Ayub, M., Gobbi, M., & Kingdon, D. (2009). Development of Southampton Adaptation Framework for CBT (SAF-CBT): A Framework for Adaptation of CBT in Non-Western Culture. *Journal of Pakistan Psychiatric Society*, *6*(2). https://durham-repository.worktribe.com/output/1539872/development-of-southampton-adaptation-framework-for-cbt-saf-cbt-a-framework-for-adaptation-of-cbt-in-non-western-culture

Naeem, F., Phiri, P., Nasar, A., Gerada, A., Munshi, T., Ayub, M., & Rathod, S. (2016). An evidence-based framework for cultural adaptation of Cognitive Behaviour Therapy: Process, methodology and foci of adaptation. *World Cultural Psychiatry Research Review*, *11*, 61–70.

Naeem, F., Sajid, S., Naz, S., & Phiri, P. (2023). Culturally adapted CBT—The evolution of psychotherapy adaptation frameworks and evidence. *The Cognitive Behaviour Therapist*, *16*, 21. . https://doi.org/10.1017/S1754470X2300003X

Nápoles, A. M., Santoyo-Olsson, J., & Stewart, A. L. (2013). Methods for Translating Evidence-Based Behavioral Interventions for Health-Disparity Communities. *Preventing Chronic Disease*, *10*, 130133. https://doi.org/10.5888/pcd10.130133

Nápoles, A. M., & Stewart, A. L. (2018). Transcreation: An implementation science framework for community-engaged behavioral interventions to reduce health disparities. *BMC Health Services Research*, *18*(1), 710. https://doi.org/10.1186/s12913-018-3521-z

National Cancer Institute. (n.d.). *Guidelines for Choosing and Adapting Programs*. U.S. Department of Health & Human Services, National Institutes of Health. https://ebccp.cancercontrol.cancer.gov/assets/rtips/reference/adaptation_guidelines.pdf

Nava, L. T., Zambrano, J. M., Arviso, K. P., Brochetti, D., & Becker, K. L. (2015). Nutrition-based interventions to address metabolic syndrome in the Navajo: A systematic review. *Journal of Clinical Nursing*, *24*(21–22), 3024–3045. https://doi.org/10.1111/jocn.12921

Netto, G., Bhopal, R., Lederle, N., Khatoon, J., & Jackson, A. (2010). How can health promotion interventions be adapted for minority ethnic communities? Five principles for guiding the development of behavioural interventions. *Health Promotion International*, *25*(2), 248–257. . https://doi.org/10.1093/heapro/daq012

Nierkens, V., Hartman, M. A., Nicolaou, M., Vissenberg, C., Beune, E. J. A. J., Hosper, K., van Valkengoed, I. G., & Stronks, K. (2013). Effectiveness of cultural adaptations of interventions aimed at smoking cessation, diet, and/or physical activity in ethnic minorities. A systematic review. *PloS One*, *8*(10), e73373. https://doi.org/10.1371/journal.pone.0073373

O'Cathain, A., Croot, L., Sworn, K., Duncan, E., Rousseau, N., Turner, K., Yardley, L., & Hoddinott, P. (2019). Taxonomy of approaches to developing interventions to improve health: A systematic methods overview. *Pilot and Feasibility Studies*, *5*(1), 41. https://doi.org/10.1186/s40814-019-0425-6

Okamoto, S. K., Kulis, S., Marsiglia, F. F., Holleran Steiker, L. K., & Dustman, P. (2014). A Continuum of Approaches Toward Developing Culturally Focused Prevention Interventions: From Adaptation to Grounding. *The Journal of Primary Prevention*, *35*(2), 103–112. https://doi.org/10.1007/s10935-013-0334-z

Patchell, B. A., Robbins, L. K., Hoke, M. M., & Lowe, J. (2012). Circular Model of Cultural Tailoring: An Intervention Adaption. *Journal of Theory Construction & Testing*, *16*(2), 45–51.

Pei, Y., Qi, X., Schulman-Green, D., Hu, M., Wang, K., & Wu, B. (2022). Decision Aid Interventions for Family Caregivers of Persons With Advanced Dementia in Decision-Making About Feeding Options: A Scoping Review. *Journal of the American Medical Directors Association*, *23*(12), 1927.e1-1927.e6. https://doi.org/10.1016/j.jamda.2022.08.014

Perera, C., Salamanca-Sanabria, A., Caballero-Bernal, J., Feldman, L., Hansen, M., Bird, M., Hansen, P., Dinesen, C., Wiedemann, N., & Vallières, F. (2020). No implementation without cultural adaptation: A process for culturally adapting low-intensity psychological interventions in humanitarian settings. *Conflict and Health*, *14*, 46. https://doi.org/10.1186/s13031-020-00290-0

Pérez, D., Van der Stuyft, P., Zabala, M. del C., Castro, M., & Lefèvre, P. (2016). A modified theoretical framework to assess implementation fidelity of adaptive public health interventions. *Implementation Science*, *11*(1), 91. https://doi.org/10.1186/s13012-016-0457-8

Poulsen, M. N., Vandenhoudt, H., Wyckoff, S. C., Obong'o, C. O., Ochura, J., Njika, G., Otwoma, N. J., & Miller, K. S. (2010). Cultural adaptation of a U.S. evidence-based parenting intervention for rural Western Kenya: From parents matter! To families matter! *AIDS Education and Prevention: Official Publication of the International Society for AIDS Education*, *22*(4), 273–285. https://doi.org/10.1521/aeap.2010.22.4.273

Ramírez-Guarín, V., Codina, N., & Pestana, J. V. (2023). A systematic review of psychosocial interventions for child soldiers: Types, length and main findings. *Journal of Social Work Practice*, *37*(1), 79–95. . https://doi.org/10.1080/02650533.2022.2031934

Rathod, S., Gega, L., Degnan, A., Pikard, J., Khan, T., Husain, N., Munshi, T., & Naeem, F. (2018). The current status of culturally adapted mental health interventions: A practice-focused review of meta-analyses. *Neuropsychiatric Disease and Treatment*, *14*, 14. . https://doi.org/10.2147/NDT.S138430

Rathod, S., Phiri, P., & Naeem, F. (2019). An evidence-based framework to culturally adapt cognitive behaviour therapy. *The Cognitive Behaviour Therapist*, *12*, 15. . https://doi.org/10.1017/S1754470X18000247

Resnicow, K., Soler, R., Braithwaite, R. L., Ahluwalia, J. S., & Butler, J. (2000). Cultural sensitivity in substance use prevention. *Journal of Community Psychology*, *28*(3), 271–290. https://doi.org/10.1002/(SICI)1520-6629(200005)28:3<271::AID-JCOP4>3.0.CO;2-I

Richardson, M., Big Eagle, T., & Waters, S. F. (2022). A systematic review of trauma intervention adaptations for indigenous caregivers and children: Insights and implications for reciprocal collaboration. *Psychological Trauma: Theory, Research, Practice, and Policy*, *14*(6), 972–982. . https://doi.org/10.1037/tra0001225

Riley, I. L., Murphy, B., Razouki, Z., Krishnan, J. A., Apter, A., Okelo, S., Kraft, M., Feltner, C., Que, L. G., & Boulware, L. E. (2019). A Systematic Review of Patient- and Family-Level Inhaled Corticosteroid Adherence Interventions in Black/African Americans. *The Journal of Allergy and Clinical Immunology. In Practice*, *7*(4), 1184-1193.e3. https://doi.org/10.1016/j.jaip.2018.10.036

Rolleri, L. A., Fuller, T. R., Firpo-Triplett, R., Lesesne, C. A., Moore, C., & Leeks, K. D. (2014). Adaptation Guidance for Evidence-Based Teen Pregnancy and STI/HIV Prevention Curricula: From Development to Practice. *American Journal of Sexuality Education*, *9*(2), 135–154. https://doi.org/10.1080/15546128.2014.900467

Rostami-Moez, M., Kangavari, M., Teimori, G., Afshari, M., & Ebrahimi Khah, M. (2019). Cultural adaptation for country diversity: A systematic review of injury prevention interventions caused by domestic accidents in children under five years old. *Medical Journal of the Islamic Republic of Iran*, *33*, 124. https://doi.org/10.34171/mjiri.33.124

Ruiz-Perez, I., Murphy, M., Pastor-Moreno, G., Rojas-García, A., & Rodríguez-Barranco, M. (2017). The effectiveness of HIV prevention interventions in socioeconomically disadvantaged ethnic minority women: A systematic review and meta-analysis. *American Journal of Public Health*, *107*(12), e13–e21. . https://doi.org/10.2105/AJPH.2017.304067

Ruiz-Pérez, I., Rodríguez-Gómez, M., Pastor-Moreno, G., Escribá-Agüir, V., & Petrova, D. (2019). Effectiveness of interventions to improve cancer treatment and follow-up care in socially disadvantaged groups. *Psycho-Oncology*, *28*(4), 665–674. . https://doi.org/10.1002/pon.5011

Sangraula, M., Kohrt, B. A., Ghimire, R., Shrestha, P., Luitel, N. P., Van't Hof, E., Dawson, K., & Jordans, M. J. D. (2021). Development of the mental health cultural adaptation and contextualization for implementation (mhCACI) procedure: A systematic framework to prepare evidence-based psychological interventions for scaling. *Global Mental Health (Cambridge, England)*, *8*, e6. https://doi.org/10.1017/gmh.2021.5

Sidze, E. M., Wekesah, F. M., Kisia, L., & Abajobir, A. (2022). Correction to: Inequalities in access and utilization of maternal, newborn and child health services in sub-Saharan Africa: A special focus on urban settings. *Maternal and Child Health Journal*, *26*(9), 1944. . https://doi.org/10.1007/s10995-022-03396-4

Smith, E., & Caldwell, L. (2007). Adapting Evidence-Based Programs to New Contexts: What Needs to Be Changed? *The Journal of Rural Health*, *23*(s1), 37–41. https://doi.org/10.1111/j.1748-0361.2007.00122.x

Soklaridis, S., Lin, E., Lalani, Y., Rodak, T., & Sockalingam, S. (2020). Mental health interventions and supports during COVID-19 and other medical pandemics: A rapid systematic review of the evidence. *General Hospital Psychiatry*, *66*, 133–146. . https://doi.org/10.1016/j.genhosppsych.2020.08.007

Solomon, J., Card, J. J., & Malow, R. M. (2006). Adapting Efficacious Interventions: Advancing Translational Research in HIV Prevention. *Evaluation & the Health Professions*, *29*(2), 162–194. https://doi.org/10.1177/0163278706287344

Sorenson, C., & Harrell, S. P. (2021). Development and testing of the 4-Domain Cultural Adaptation Model (CAM4). *Professional Psychology: Research and Practice*, *52*(3), 250–259. . https://doi.org/10.1037/pro0000370

Steinka-Fry, K. T., Tanner-Smith, E. E., Dakof, G. A., & Henderson, C. (2017). Culturally sensitive substance use treatment for racial/ethnic minority youth: A meta-analytic review. *Journal of Substance Abuse Treatment*, *75*, 22–37. https://doi.org/10.1016/j.jsat.2017.01.006

Sundell, K., Beelmann, A., Hasson, H., & von Thiele Schwarz, U. (2016). Novel programs, international adoptions, or contextual adaptations? Meta-analytical results from German and Swedish intervention research. *Journal of Clinical Child and Adolescent Psychology*, *45*(6), 784–796. . https://doi.org/10.1080/15374416.2015.1020540

Tan, N. Q. P., Shin, L. J., Maki, K. G., Geng, Y., Volk, R. J., & Lu, Q. (2023). A systematic review of the impact of cancer survivorship interventions with Asian American cancer survivors. *Asian American Journal of Psychology*. . https://doi.org/10.1037/aap0000317

Taylor, A., Radford, G., & Calia, C. (2023). Review: Cultural adaptations to psychosocial interventions for families with refugee/asylum-seeker status in the United Kingdom—A systematic review. *Child and Adolescent Mental Health*, *28*(2), 241–257. https://doi.org/10.1111/camh.12547

Tomioka, M., & Braun, K. L. (2013). Implementing Evidence-Based Programs: A Four-Step Protocol for Assuring Replication With Fidelity. *Health Promotion Practice*, *14*(6), 850–858. https://doi.org/10.1177/1524839912469205

Tseng, W.-S. (1999). Culture and psychotherapy: Review and practical guidelines. *Transcultural Psychiatry*, *36*(2), 131–179. https://doi.org/10.1177/136346159903600201

Turner, K. M. T., Sanders, M. R., Keown, L. J., & Shepherd, M. (2017). A Collaborative Partnership Adaptation Model. In M. R. Sanders, T. G. Mazzucchelli, M. R. Sanders, & T. G. Mazzucchelli (Eds.), *The Power of Positive Parenting: Transforming the Lives of Children, Parents, and Communities Using the Triple P System* (p. 0). Oxford University Press. https://doi.org/10.1093/med-psych/9780190629069.003.0028

Vally, Z., & Maggott, C. (2015). Evaluating the outcome of cultural adaptations of cognitive-behavioural therapy for adult depression: A meta-analysis of treatment studies in developing countries. *International Journal for the Advancement of Counselling*, *37*(4), 293–304. . https://doi.org/10.1007/s10447-015-9244-5

Van Daele, T., Van Audenhove, C., Hermans, D., Van Den Bergh, O., & Van Den Broucke, S. (2014). Empowerment implementation: Enhancing fidelity and adaptation in a psycho-educational intervention. *Health Promotion International*, *29*(2), 212–222. https://doi.org/10.1093/heapro/das070

van Mourik, K., Crone, M. R., de Wolff, M. S., & Reis, R. (2017). Parent Training Programs for Ethnic Minorities: A Meta-analysis of Adaptations and Effect. *Prevention Science : The Official Journal of the Society for Prevention Research*, *18*(1), 95–105. https://doi.org/10.1007/s11121-016-0733-5

Venner, K. L., Hernandez-Vallant, A., Hirchak, K. A., & Herron, J. L. (2022). A scoping review of cultural adaptations of substance use disorder treatments across Latinx communities: Guidance for future research and practice. *Journal of Substance Abuse Treatment*, *137*, 108716. https://doi.org/10.1016/j.jsat.2021.108716

Vincze, L., Barnes, K., Somerville, M., Littlewood, R., Atkins, H., Rogany, A., & Williams, L. T. (2021). Cultural adaptation of health interventions including a nutrition component in Indigenous peoples: A systematic scoping review. *International Journal for Equity in Health*, *20*(1), 125. https://doi.org/10.1186/s12939-021-01462-x

Wainberg, M. L., Alfredo González, M., McKinnon, K., Elkington, K. S., Pinto, D., Gruber Mann, C., & Mattos, P. E. (2007). Targeted ethnography as a critical step to inform cultural adaptations of HIV prevention interventions for adults with severe mental illness. *Social Science & Medicine*, *65*(2), 296–308. https://doi.org/10.1016/j.socscimed.2007.03.020

Wang-Schweig, M., Kviz, F. J., Altfeld, S. J., Miller, A. M., & Miller, B. A. (2014). Building a conceptual framework to culturally adapt health promotion and prevention programs at the deep structural level. *Health Promotion Practice*, *15*(4), 575–584. https://doi.org/10.1177/1524839913518176

Washington, T., Rose, T., Colombo, G., Hong, J. S., & Coard, S. I. (2015). Family-level factors and African American children's behavioral health outcomes: A systematic review. *Child & Youth Care Forum*, *44*(6), 819–834. . https://doi.org/10.1007/s10566-015-9308-z

Whitbeck, L. B. (2006). Some guiding assumptions and a theoretical model for developing culturally specific preventions with Native American people. *Journal of Community Psychology*, *34*(2), 183–192. https://doi.org/10.1002/jcop.20094

Williams, A. B., Wang, H., Burgess, J., Li, X., & Danvers, K. (2013). Cultural adaptation of an evidence-based nursing intervention to improve medication adherence among people living with HIV/AIDS (PLWHA) in China. *International Journal of Nursing Studies*, *50*(4), 487–494. https://doi.org/10.1016/j.ijnurstu.2012.08.018

Wiltsey Stirman, S., Baumann, A. A., & Miller, C. J. (2019). The FRAME: An expanded framework for reporting adaptations and modifications to evidence-based interventions. *Implementation Science*, *14*(1), 58. https://doi.org/10.1186/s13012-019-0898-y

Wingood, G. M., & DiClemente, R. J. (2008). The ADAPT-ITT Model: A Novel Method of Adapting Evidence-Based HIV Interventions. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *47*(Supplement 1), S40–S46. https://doi.org/10.1097/QAI.0b013e3181605df1

Wright, A., Reisig, A., & Cullen, B. (2020). Efficacy and cultural adaptations of narrative exposure therapy for trauma-related outcomes in refugees/asylum-seekers: A systematic review and meta-analysis. *Journal of Behavioral and Cognitive Therapy*, *30*(4), 301–314. . https://doi.org/10.1016/j.jbct.2020.10.003

Yim, S. H., & Schmidt, U. (2023). The effectiveness and cultural adaptations of psychological interventions for eating disorders in east asia: A systematic scoping review. *International Journal of Eating Disorders*. . https://doi.org/10.1002/eat.24061

Yong, A. G., Lemyre, L., Farrell, S. J., & Young, M. Y. (2016). Acculturation in preventive health for immigrants: A systematic review on influenza vaccination programs in a socio-ecological framework. *Canadian Psychology / Psychologie Canadienne*, *57*(4), 340–355. https://doi.org/10.1037/cap0000075

Zhang, X., & Tang, L. (2022). Cultural adaptation in HPV vaccine intervention among racial and ethical minority population: A systematic literature review. *Health Education Research*, *36*(5), 479–493. https://doi.org/10.1093/her/cyab034