Chapter 6
Evidence-Based Treatments: Adapting Behavioral Medicine Change Strategies to Meet the Needs of Integrated Care with an Appreciation of Culture

Felipe González Castro, Manuel Barrera Jr, and Tara G. Bautista

Delivering Culturally Responsive Treatments in Integrated Treatment Settings

Systems Contexts for Implementing Empirically-Based Treatments

Currently many validated behavioral health treatment and prevention interventions have been developed, tested for effectiveness, and made available for dissemination and implementation within various agencies or organizational settings. The National Registry of Evidence-Based Programs and Practices (NREPP) has identified over 350 such programs that demonstrate varying levels of effectiveness in producing intended changes on targeted outcome measures. These programs have been designed to prevent or treat many behavioral health problems involving the general areas of co-occurring disorders, mental health promotion or treatment, and substance use disorder prevention or treatment (Substance Abuse and Mental Health Services Administration (SAMHSA), 2017). Despite this plethora of evidence-based programs, several systemic barriers exist that have limited the broad dissemination and implementation of these empirically-based programs.

From an ecodevelopmental systems perspective (Bronfenbrenner, 1986; Pantin, Schwartz, Sullivan, Prado, & Szapocznik, 2004; Sallis, Owen, & Fisher 2008), several systemic issues and barriers occur at *micro*-levels (the individual, families, healthcare organizations) and at *macro*-levels (communities, states, and the nation)

F. G. Castro (✉) · T. G. Bautista
College of Nursing and Health Innovation, Arizona State University, Phoenix, AZ, USA
e-mail: Felipe.Castro@asu.edu; Tara.Bautista@asu.edu

M. Barrera Jr
Department of Psychology, Arizona State University, Tempe, AZ, USA
e-mail: Manuel.Barrera@asu.edu

M. P. Duckworth, W. T. O'Donohue (eds.), *Behavioral Medicine and Integrated Care*,
https://doi.org/10.1007/978-3-319-93003-9_6

that impede the optimal implementation and the sustainability of otherwise efficacious prevention and treatment interventions (Castro et al., 2017).

This chapter presents an ecodevelopmental systems perspective for examining these barriers and their influences to help strategize and plan the cultural adaptation of an original empirically-based program, as this may counter or eliminate these barriers, while also increasing treatment relevance, engagement, fit, and effectiveness for residents from a local community.

Goal of Wide Dissemination and Implementation of Validated Treatments

In the recent past, two large fields of research and practice, *prevention* and *treatment*, have produced empirically-based and validated programs for reducing or eliminating major health, mental health, and drug abuse problems. Within these programs the capacity to produce significant changes on targeted outcome measures, that is, program *efficacy* or *effectiveness*, has been established based on empirical evidence obtained from randomized controlled trials (RCTs). Within the field of prevention research, these organized programs are described as *evidence-based interventions* (EBIs) (Castro, Barrera, & Holleran-Steiker, 2010). Similarly, in the treatment field, these programs are described as *empirically validated therapies* (EVTs) (Carroll et al., 2011). In this chapter, we will refer to each of these types of programs as *empirically-based treatments* (EBTs).

As noted, within the fields of prevention and treatment, a contemporary service delivery strategy has been that these tested-and-effective EBTs should be widely disseminated and their treatment protocol implemented with high fidelity (Carroll et al., 2011; Flay et al., 2005; Norcross, Beutler, & Levant, 2006; Spoth et al., 2013). Nonetheless, this broad dissemination and implementation with fidelity has not been fully realized (Carroll et al., 2011).

In the past, one challenge to this strategy of wide dissemination and fidelity in implementation is that many treatment providers felt constrained by an overly prescriptive, restrictive, or culturally insensitive manualized treatment protocol. These manualized treatment protocols were criticized for being unresponsive to the needs of certain groups of participants, including patients with comorbidities and for many racial/ethnic minority clients (Norcross, Beutler, & Levant, 2006; Sue & Zane, 2006). This dissatisfaction also prompted some service providers to introduce local *cultural adaptations* (Castro, Barrera, & Martinez, 2004), that is, changes in the treatment protocol to accommodate the needs and preferences of certain clients or patients for whom the manualized treatment was ineffective in addressing their needs and preferences. However, these adaptive changes were also regarded by some treatment developers as inappropriate, as such changes were believed to erode the intervention's established effectiveness (Elliott & Mihalic, 2004).

Abiding Challenges in the Application of Empirically-Based Treatments

Issues of engagement and retention In the areas of drug abuse prevention and treatment, several challenges persist involving low rates of client *engagement* and *retention* in these programs (Carroll et al., 2011). One approach to increase treatment engagement and retention among youth and families has been to reduce the total number of program sessions, e.g., from 12 to 8 sessions. However, such reductions may diminish EBT efficacy based on lower client exposures and/or less acquisition of essential treatment-related knowledge and skills (Kumpfer, Alvarado, Smith, & Bellamy, 2002; Kumpfer, Pinyuchon, de Melo, & Whiteside, 2008).

The Fidelity-Adaptation Dilemma

If a treatment lacks genuine *relevance* and *appeal* for certain clients, i.e., low *acceptability*, despite its efficacy, and if these clients discontinue the treatment, this undesirable outcome will fail to produce treatment-related benefits. This problem of limited treatment relevance and low client engagement contributed to the emergence of the *fidelity-adaptation dilemma*. This dilemma has been a prominent issue in the field of prevention science for almost two decades (US Department of Health and Human Services (DHHS), 2016). This dilemma has also emerged within the drug treatment field. Within the past two decades and after much debate and analysis, this Fidelity-Adaptation Dilemma has been and reframed. The contemporary view is that fidelity and adaptation are both important imperatives. In this reframed view, a preferred approach in intervention design is to maintain fidelity to core intervention goals, while also affording implementers the flexibility to make informed adaptations that promote community engagement and cultural responsiveness to the needs and preferences of various local consumer groups (Castro & Yasui, 2017).

About fidelity and adaptation *Fidelity* refers to the extent to which a treatment protocol is delivered as originally developed and prescribed by the creators of that treatment. Fidelity generally consists of implementation of a treatment protocol in close adherence to the manualized procedures, given that this protocol has been validated and shown to attain targeted outcomes as assessed within one or more randomized controlled trials (Flay et al., 2005; Hansen, 2014). By contrast, the *adaptation* of a model treatment protocol refers to modifications in one or more treatment components or activities to increase treatment *relevance*, client *engagement*, and perhaps *effectiveness* for a specific subcultural group of clients (Castro et al., 2004). Such modifications often focus on one or more of three major aspects of treatment: (a) informational content, (b) program activities, and (c) forms of delivery. Ideally, such adaptations will increase client engagement and the magnitude of treatment effects, i.e., *effect size*, thus ideally increasing treatment effectiveness.

Client segmentation using a more relevant unit of analysis A related issue is whether a validated EBT is *universal*, meaning that it would be efficacious across many populations and environments, or whether its effects are specific to a certain population or treatment site. Variations in an EBT's true efficacy across a diversity of clients and situations raise the need to identify sectors of the population that are so "culturally different," that they will not respond well to that EBT. This issue also prompts the need to accurately identify *subcultural groups* for which an original EBT may need to be adapted (Barrera, Castro, & Holleran-Steiker, 2011; Castro et al., 2010). This approach requires greater specificity when defining these subcultural groups, moving beyond a broad cultural concept, such as examining an EBT's efficacy among "all Latinos."

In accord with the field of social marketing, this more specific approach involves *audience segmentation* (Storey, Saffitz, & Rimon, 2008). This segmentation approach identifies more homogeneous subgroups of "consumers," those who share common beliefs, behaviors, and lifestyles. For example, some subcultural groups share a "drug culture" that involves "shared values, beliefs, customs, and traditions that evolve from substance use (Substance Abuse and Mental Health Services Administration (SAMHSA), 2014, p. 38). This more *micro-level* approach advances beyond an "ethnic gloss" (Trimble, 1995) that occurs under a more *macro-level* of analysis, e.g., focusing on an entire nation or ethnic group, where doing so "glosses over" important within-country or within-group differences. A major challenge in the adaptation of an original EBT involves reliably identifying specific subcultural groups that share common cultural characteristics and cognitive schemas, thus having similar treatment-related needs and preferences.

As a related issue, some studies have conducted post-hoc analyses with a subgroup of individuals who participated in a randomized controlled trial (RCT). Often, such subgroups have been defined by "race" or "ethnicity," to examine comparative EBT effectiveness, such as for a subgroup of Latinos enrolled in that RTC. This approach has generated limited evidence on the *comparative effectiveness* of EBT efficacy (Supplee, Kelly, MacKinnon, & Barofsky, 2013), among that sector of the study sample. Also, these analyses consist of smaller-sized samples, thus attenuating the power to detect the intervention effect and thus limiting the utility of these analyses.

Beyond this limitation, conceptually and methodologically, within the increasing diversification occurring within the USA, the use of a coarse indicator variable such as "race" or "ethnicity," to detect genuine "cultural differences," is becoming increasingly ineffective. For example, controlling for age, gender, and other person variables, a "high-acculturated Mexican heritage Latino," that is, an individual greatly engaged culturally in the "mainstream American culture," will differ considerably in lifestyle and treatment-related needs from a "low-acculturated Mexican heritage Latino," who is an individual with little engagement in the "mainstream American culture." In this case, being classified as a generic "Latino" does not operate as a critical indicator that accurately captures treatment-related cultural differences. By contrast, the variable of "acculturation status," which identifies distinct subgroups of Latinos, provides a more reliable variable for a more accurate assess-

ment of existing cultural variation. Also, in the past, RCTs have not been explicitly conceptualized and designed to adequately sample culturally distinct subcultural groups in sufficient-sized samples to allow adequately powered tests of treatment effectiveness when conducting *comparative effectiveness analyses*.

By contrast, one recent example of a RCT designed to conduct such cultural comparisons, utilized a small well-specified sample (Supplee et al., 2013). This small RTC examined the efficacy of a behavioral activation treatment for depression (BATD) in Latinos with Spanish-speaking preference (LSSP) (Collado, Calderon, MacPherson, & Lejuez, 2016). Language preference was used as a proxy variable for "low-acculturation status." For a sample of 46 participants, when compared with supportive counseling (SC) ($n = 23$), the behavioral activation treatment for depression (BATD) ($n = 23$) was efficacious as measured by reduced symptoms of depression, increased activity levels, and higher reported environmental rewards. This study had several imitations, including a small sample size, although it provided a viable test of the BATD treatment as examined for a well-specified subcultural group of Latinos and Latinas of low-acculturation status.

Integrated Care: Toward Reducing Health Disparities in Vulnerable Populations

Within the emerging context of *integrated care*, the need exists for policy makers, treatment providers, and other professionals, to ensure high quality in service delivery to maximize the attainment of successful treatment outcomes (Rutkowski, Rawson, & Freese, 2012). In the past, the delivery of behavioral health services has been bifurcated into treatment settings that offered substance use treatment and those that offered mental health treatment. Integrative care aims to provide both substance use treatment and mental health treatment services within a single location, and as delivered by a collaborative team of health professionals.

To understand the complex interaction of biological, psychological, and sociocultural determinants of complex health conditions, a systems approach is necessary to more fully conceptualize this process as it affects the health and well-being of individuals, especially among those affected by co-occurring health problems. This systems approach is more comprehensive, offering a more complete guide for examining the integration of mental health and substance use services as delivered within a primary care setting (Collins, Hewson, Munger, & Wade, 2010).

Integrative care to improve access One approach to assessment in integrative care has described as: *screening*, *brief intervention*, and *referral to treatment* (SBIRT), which is conducted by concurrently treating substance use disorders and mental health disorders within a single primary care setting. A perspective in this approach is that integrated SPIRT services are feasible, can reach many more individuals who need treatment, promise better outcomes for patients, and can result in lower healthcare utilization costs (Rutkowski et al., 2012).

Racial/ethnic minority populations are affected by many types of health disparities and greatly need access to effective health services, although they often have limited access to these services (Agency for Healthcare Research and Quality (AHRQ), 2012). This limited access further contributes to existing low rates of service utilization. Such limited access further perpetuates existing health disparities and inequities. Furthermore, some of the worst health outcomes among racial/ethnic minority populations involve comorbidities, the presence of coexisting disorders such as a somatic health problem co-occurring a mental disorder. The National Institute of Mental Health (NIMH) (2006) reports that individuals with severe mental illness (SMI) die prematurely with a loss of 11–32 years of life when affected by a preventable and treatable health condition such as cardiovascular heart disease and type 2 diabetes that is also compounded by a mental disorder such as depression.

Cultural factors in integrated care Some racial/ethnic minority patients are sensitive to the stigma involved in seeking mental healthcare services (Snowden, 2001), as contrasted with seeking these services from a primary care physician. Thus, integrating mental health services within a primary care setting may provide a more comfortable venue that diminishes this stigma, while also providing greater access for the treatment of mental and substance use disorders.

Prior studies of stigma among Latinos have described this discomfort (Corrigan, Kuwabara, & O'Shaughnessy, 2009). Recent data from the National Epidemiologic Survey on Alcohol and Related Conditions (NES-ARC) reveals subcultural group differences within the Latino population, in their patterns of health service utilization, when examined by certain subcultural groups: (a) immigrants (typically low-acculturated) Latinos, (b) bilingual-bicultural Latinos, and (c) high-acculturated (primarily English-speaking) Latinos.

An epidemiological study conducted by Keys and collaborators (2012) revealed that "cultural factors such as ethnic identity and language/social preferences are potentially important drivers of mental healthcare among Latinos in the U.S." (Keys et al., 2012, p. 392). Among several findings these investigators also report that: (a) respondents with a stronger Spanish-language identity and Latino social preferences were less likely to utilize mental health services even after controlling for factors associated with service utilization such as insurance, income, and symptom severity and (b) Spanish-dominant (low-acculturation) patients exhibited a preference for seeing Spanish-speaking healthcare providers and that this preference was associated with lower health service utilization when these providers are not available (Keys et al., 2012). These investigators also asserted that "… continued disparities among Latinos with varying degrees of language/social preferences and ethnic identity signal the need for public health initiatives to expand access and culturally competent care for a broad range of psychiatric disorders" (Keys et al., 2012, p. 392).

Efficacy of behavioral interventions in integrated care settings The need for integrative care services is especially acute for patient populations affected by the co-occurrence of somatic disease and psychological disorders such as depression.

Such *comorbidities* are associated with a poorer quality of life, greater disability, poor disease outcomes, and higher mortality (Lemmens, Molema, Versnel, Baan, & de Bruin, 2015). Based on a *chronic disease conceptual model*, integrated care programs have been defined as those having two or more of the following components: (a) a healthcare system as a venue for the delivery of integrative services, (b) community resources that support the delivery of integrative services, (c) support for client self-management, (d) a delivery systems design that fosters the delivery of effective care, (e) decision support that includes empirically-based guidelines and technical support from experts, and (f) a clinical information system for information sharing and client reminders (Lemmens et al., 2015).

In a systematic review and meta-analysis of programs that provide *integrated care programs* when compared with *usual care programs*, integrated care was shown to be more effective in treating depression (Lemmens et al., 2015). In these comparisons, integrated care showed moderate effectiveness for the outcomes of patient satisfaction and cost-effectiveness. By contrast, there was insufficient evidence regarding the effectiveness of integrating care: (a) in the management of glycosylated hemoglobin (HbA1c) among diabetic patients, (b) in health-related quality of life, (c) in reducing mortality, and (d) in promoting adherence to prescribed medical care. However, these comparisons of integrated care programs versus usual care programs were limited by program heterogeneity across sites and by heterogeneity among the patient who attended these programs. Despite these limitations, this systematic review and meta-analysis showed that when compared with usual care, integrative care is effective on selected patient outcomes (Lemmens et al., 2015). It should be noted that this meta-analysis did not examine minority status used as a moderator variable, so this study did not examine the differential effects of integrated care for minority patients relative to White nonminority patients.

From another research and clinical perspective, to the extent that "treatment as usual" (TAU) within an integrated care setting does not address salient cultural factors for local subcultural groups, treatment limitations observed with these groups would suggest the need for modifying the current TAU. As related to Latino populations, major considerations for improving TAU include (a) recognizing the importance of language, cultural values, cultural beliefs, and barriers to healthcare access; (b) supporting public health initiatives that facilitate access to care and to culturally competent health services for a psychiatric disorders; and (c) examining the influences of contextual community factors to increase the relevance of TAU and thus to increase service utilization and quality of care for these patients (Keys et al., 2012).

A Conceptual Model to Guide Integrative Care

A four-phase model Aarons and collaborators developed a conceptual model of conditions and factors that influence the implementation of empirically-based practices within public service delivery agencies. This model consists of four sequential

adaptation phases that range from initiation to the maintenance of service delivery. These implementation phases are (a) exploration, (b) adoption decisions and preparation, (c) active implementation, and (d) sustainment. Within each of these four phases, implementation is influenced by several factors that occur within each of two contexts: (a) *outer contexts*, which refers to the service environment, the interorganization environment, and consumer support and advocacy, and (b) *inner contexts*, which refers to intraorganization characteristics and individual adaptor characteristics, such as the personal characteristics of the agency's principal administrator (Aarons, Hurlburt, & Horowitz, 2011).

This complex model has been used as a guiding framework for understanding the combination of macro-level factors (outer contexts) and micro-level factors (inner contexts) that facilitate or impede the delivery of empirically-based programs or interventions. As one example, *funding* is a major factor that exerts multiple systemic influences across phases of delivery and across contexts. The analysis of funding across phases from start-up to sustainability shows that when missing or insufficient, inadequate funding can impede the delivery of EBTs in as delivered within healthcare settings. Furthermore, when funding is available yet inflexible in adjusting to emergent organizational needs, such funding also constitutes a barrier to integrative service delivery. Similarly, across phases, *organizational characteristics* and *leadership* also emerge as core organizational factors that if weak will impede the efficacious delivery of EBTs.

An index of integrative care service delivery Within this context, an instrument has been developed to reliably assess an agency's capacity to deliver integrated health services, the Dual Diagnosis Capability in Health Care Settings (DDCHCS). This index was developed to assess the degree of integration of behavioral health, mental health, and substance use services, when delivered within conventional medical care settings. The DDCHCS assesses seven core components: (a) *program structure* (e.g., an organizational identity as it would favor integration and financial reimbursement mechanism), (b) *program milieu* (e.g., materials that address behavioral health), (c) *assessment* (e.g., integrated medical and behavioral care assessment), (d) *treatment* (e.g., having an integrated treatment plan), (e) *continuity of care* (e.g., integrated discharge planning), (f) *staffing* (e.g., on-site staff with mental health and addiction credentials), and (g) *training* (e.g., offering training regarding co-occurring disorders) (McGovern, Urada, Lambert-Harris, Sullivan, & Mazade, 2012). This instrument has effectively distinguished between clinics that offer singular care as usual, dual diagnosis capable (DDC) agencies, and dual diagnosis enhanced (DDE) agencies.

"Outer contexts" in integrative care In a study of the levels of integrative care in the provision of substance abuse and mental health services when delivered by primary care organizations in Kern County, California, *Project Care* assessed seven core components of integrative healthcare services (Padwa et al., 2016). These seven factors are: (a) on-site mental health and substance use screens for primary care patients, (b) on-site brief intervention and treatment services for patients with

mild to moderate disorders, (c) referrals to specialty mental health and substance use services, (d) regular case management meetings, (e) use of electronic health records, (f) provider training regarding integrated care, and (g) reimbursement for behavioral health services delivered on the same day.

This 3-year study showed that the *Project Care* intervention was effective in increasing the level of integrative care services provided within three primary care organizations (Padwa et al., 2016). These three organizations increased their level of integrative care across a 3-year period from a "partially integrated" (PI) level toward a "fully integrated" (FI) level. This organizational-level study showed how select primary care organizations can improve their level of integrative care services by incorporating behavioral health services that include select substance abuse treatments. This study, however, did not assess health outcomes such as general health outcomes, patient satisfaction, or treatment costs for their patients. This study did highlight the importance of internal and external contextual factors, such as sufficient and flexible funding, in the delivery of integrative care. Sufficient funding along with positive staff attitudes toward the delivery of integrative care services emerged as important factors that contribute to the viability and sustainability of integrative services as provided within primary care settings.

Geographic factors and integrative care Historically, access to integrated care services has been limited within communities that contain large clusters of racial/ethnic minority residents (Guerrero & Kao, 2013). This geographically based discrepancy constitutes a barrier to the reduction of health disparities and health inequities for racial/ethnic minority and in low-income patients. Furthermore, many of these minority and low-income community residents are affected by co-occurring disorders. This co-occurrence increases problem severity and makes recovery much more difficult. This noted *geographic disparity* is a naturally occurring ecological factor that limits access to integrated mental health and substance use treatments, limiting the availability of efficacious treatments for these co-occurring disorders and perpetuating existing health disparities and inequities among certain low-income Latino patients (Guerrero & Kao, 2013).

Intervention-Related Factors in Adaptation

In principle, an EBT's activities and procedures that constitute the treatment's "core components" are based on one or more applicable theories that explain the EBT's mechanisms of effect (Rohrbach, 2014). These core components are regarded as the "active ingredients" that produce desired therapeutic outcomes. For example, a treatment that utilizes principles from social cognitive theory (Bandura, 1986) and cognitive-behavioral procedures, e.g., *contingency management*, will typically produce expected changes in human behavior, so long as this contingency is established and maintained. Although contingency management is a well-established behavior therapy technique that works well across many situations and cultural

settings, differences among clients in their level of education and understanding or acceptance of specific types of contingencies can impede the implementation of this established technique. In this case, a cultural challenge involves conceptualizing how best to adapt an original EBT, to create an adapted EBT that is acceptable and engaging for individuals from an identified subcultural group of "new consumers," so that they participate actively in that adapted treatment, which also retains fidelity to the original EBT's core components.

Castro et al. (2004) outlined three major domains of EBT adaptation: (a) *cognitive information processing*, modifying the original EBT's informational characteristics to accommodate a subcultural group's language or literacy levels; (b) *affective-motivational* characteristics, modifying the original EBT to address gender, racial/ethnic identity, cultural background, religious background, socioeconomic status, and other sociocultural factors to facilitate participation in EBT activities; and (c) *environmental* characteristics, considering aspects of EBT fit when "grounded" within the institutional or ecological contexts of the local community in which the EBT is being delivered. Conceptually, the viability of developing a treatment that is well adapted for a particular setting and for a specific subcultural group of patients depends establishing a good "match" between treatment features and setting characteristics. Conversely, setting-treatment "mismatches" will likely render that treatment ineffective within that setting and/or with the identified subcultural group.

Cognitive-informational adaptation This form of treatment adaptation involves changing the program informational contents or activities which a client or patient is unable to understand or comprehend (Castro et al., 2004). Language adaptation, such as translating an EBT's curriculum from English to Spanish is the most fundamental form of cultural adaptation. A linguistic translation aims for equivalence in meaning (conceptual equivalence) and not a literal "word-for-word" translation (Geisinger, 1994; Gonzalez, Stewart, Ritter, & Lorig, 1995). Such a translation should also consider the literacy level of individuals from the identified subcultural group. Similarly, scientific or complex constructs/concepts may require a reframing to help "consumers" from a specific subcultural group to comprehend that cultural concept, particularly if it is a core factor within that EBT.

Affective-motivational adaptation This type of adaptation consists of modifications of program content or activities that can induce *cultural conflict* or that can *prompt reactance* (behavioral resistance) among individuals from the local community. As one example, a Westernized cultural approach that encourages male clients to publicly disclose their drug dependence or to discuss sexual issues in the presence of certain family members may be contraindicated within subcultural groups. This practice can be perceived as culturally inappropriate by traditional males from that subcultural group, if they feel stigmatized and resist participation, likely also dropping out of treatment. Thus, a review of these aspects of a treatment by a local Cultural Advisory Committee could reveal the need for a cultural adaptation. Recommendations from this Cultural Advisory Committee can aid in making best adaptation decisions, to resolve cultural conflicts, coupled with efforts to main-

tain fidelity to the scientific principles that drive the efficacy of that EBT (van der Kreeft, Jongbloet, & Van Havere, 2014).

Environmental adaptation This form of adaptation involves making ecological changes in a client's family system, in the client's home neighborhood, or within the treatment setting, to modify local environmental contexts as this can facilitate the client's recovery. Within this domain, two basic forms of adaptation consist of: (a) modifying *program contents* that conflict with the community environment and (b) modifying the *form of program delivery*. Modification of content would include *surface structure* or *deep-structure changes* in that content (Resnicow, Soler, Braithwait, Ahluwalia, & Butler, 2000). Changes in form of delivery can involve presenting the same treatment content, with changes in (a) the *characteristics of delivery personnel*, e.g., the use of lay health workers rather than health educators; (b) the *channel of delivery*, Internet delivery rather than a group session; or (c) the *location of delivery,* improving access by delivering the program within a church setting, rather than within an integrative treatment center.

Cultural Considerations in Diverse Communities in the USA

Concepts of Culture: Theory and Application

The world is very diverse place. Worldwide, large variations exist on several social and cultural factors that include language, literacy, religious and cultural belief systems, sociocultural attitudes, cultural and familial values, and social and cultural norms. Worldwide there also exists a dynamic tension between sociocultural forces that promote *modernization* and quests for change versus *traditionalism* and quests for the preservation of established beliefs, traditions, practices, and a resistance to change (Shiraev & Levy, 2010). Factors that promote *modernism*, such as international globalization, emphasize growth and standardization in currencies, consumer products, and in other factors toward homogenizing cultural practices across diverse settings. By contrast, factors that promote *traditionalism* (Ramirez, 1999) tend to diversify whole populations into distinct *subcultural groups*, by emphasizing the retention of unique subcultural identities, tribal traditions, and traditional lifeways. These broad cultural influences introduce a systemic context against which to consider the cultural adaptation of empirically-based treatments (EBTs).

Absence of cultural factors in principles of drug treatment In 1999, the National Institute on Drug Abuse published *NIDA's 13 Principles of Drug Addiction Treatment* (National Institute on Drug Abuse (NIDA), 1999). These principles are:

(a) No single treatment is appropriate for all individuals.
(b) Treatment needs to be readily available, since delays in treatment availability often result in a loss of clients.

(c) Effective treatment attends to multiple needs, not just to drug use, and this includes attention to medical, psychological, social, vocational, legal, other needs.
(d) A continuous assessment and modification of a client's treatment plan is necessary to monitor and respond to changing needs,
(e) Remaining in treatment for an adequate period of time is crucial to treatment success –typically clients should remain in treatment for at least 3 months.
(f) Counseling and behavioral therapies are crucial components of treatment, as they address treatment motivation, skill building, and problem solving.
(g) Medications are important components of treatment as these can reduce cravings, and this includes psychotropic medications for clients who need these.
(h) Integrated treatment is needed for clients with psychiatric comorbidity.
(i) Medical detox is an important first step in treatment.
(j) Treatment need not be voluntary to be effective, whereby engagement in compulsory treatment is facilitated by specific sanctions (NIDA, 1999).

It is noteworthy that at that time, none of these 13 principles directly addressed issues of "culture" in the treatment of drug-dependent clients (Castro, Nichols, & Kater, 2007). A few years earlier, the need for sensitivity to cultural and ethnic factors emerged as an important consideration for providing culturally relevant drug abuse treatments to racial/ethnic minority clients (Ja & Aoki, 1993; Terrell, 1993). Important issues for ethnic minority clients included: (a) assessing the client's immigration and acculturation experiences including *cultural stress* (Cervantes, Cardoso, & Goldbach, 2015), as factors that can erode the protective effects of a client's traditional or native culture; (b) assessing a client's experiences with *discrimination*; and (c) developing *culturally responsive* treatment interventions (Terrell, 1993). In contemporary treatments, aspects of race, ethnicity, gender, sexual orientation, and other *cultural factors* are now considered important for the delivery of a more comprehensive treatment among diverse drug-dependent clients (Castro & Hernandez-Alarcon, 2002; Castro et al., 2007).

Within Latino cultures, important cultural constructs that can be considered as cultural factors include:

(a) *Acculturation*, when defined at the individual level refers to a process of cultural change in values, beliefs, and behaviors
(b) *Ethnic pride*, positive feelings toward one's ethnic group
(c) *Familism*, a strong family orientation and family bonding
(d) *Personalismo*, a preference for personal attention in interpersonal relationships
(e) *Respeto*, the value of respect toward others with attention to the other person's social position
(f) *Simpatía*, a deferential posture toward others in efforts to avoid conflicts and to maintain harmony in interpersonal relations
(g) *Traditionalism*, a preference for old-fashioned lifeways, including conservative values and traditional beliefs about the correct way to live one's life (Castro et al., 2017)

A consideration of cultural factors is relevant to the core informational content that is presented to individuals from various racial/ethnic subcultural groups and can be important for the active engagement and retention of these patients.

From the NIDA Clinical Trials Network (Carroll et al., 2011), lessons learned from 10 years of research have yielded the following important conclusions: (a) retention remains a major problem in substance abuse treatment whereby treatment retention is critical to treatment success; (b) EBTs are not broadly implemented in practice, and when implemented they are often delivered with low fidelity; and (c) at the agency level, effort, support, and commitment are essential factors for adopting and sustaining an EBT given the costs of implementation, staff training, and supervision (Carroll et al., 2011). Cultural factors can include a local community's cultural environment, e.g., a community enclave, that offers recent immigrants cultural resources and social support (Portes & Rumbaut, 2014).

Cultural Awareness and Competency Among Healthcare Providers

The emergence of *cultural competence* in the 1990s as a core competency required of health professionals (Orlandi, Weston, & Epstein, 1992; Substance Abuse and Mental Health Services Administration (SAMHSA), 2014) emphasized the acquisition of progressive levels of cultural sensitivity, competence, and proficiency as skills for greater responsiveness to cultural issues in service delivery among people of color. Within the contemporary integrated care environment, cultural competence remains important. This includes competencies in the analysis of systemic factors that influence access and quality of care for diverse clients and patients and particularly those from vulnerable populations.

For various health providers, training in these cultural competences is important. This includes higher ranking health providers such as psychiatrists. Such training involves developing the requisite knowledge, attitudes, and skills for understanding the role of integrated care within complex healthcare systems. Such professional competencies as related to integrated care include: (a) understanding and working with the organizational dynamics of complex healthcare systems, (b) assuming various leadership roles for working collaboratively within complex healthcare systems, and (c) providing mentorship to other providers to improve quality of care (Sunderji, Waddell, Gupta, Sokaridis, & Steinberg, 2016).

Today integration in the delivery of healthcare services includes the integration of heretofore disconnected types of healthcare services, such as substance use treatment services and mental health services. Unfortunately, in the past such integrated care was lacking, especially for low-income, aging, uninsured, rural, and racial/ethnic minority clients. The delivery of truly integrated healthcare services remains as an important step toward reducing health disparities and inequities in behavioral healthcare (Davis et al., 2015).

As noted, providing culturally relevant services to people of color is facilitated by the *cultural competence* of service delivery personnel. This includes their ability to adapt evidence informed and best practices to make them more relevant for patients of color. Such adaptations can enhance client-therapist engagement and promote greater sensitivity to a minority client's cultural issues (Davis et al., 2015).

Regarding core competencies for practicing integrated care, a recent mixed methods study identified specific knowledge and skills that constitute important competencies for psychiatrists working in integrated care settings. The relevance and applicability of such competencies was related to the seniority of the psychiatrist (a senior psychiatrist versus a resident in training) and varied in its relevance to the psychiatrist's professional roles. Among several identified competencies and activities important for psychiatrists who work in integrated care settings, these competencies include: (a) understanding community contexts and patient problems within a systemic community context; (b) assisting patients in navigating the mental healthcare system; (c) forming working relationships with other providers; (d) navigating the dual roles of expert/leader and equal team member; (e) knowledge of team dynamics; (f) tolerating ambiguity, uncertainty, and complexity; and (g) tailoring patient education to the audience's existing knowledge and expertise (Sunderji et al., 2016). It is noteworthy that beyond a relevance to psychiatry, many of these skills are also relevant for providers from other professions including social work, nursing, public health, and clinical psychology.

Cultural Considerations in Delivering Empirically-Based Treatments

Culture and its related constructs such as *acculturation* are factorially complex constructs (Lopez-Class, Castro, & Ramirez, 2011; Schwartz et al., 2010). From a psychological perspective, culture consists of a *human schema*, an "explanatory model," or a "world view," which consists of symbols, attitudes, behaviors, values, and norms that are transmitted across generations. This explanatory model aids in interpreting the world and in promoting survival and well-being (Lehman, Chiu, & Schaller, 2004; Shiraev & Levy, 2010). Persons who relocate to a new cultural environment, whether between nations or within a nation, often face the challenges of acculturation and assimilation when adapting to that new cultural environment (Berry, 1980, 2005). *Acculturation* refers to a "sociocultural process in which members of one cultural group adopt the beliefs and behaviors of another group" (Lopez-Class et al., 2011, p. 1556). *Assimilation* refers to an individual's or a group's integration into a new host society as one outcome of the process of acculturation (Portes & Zhou, 1993).

One challenge in the delivery of behavioral health treatments involves implementing a scientific empirically-based treatment in a manner that will "make sense" to a client or patient. This is especially challenging in treatment delivery with per-

sons from low-literacy and indigenous subcultures, e.g., Hmong patients, who culturally are significantly different from the White American mainstream culture in their use of language and literacy, schemas of health and illness beliefs, and their family contexts (Meschke, & Jaung, 2014). Establishing rapport with such clients is more challenging, as is communicating Westernized treatment-related information and skills and engaging them in a manner that inspires their confidence in the provider, inspires sustained treatment participation, and provides hope for recovery. Conversely, if a treatment as implemented fails to promote positive expectations for improvement, then the client may not engage in that treatment. Thus, a strategic adaptation that aids in engaging such clients would be needed (Bernal, Jimenez-Chafey, & Domenich-Rodriguez, 2009; Kumpfer et al., 2002).

Approaches to Treatment Adaptation and Relevance to Diverse Clients

Steps in the Cultural Adaptation of an Empirically-Based Treatment

The formal adaptation of an original empirically-based treatment (EBT) can be conducted under a basic five-step process (Barrera, Castro, Strycker, & Toobert, 2013). Ideally, this five-step process can include a formal randomized controlled trial, although in many treatment settings, conducting step 5 is not viable for various practical reasons. In the absence of that option, four of these five stages can be conducted using a community-based participatory research (CBPR) approach, as overseen by a well-informed Cultural Advisory Committee (CAC) (Minkler, Wallerstein, & Wilson, 2008). This would involve input from *key informants* and *stakeholders* and a review of consumer feedback, to conduct culturally sensitive and scientifically informed decisions for developing a viable cultural adaptation. The CBPR approach consists of a bidirectional process involving a collective dialogue (Donovan et al., 2011) to attain well-reasoned and planned group decisions for making best adaptations to an original EBT protocol. Based in this framework and process, these five steps are the following:

Step 1 – Information Gathering The first step is "information gathering," which involves reviewing the research literature to identify evidence of subcultural group differences in: (a) risk and protective factors, (b) intervention engagement, and (c) outcomes. Subcultural group differences suggest the need for cultural adaptation to identify the risk/protective factors that can be incorporated into modifications to an original EBT. In addition, a mixed methods methodology can be used to gather formative qualitative and quantitative data using focus groups, key informant, and/or stakeholder interviews. This formative information can include an assessment of subcultural group members' views of the original EBT's cultural fit. For adaptations designed specifically for integrated care, it would be critical to gather information

from caregivers who work in the identified treatment settings. This step would include an initial assessment of whether there is a need to conduct a cultural adaptation. This can involve a review and analysis of relevant drug treatment literature as background to identify implementation problems and sources of client-treatment mismatches (Castro et al., 2004), as linked to three major domains of cultural adaptation assessment: (a) participant characteristics, (b) program delivery staff, and (c) administrative/community factors (see Castro et al., 2004).

Step 2 – Preliminary Adaptation Design When there exists sufficient justification for conducting a cultural adaptation of an original EBT, the second step, "preliminary adaptation design," involves the development of proposed modifications in the original EBT. This step would include the analysis, assessment, and integration of recommendations provided by a Cultural Adaptation Committee that can be staffed by: (a) stakeholders, (b) community experts, (c) providers from the integrated care settings, (d) developers of the EBT, and (e) former clients/patients or representatives who participated previously in the treatment (i.e., treatment insiders). Step 2 can also be conducted as a treatment quality assessment and for ongoing EBT refinement and needed modification, even if the decision is made not to conduct a cultural adaptation. In principle, core intervention components would be preserved, unless convincing evidence accrues that the intervention protocol contains one or more of these core components that are detrimental to the well-being of clients from one or more identified subcultural groups.

Step 3 – Preliminary Adaptation Tests This step examines whether adapted EBT will "work as intended." This serves as another occasion for gathering qualitative and quantitative quality control data to assess: (a) implementation problems, (b) difficulties with program content or activities, (c) client satisfaction with treatment elements, and (d) client suggestions for improvements. Accordingly, the design and pilot testing of this preliminary adapted version of the original EBT can consist of: (a) the elimination of prior implementation difficulties, (b) the emergence of problems with content or activities, (c) client satisfaction with treatment elements, and (d) suggestions for improvement.

Step 4 – Adaptation Refinement Step 4 is "adaptation refinement." Evaluative feedback from this pilot testing can inform the need for additional modifications to the adapted EBT, which can subsequently be tested in a full "cultural adaptation trial" (in Step 5).

Step 5 – A Formal Cultural Adaptation Trial A final goal is to formally assess the efficacy of this adapted EBT in a randomly controlled field trial that compares the *adapted EBT* to a treatment as usual (TAU) control group or to the *original EBT* (Castro et al., 2017). This adapted EBT's effectiveness can be assessed as it would change targeted psychological and health outcome variables, while also assessing indicators of EBT *engagement* (e.g., client involvement, client attendance, treatment completion).

Although seldom evaluated within the cultural adaptation trial stage, intervention evaluators or research investigators can assess the effects of the adapted EBT on specified mediators and moderators (MacKinnon, 2008). An example is if a culturally adapted EBT involves the addition of a module on *cultural pride*, as this added treatment component may improve one or more of the identified health outcomes. A *mediation analyses* could determine whether the intervention produced expected changes in increasing *cultural pride* and then if this cultural pride enhancement produces significant increments on the targeted outcome variables, e.g., avoiding drug relapse. Similarly, *moderator* analyses can be conducted as comparative *effectiveness analyses* to determine if the culturally adapted EBT is differentially effective: (a) for men versus for women, (b) for clients high versus low in levels of acculturation, (c) among immigrant clients versus native-born clients, or (d) for any other potential moderators of intervention effectiveness (Barrera, Toobert, Strycker, & Osuna, 2012).

The long-term use and evaluation of a cultural adaptation could reveal possible issues in its adoption and sustainability within a community setting and in a setting that provides integrated care (Barrera, Berkel, & Castro, 2016). Currently little is known about the factors that affect the *sustainability* of culturally adapted interventions. If producing a new cultural adaptation is successful in attaining a good fit with local clients and the organization's culture, this adapted EBT would appear to have a greater likelihood of being sustained within this organization's ecological environment.

Mixed Methods Approaches and Methodologies

Emergence of mixed methods research The mixed methods field has emerged within the past decade as a "third paradigm" beyond the conventional qualitative and the quantitative research paradigms (Johnson, Onwuegbuzie, & Turner, 2007). The mixed methods field offers novel methodologies for attaining more in-depth (deep structure), informative, and applicable research results (Resnicow et al., 2000; Tashakkori & Teddle, 2010). Mixed methods analyses can generate explanatory "thick description" narratives that add depth of understanding about complex and temporal aspects of treatment implementation. Mixed methods approaches can be *exploratory* in form and can complement formal quantitative methods in the analyses of program effects that utilize observational, experimental, or other types of research designs, which yield *confirmatory* result on program effects and outcomes.

The field of mixed methods research has grown considerably during the past decade. A series of mixed methods designs and methodologies have emerged for a greater integration of qualitative and quantitative evidence (Castro, Kellison, Boyd, & Kopak, 2010; Creswell, 2014), under a research approach that can yield "the best of both" methods and more informative research results. Unfortunately, in the field

of prevention research, existing mixed methods studies have remained methodologically weak in their design and implementation. Major areas of weakness as identified for these prevention research studies included: (a) an unspecified mixed methods design, where information is unclear about the mixed methods design used and the purpose of the design utilized; (b) weak or unspecified "purposeful sampling" (Morgan, 2014); (c) the use of a one-group experimental design, thus limiting limited internal validity; and (d) the use of impressionistic qual-quan integration (Castro, Morera, Kellison, & Aguirre, 2014). Nonetheless, such studies can be improved with a more rigorous application of mixed methods methodologies. Several texts are now available to aid in the conceptualization, design (Creswell, 2014; Tashakkori & Teddlie, 2010), implementation, and evaluation (Bernard, Wutich, & Ryan, 2017; Curry & Nunez-Smith, 2015; Morgan, 2014) of mixed methods studies. Mixed methods methodologies can help in planning, implementing, and assessing the treatment effectiveness, as delivered within an integrative care setting. Rigor and cultural sensitivity in treatment assessment and delivery within a healthcare setting can be attained by using a well-specified research design, coupled with the well-planned implementation of a mixed methods research or program evaluation study.

Mixed methods analyses in integrated care Studies conducted within an integrative care setting that utilize mixed methods research designs can conduct in-depth interviews with well-conceptualized *purposeful sampling* of strategically selected groups of participants, for conducting an in-depth assessment of treatment outcomes and of quality in adapted EBT implementation (Castro et al., 2014; Creswell, Klassen, Plano Clark, & Smith, 2011). These approaches can also provide deep-structure analyses of client and therapist observations and detailed evidence about factors: (a) that may operate as core treatment components, (b) that become sources of problems within treatment, and (c) that work well and should be kept and (d) that clients believe to be necessary for enhancing the content and delivery of a treatment, thus for refining that adapted EBT.

Mixed methods research designs Mixed methods research designs have been used extensively in implementation research and offer considerable promise for identifying factors and conditions that can improve the dissemination, adoption, implementation, and sustainability of EBTs across diverse settings. In principle, this information can aid in eliminating implementation barriers for improved EBT implementation within integrative care settings (Palinkas et al., 2011). In their analysis of mixed methods studies as conducted within the past 5 years, Palinkas et al. (2011) identified three major elements of mixed methods research as utilized in implementation studies. These three major elements were: (a) *structure*, the study's mixed methods research design that consists either of the *concurrent* or *sequential* approaches, as well as the relative importance afforded in this design's qualitative and quantitative components (e.g., "QUAL → Quan" or "QUAL + QUAN"); (b) *function*, one of four major purposes of a mixed methods study (i.e., convergence, complementarity, expansion, development, or sampling); and (c) *process*, the

manner in which the qualitative and quantitative components are integrated (i.e., merged, connected, embedded).

Thus, as conceptualized within this framework, the application of mixed method designs in implementation research can offer "the best of both" (QUAL and QUAN) methodologies, depending on the particular application of these qualitative and quantitative methodologies within a proposed mixed methods study. Well-designed mixed methods research studies offer the promise of generating more informative data to advance the field of implementation research.

The Matrix Model: Exemplar of an Efficacious EBT for Treating Drug Dependence

The Matrix Model is a manualized multicomponent model treatment that in its basic form consists of a 16-week program delivered in 3 sessions per week for a total of 48 sessions (Obert et al., 2000). The Matrix Model treatment includes: (a) 12 family therapy sessions, (b) 4 social support group sessions, (c) 4 individual treatment sessions, and (d) a weekly breath alcohol testing and urine testing protocol. This treatment is nonjudgmental and non-confrontational and includes positive reinforcement from therapists and peers that support appropriate behavior change (Hillhouse, Martinelli-Casey, Gonzales, Ang, & Rawson, 2007; Rawson et al., 1995).

The Matrix Model was developed from the integration of empirically-based interventions and "grassroots" clinical experiences (Rawson et al., 1995). This manualized treatment includes patient handouts and a patient workbook that introduce empirically-based recovery activities as developed from the integration of five theory-based treatment approaches: (a) cognitive-behavioral therapy (CBT), (b) 12-step facilitation, (c) motivational interviewing, (d) contingency management, and (e) family therapy (Obert et al., 2000).

As developed from these five treatment approaches, the formal core components of the Matrix Model consist of: (a) early recovery phase treatment activities, (b) relapse prevention training, (c) social support groups, (d) family and conjoint sessions, (e) individual sessions, (f) urine testing, (g) relapse analysis, and (h) family education groups. The Matrix Model is guided by eight treatment principles: (a) create clear and explicit structures and expectations; (b) establish positive, collaborative relationship with the client; (c) teach information and cognitive-behavioral concepts; (d) reinforce positive behavior change; (e) provide corrective feedback when necessary; (f) educate the family regarding stimulant/drug abuse recovery; (g) introduce and encourage self-participation; (h) use urinalysis to monitor drug use (Rawson et al., 1995; J. Obert, personal communication, April 2, 2013).

Indicators of effective treatment program implementation are: (a) *engagement*, staying in treatment as assessed at the 2-week and 1-month observations; (b) *retention*, sustained treatment involvement as measured by the number of weeks remaining in

treatment, with a maximum of 16 weeks, and also as measured by staying in treatment for 90 days or more versus less than 90 days; (c) *abstinence*, the average number of drug-free urinalysis tests collected during treatment and the occurrence of three consecutive drug-free urine analyses during treatment; and (d) *completion*, the completion of the 16-week Matrix Model treatment with no more than 2 consecutive missed weeks of treatment versus noncompletion of this 16-week program (Hillhouse et al., 2007). Thus, having an empirically-based understanding of the structure and core components of an EBT is important for making necessary cultural adaptations that can optimize learning of knowledge and skills while also optimizing patient engagement and active involvement in that treatment, thus to produce best treatment outcomes (Mejia, Leijten, Lachman, & Parra-Cordoba, 2017). This also includes an assessment of both inner and outer contexts, which can also influence the delivery of that EBT as intended.

Cultural adaptation of the Matrix Model The cultural adaptation of the Matrix Model or any EBT begins by identifying problems in treatment implementation and by identifying sources of client-treatment mismatches (non-fit) (Castro et al., 2004). This is followed by making strategic adaptations in treatment content, activities, or forms of delivery as recommended by consumer feedback from key informants or stakeholders and as reviewed by a Cultural Advisory Committee. These adaptations would be accomplished: (a) while maintaining the identified core treatment components (essential program activities); (b) increasing the cultural relevance of the treatment for local consumers (clients and subcultural groups); (c) increasing client motivation, engagement, and treatment involvement; (d) sustaining the efficacy of the treatment effect (i.e., maintaining the effect size on targeted outcomes); and (e) ideally increasing the treatment's effect size (Castro et al., 2010), that is, increasing the magnitude of change on targeted outcome variables. Moreover, effective cultural adaptation can ideally advance "beyond the black box" (Simpson, 2004), meaning that these adaptations would directly modify the mediators of: (a) *knowledge* of how to avoid a return to illegal drug use, i.e., knowledge about relapse prevention; (b) *perceptual awareness* that involves recognizing risk events, i.e., "triggers" for relapse behavior; and (c) *personal skills* in avoiding or "walking away" from high risk situations.

Need for gender sensitivity In the past drug abuse treatments emerged primarily as treatments for drug-dependent male clients, inadvertently exhibiting insensitivity to the needs of many female drug-dependent clients (Greenfield et al., 2007). Such treatments did little to address certain critical issues that affected drug-dependent women, such as their victimization from domestic violence and abuse imposed by their partners, some of whom were also drug-dependent individuals. Thus, program adaptations involving gender, i.e., gender-sensitive programs, have been developed for implementation with drug-dependent women. These gender-sensitive treatments have shown greater efficacy in addressing certain problems that are common among substance abusing women (Greenfield et al., 2007).

Efficacy of Culturally Adapted Health and Mental Health EBTs

In integrated care, the efficacy of interventions for illness and health behaviors (e.g., diabetes, exercise) and for mental health (e.g., depression) is important, especially for reducing or eliminating the health disparities and inequities that disproportionately affect many individual racial/ethnic minority patients. Integrated care interventions and providers can offer services that are supported by evidence of treatment-related improvements on targeted health outcomes. Even when they originate from empirically-based treatments, in principle, cultural adaptations still require rigorous evaluation to assess their efficacy within a local setting.

Culturally adapted health interventions Barrera et al. (2013) observed that the efficacy of culturally adapted health interventions has been supported by meta-analyses and narrative reviews that have been conducted for treating asthma (Bailey et al., 2009), diabetes (Glazier, Bajcar, Kenne, & Wilson, 2006; Hawthorne, Robles, Cannings-John, & Edwards, 2010; Sarkisian, Brown, Norris, Wintz, & Mangione, 2003; Whittemore, 2007), and HIV/AIDS (Darbes, Crepaz, Lyles, Kennedy, & Rutherford, 2008), mammography use (Han et al., 2009), nutrition (Eyles & Mhurchu, 2009), and nutrition and exercise (Mier, Ory, & Medina, 2010). By contrast, two reviews have concluded that there is insufficient evidence regarding the efficacy or effectiveness of culturally adapted interventions (Whitt-Glover & Kumanyika, 2009; Wilson & Miller, 2003). However, those two reviews acknowledged the limitations in the studies reviewed, such as low statistical power and the development of weak cultural adaptations.

Efficacy of cultural adaptations of psychotherapies Hall, Ibaraki, Huang, Marti and Stice (2016) observed that prior to their own meta-analysis, 11 meta-analyses has been published on the efficacy of culturally adapted psychotherapies. Overall, meta-analytic reviews showed that cultural adaptations of psychotherapies produce at least moderate effect sizes (culturally adapted intervention outcomes were superior to control condition outcomes), when effect sizes were calculated under several control conditions including a no intervention condition and unadapted intervention controls.

A review by Benish, Quintana and Wampold (2011) merits special recognition because it tested a possible mechanism that would account for the effectiveness of culturally adapted psychotherapies. They proposed that an adapted intervention's ability to change clients' *explanatory models of illness* (e.g., "illness myths") served as the active psychotherapeutic mechanism. Explanatory models are rooted in culture and used by clients to understand the problems they experience, the perceived origin of these problems, and the plausibility of proposed interventions to relieve suffering. Frank and Frank (1993) argued that there are four essential features of therapeutic practice: (a) the provision of a model that explains illness and its remedy, (b) a meaningful relationship with a culturally sanctioned healer, (c) a specialized setting that contains cultural symbols of healing, and (d) a set of procedures

(healing practices) for overcoming illness. Clients achieve relief from their suffering when their ineffective explanatory models are replaced by another model that mobilizes hope, healthful thinking, and effective behavior.

The meta-analyses conducted by Benish and collaborators (2011) showed that cultural adaptations had meaningful effect sizes when compared to heterogeneous control conditions ($d = 0.41$) and to other active therapies ($d = 0.32$). As noted, in a unique "mediation" analysis, Benish and collaborators (2011) demonstrated that cultural adaptations that addressed *clients' explanatory models* accounted for the beneficial effects of culturally adapted psychotherapies. The authors explained that an implication of their findings is that intervention providers should initiate treatment by assessing and then respecting clients' initial explanatory models, before attempting to change them. Next, practitioners and patients should collaborate in formulating new explanatory models that place patients in a better position to enact positive changes.

In conclusion, several literature reviews support the efficacy of culturally adapted health and psychotherapy interventions for a variety of disorders. Practitioners in integrated care settings have many options for providing empirically-based culturally adapted interventions that are directed at improving health, mental health, and drug dependence. However, in the absence of formal culturally adapted interventions, a general strategy for culturally informed practice might be for clinicians to work collaboratively with members of subcultural groups to initially understand their explanatory models and then to modify these explanatory models to promote better health outcomes.

Examples of integrated care outcome studies with ethnic minority participants The IMPACT (Improving Mood – Promoting Access to Collaborative Treatment) study is one of the most prominent studies of integrated care (Unützer et al., 2002). Patients ($N = 1801$) with chronic health conditions and depression participated in this project that included 18 primary care clinics in five states. Ethnic minority participants constituted 23% of the total sample. Depression care managers and consulting psychiatrists were added to the clinics' staffs to provide "collaborative stepped care" in which depression treatment could be modified by varying combinations of antidepressant medication and problem-solving psychotherapy when patients did not show improvement. Compared to usual care, integrated care resulted in greater reductions in depression at the 12-month assessment.

In a study directed primarily at Spanish-speaking Latino patients (about 70% of the sample), the IMPACT depression intervention was combined with a culturally relevant diabetes intervention (Project *Dulce*) to treat depression in those receiving diabetes care in three southern California community clinics (Gilmer, Walker, Johnson, Philis-Tsimikas, & Unützer, 2008). By combining the two interventions, the overall project could be described as a "co-located, co-managed" form of integrated care. Project *Dulce* consisted of a peer-led diabetes self-management intervention. IMPACT (described in the preceding paragraph) was delivered by bilingual staff and was culturally adapted by making it "more flexible for responding to cultural norms and beliefs, low literacy, socioeconomic barriers, and social stigma" (p. 1324). In this pre-post intervention evaluation, depressed diabetes patients were

able to significantly lower depression scores at the 6-month assessment period (an average of 7.5 points on the PHQ-9) and significantly increase healthful nutrition.

A study of low-income medical patients also focused on depression treatment (Miranda, Azocar, Organista, Dwyer, & Areane, 2003). This was an example of *collocated integrated care* in that outpatients at San Francisco General Hospital and affiliated clinics were referred by their primary care providers to San Francisco General Hospital's Depression Clinic. Participants were 199 primary care patients, including 77 Spanish-speaking Latinos, 46 African Americans, and 18 Asians and American Indians. They were randomly assigned to receive a cognitive-behavioral therapy (CBT) group therapy intervention, or the CBT intervention combined with clinical case management designed to increase engagement (reduce dropout). CBT involved 12 group sessions based on a manualized treatment protocol. Clinical case management, which was implemented for up to 6 months, involved telephone contacts between participants and staff member that were devoted to solving problems associated with employment, housing, and relations with family and friends. Ostensibly, those problems could be barriers to treatment engagement. The investigators adapted the CBT intervention for low-income/low-education patients and for Latino patients. Spanish- and English-language manuals were written at appropriate reading levels. The pleasant activities component suggested many activities that were free of charges. Session leaders were bilingual-bicultural, and these leaders were trained to conduct sessions with interpersonal warmth consistent with the Latino cultural values of *respeto*, *personalismo*, and *simpatia*.

Findings showed that those who received group CBT plus case management attended more CBT sessions and were less likely to drop out of therapy than those who received group CBT alone. The effects of treatment condition on depression outcomes were moderated by patients' language use. For Spanish-speaking participants, those who received group CBT plus case management reported less depression at 6-month follow-up than those who received group CBT alone. For English-speaking participants, there were no differences between treatment conditions on depression at the 6-month follow-up.

Conclusions and Directions for Future Research and Practice within Integrative Health Settings

From this analysis of the cultural adaptation of EBTs, we offer five observations and recommendations.

1. *Treatment relevance and fit*. A treatment that is not designed in accord with the needs of a specific subcultural group may exhibit insensitivity to that group's cultural of other needs and preferences. For example, given that early drug abuse treatments emerged with as distinct male focus, these treatments exhibited insensitivity to the needs of many drug-dependent women. To deliver integrated health, mental health, and substance abuse treatments within healthcare settings, aspects of the local community culture can be considered for "grounding" an

EBT to operate in harmony with the environmental contexts that exist within the local healthcare system.

2. *Enhancing client engagement*. Sufficient client engagement in treatment is necessary to promote client retention and treatment completion. Currently, low rates of client engagement remain as a pervasive problem that affects treatment efficacy and the benefits that can be obtained from treatment (Carroll et al., 2011). It is thus essential that existing EBTs and any adapted versions increase their capacity for client engagement and retention.
3. *Importance of cultural factors*. Recent studies have highlighted the importance of considering various cultural factors, such as gender, racial or ethnic identity, sexual orientation, and levels of acculturation and any of several cultural constructs (Castro & Hernandez-Alarcon, 2002), important treatment-related factors that can aid in relieving the health and mental health problems that affect diverse ethnocultural clients. These treatments can be enhanced by selectively integrating cultural factors into the EBT's protocol, based on advisory feedback from a Cultural Advisory Committee (Castro et al., 2007).
4. *Enhancing cultural relevance with a culturally relevant module.* Increasing an existing EBTs cultural relevance need not involve a complete reconstruction of the original EBT. Adding relevant cultural contents or developing a specific *cultural module* may be sufficient to enhance the treatment's cultural relevance and fit for members of an identified subcultural group.
5. *Cultural adaptation as a systematic and team effort*. The effective adaptation of an EBT consists of a planned and systematic team effort as aided by input from a Cultural Advisory Committee. This effort benefits from a scientist-provider partnership that involves the developers of the treatment and other stakeholders (Donovan et al., 2011; Mejia et al., 2017). Organized agency structures are also needed and should be developed to conduct the most rigorous treatment adaptation possible within a local healthcare setting and to plan and sustain the delivery of that treatment with the requisite fidelity that is needed to produce efficacious treatment outcomes.

References

Aarons, G. A., Hurlburt, M., & Horowitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration Policy and Mental Health, 38*, 4–23.

Agency Healthcare Research and Quality (AHRQ). (2012). *National health disparities report*. Retrieved from http://www.ahrq.gov/research/findings/nhqrdr/nhdr12/2012nhdr.pdf

Bailey, E. J., Cates, C. J., Kruske, S. G., Morris, P. S., Brown, N., & Chang, A. B. (2009). Culture-specific programs for children and adults from minority groups who have asthma. *Cochrane Database System Reviews,* (2). Art. No. CD006580. https://doi.org/10.1002/14651858.CD006580.pub4

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Barrera, M., Jr., Berkel, C., & Castro, F. G. (2016). Directions for the advancement of culturally adapted preventive interventions: Local adaptations, engagement, and sustainability. *Prevention Science, 18,* 640–648. https://doi.org/10.1007/s11121-016-0705-9

Barrera, M., Jr., Castro, F. G., & Holleran-Steiker, L. K. (2011). A critical analysis of approaches to the development of prevention interventions for subcultural groups. *American Journal of Community Psychology, 48*, 439–454.

Barrera, M., Jr., Castro, F. G., Strycker, L. A., & Toobert, D. J. (2013). Cultural adaptation of behavioral health interventions: A progress report. *Journal of Consulting and Clinical Psychology, 81*, 196–205. https://doi.org/10.1037/a0027085

Barrera, M., Jr., Toobert, D. J., Strycker, L. A., & Osuna, D. (2012). Effects of acculturation on a culturally-adapted diabetes intervention for Latinas. *Health Psychology, 31*, 51–54. https://doi.org/10.1037/a0025205

Berry, J. W. (1980). Acculturation as varieties of adaptation. In A. M. Padilla (Ed.), *Acculturation: Theory, models, and some new findings* (pp. 9–25). Boulder, CO: Westview Press.

Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations, 29*, 697–712.

Benish, S. G., Quintana, W., & Wampold, B. (2011). Culturally adapted psychotherapy and the legitimacy of myth: A direct comparison meta-analysis. *Journal of Counseling Psychology, 58*, 279–289. https://doi.org/10.1037/a0023626

Bernal, G., Jimenez-Chafey, M. I., & Domenech Rodriguez, M. M. (2009). Cultural adaptation of treatments: A resource for considering culture in evidence-based practice. *Professional Psychology Research and Practice, 40*, 361–368.

Bernard, H. R., Wutich, A., & Ryan, G. W. (2017). *Analyzing qualitative data: Systematic approaches* (2nd ed.). Los Angeles, CA: Sage.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*, 723–742.

Carroll, K. M., Ball, S. A., Jackson, R., Martino, S., Petry, N. M., Stitzer, M. L., … Weiss, R. D. (2011). Ten take home lessons from the first 10 years of the CTN and 10 recommendations for the future. *The American Journal of Drug and Alcohol Abuse, 37*, 275–282.

Castro, F. G., Barrera, M., Jr., & Holleran Steiker, L. K. (2010). Issues and challenges in the design of culturally-adapted evidence-based interventions. *Annual Review of Clinical Psychology, 6*, 213–239.

Castro, F. G., Barrera, M., Jr., & Martinez, C. R. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science, 5*, 41–45.

Castro, F. G., Bautista, T. G., Hombrados Mendieta, M. I., Ramirez, S. O., Heydarian, N. M., & Hughes, A. S. (2017). Systems contexts for designing culturally-adapted prevention interventions. In S. J. Schwartz & J. B. Unger (Eds.), *Oxford handbook of acculturation and health* (pp. 411–432). New York, NY: Oxford. Oxford University Press.

Castro, F. G., & Hernández-Alarcón, E. (2002). Integrating cultural factors into drug abuse prevention and treatment with racial/ethnic minorities. *Journal of Drug Issues, 32*, 783–810.

Castro, F. G., Kellison, J. G., Boyd, S., & Kopak, S. (2010). A methodology for conducting integrative mixed methods research and data analyses. *Journal of Mixed Methods Research, 4*, 342–360.

Castro, F. G., Morera, O. F., Kellison, J. G., & Aguirre, K. M. (2014). Mixed methods research design for prevention science: Methods, critiques, and recommendations. In Z. Sloboda & H. Petras (Eds.), *Advances in prevention science* (pp. 453–490). New York, NY: Springer.

Castro, F. G., Nichols, E., & Kater, K. (2007). Relapse prevention with Hispanic and other racial/ethnic populations: Can cultural resilience promote relapse prevention? In K. Witkiewitz & G. A. Marlatt (Eds.), *A therapist's guide to evidence-based relapse prevention* (pp. 259–292). Boston, MA: Academic Press.

Castro, F. G., & Yasui, M. (2017). Advances in EBI development for diverse populations: Towards a science of intervention adaptation. *Prevention Science, 18,* 623–629. https://doi.org/10.1007/s11121-017-0809-x

Cervantes, R. C., Cardoso, J. B., & Goldbach, J. T. (2015). Examining differences in culturally based stress among clinical and nonclinical Hispanic adolescents. *Cultural Diversity and Ethnic Minority Psychology, 21*, 458–467.

Collado, A., Calderon, M., MacPherson, L., & Lejuez, C. (2016). The efficacy of behavioral activation treatment among depressed Spanish-speaking Latinos. *Journal of Consulting and Clinical Psychology, 84*, 651–657.

Collins, C., Hewson, D. L., Munger, R., & Wade, T. (2010). *Evolving models of behavioral health integration in primary care*. New York, NY: Millbank Memorial Fund. Retrieved from: http://www.milbank.org/uploads/documents/10430EvolvingCare/10430EvolvingCare.html

Corrigan, P. W., Kuwabara, S. A., & O'Shaughnessy, J. (2009). The public stigma of mental illness and drug addiction: Findings from a stratified random sample. *Journal of Social Work, 9*, 139–147.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles, CA: Sage.

Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). *Best practices for mixed methods research in the health sciences*. Bethesda, MD: Office of Behavioral and Social Science Research (OBSSR).

Curry, L., & Nunez-Smith, M. (2015). *Mixed methods in health sciences research: A practical primer*. Los Angeles, CA: Sage.

Darbes, L., Crepaz, N., Lyles, C., Kennedy, G., & Rutherford, G. (2008). The efficacy of behavioral interventions in reducing HIV risk behaviors and incident sexually-transmitted diseases in heterosexual African Americans. *AIDS, 22*, 1177–1194. https://doi.org/10.1097/QAD.0b013e3282ff624e

Davis, T. S., Guada, J., Reno, R., Peck, A., Evans, S., Sigal, L. M., & Swenson, S. (2015). Integrated and culturally relevant care: A model to prepare social workers for primary care behavioral health practice. *Social Work in Health Care, 54*, 909–938.

Donovan, D. M., Daley, D. C., Brigham, G. S., Hodgkins, C. C., Perl, H., & Floyd, A. S. (2011). How practice and science are balanced and blended in the NIDA clinical trials network: The bidirectional process in the development of the STAGE-12 protocol as an example. *The American Journal of Drug and Alcohol Abuse, 37*, 408–416.

Elliot, D. S., & Mihalic, S. (2004). Issues in disseminating and replicating effective prevention programs. *Prevention Science, 5*, 47–53.

Eyles, H. C., & Mhurchu, C. N. (2009). Does tailoring make a difference? A systematic review of the long-term effectiveness of tailored nutrition education for adults. *Nutrition Reviews, 67*, 464–480. https://doi.org/10.1111/j.1753-4887.2009.00219.x

Flay, B., Biglan, A., Boruch, R. F., Castro, F. G., Gottfriedson, D., Kellam, E. K., … Ji, P. (2005). Standards of evidence: Criteria for efficacy, effectiveness, and dissemination. *Prevention Science, 6*(3), 151–175.

Frank, J. D., & Frank, J. B. (1993). *Persuasion and healing: A comparative study of psychotherapy* (3rd ed.). Baltimore, MD: Johns Hopkins University Press.

Geisinger, K. F. (1994). Cross-cultural normative assessment translation and adaptation issues influencing the normative interpretation of assessment instruments. *Psychological Assessment, 6*, 304–312.

Gilmer, T. P., Walker, C., Johnson, E. D., Philis-Tsimikas, A., & Unützer, J. (2008). Improving treatment of depression among Latinos with diabetes using project Dulce and IMPACT. *Diabetes Care, 31*(7), 1324–1326.

Glazier, R. H., Bajcar, J., Kenne, N. R., & Wilson, K. (2006). A systematic review of interventions to improve diabetes care in socially disadvantaged populations. *Diabetes Care, 29*, 1675–1688. https://doi.org/10.2337/dc05–1942

Gonzalez, V. M., Stewart, A., Ritter, P. L., & Lorig, K. (1995). Translation and validation of arthritis outcome measures into Spanish. *Arthritis and Rheumatism, 38*, 1429–1446.

Greenfield, S. F., Brooks, A. J., Gordon, S. M., Green, C. A., Kropp, F., McHugh, R. K., … Miele, G. M. (2007). Substance abuse treatment entry, retention, and outcome in women: A review of the literature. *Drug and Alcohol Dependence, 86*, 1–21.

Guerrero, E. G., & Kao, D. (2013). Racial/ethnic minority and low-income hotspots and their geographic proximity to integrated care providers. *Substance Abuse Treatment, Prevention, and Policy, 8*, 34–43.

Hall, G. C., 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.

Han, H. R., Lee, J. E., Kim, J., Hedlin, H. K., Song, H., & Kim, M. T. (2009). A meta-analysis of interventions to promote mammography among ethnic minority women. *Nursing Research, 58*, 246–254. https://doi.org/10.1097/NNR.0b013e3181ac0f7f

Hansen, W. B. (2014). Measuring fidelity. In Z. Sloboda & H. Petras (Eds.), *Defining prevention science* (pp. 335–359). New York, NY: Springer.

Hawthorne, K., Robles, Y., Cannings-John, R., & Edwards, A. G. K. (2010). Culturally appropriate health education for type II diabetes in ethnic minority groups: A systematic and narrative review of randomized controlled trials. *Diabetic Medicine, 27*, 613–623. https://doi.org/10.1111/j.1464-5491.2010.02954.x

Hillhouse, M. P., Martinelli-Casey, P., Gonzales, R., Ang, A., & Rawson, R. A. (2007). Predicting in-treatment performance and post-treatment outcomes in methamphetamine users. *Addiction, 102*(Suppl 1), 84–95.

Ja, D., & Aoki, B. (1993). Substance use treatment: Cultural barriers in the Asian American community. *Journal of Psychoactive Drugs, 25*, 61–71.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*, 112–133.

Keys, K. M., Martins, S. S., Hatzenbuehler, M. L., Blanco, C., Bates, L. M., & Hasin, D. S. (2012). Mental health service utilization for psychiatric disorders among Latinos living in the United States: The role of ethnic subgroup, ethnic identity, and language/social preferences. *Social Psychiatry & Psychiatric Epidemiology, 47*, 383–394.

Kumpfer, K. L., Alvarado, R., Smith, P., & Bellamy, N. (2002). Cultural sensitivity in universal family-based prevention interventions. *Prevention Science, 3*, 241–244.

Kumpfer, K. L., Pinyuchon, M., de Melo, A., & Whiteside, H. O. (2008). Cultural adaptation process for international dissemination of the strengthening families program (SFP). *Evaluation and Health Professions, 33*(2), 226–239.

Lehman, D. R., Chiu, C., & Schaller, M. (2004). Psychology and culture. *Annual Review of Psychology, 55*, 689–714.

Lemmens, L. C., Molema, C. C. M., Versnel, N., Baan, C. A., & de Bruin, S. R. (2015). Integrated care programs for patients with psychological comorbidity: A systematic review and meta-analysis. *Journal of Psychosomatic Research, 79*, 580–594.

Lopez-Class, M., Castro, F. G., & Ramirez, A. G. (2011). Conceptions of acculturation: A review and statement of critical issues. *Social Science and Medicine, 72*, 1555–1162.

MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. New York, NY: Lawrence Erlbaum.

McGovern, M. P., Urada, D., Lambert-Harris, C., Sullivan, S. T., & Mazade, N. A. (2012). Development and initial feasibility of an organizational measure of behavioral health integration in medical care settings. *Journal of Substance Abuse Treatment, 43*, 402–409.

Mejia, A., Leijten, P., Lachman, J. M., & Parra-Cordoba, J. R. (2017). Different strokes for different folks? Contrasting approaches to cultural adaptation of parenting interventions. *Prevention Science, 18*(6), 630–639.

Meschke, L. L., & Juang, L. P. (2014). Obstacles to parent-adolescent communication in Hmong American families: Exploring pathways to adolescent mental health promotion. *Ethnicity & Health, 19*, 144–159.

Mier, N., Ory, M. G., & Medina, A. A. (2010). Anatomy of culturally sensitive interventions promoting nutrition and exercise in Hispanics: A critical examination of existing literature. *Health Promotion Practice, 11*, 541–554. https://doi.org/10.1177/1524839908328991

Miranda, J., Azocar, F., Organista, K. C., Dwyer, E., & Areane, P. (2003). Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services, 54*, 219–225.

Minkler, M., Wallerstein, N., & Wilson, N. (2008). Improving health through community organization and community building. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 287–312). San Francisco, CA: Jossey-Bass.

Morgan, D. L. (2014). *Integrating qualitative & quantitative methods: A pragmatic approach*. Los Angeles, CA: Sage.

National Institute on Drug Abuse (NIMH). (1999). *Principles of drug addiction treatment: A research-based guide. NIH publication no. 99–4180*. Rockville, MD: National Institute on Drug Abuse.

National Institute of Mental Health (NIMH). (2006). *Benefits to employers outweigh enhanced depression-care costs*. Retrieved from http://www.nimh.nih.gov/science-news/2006/benefits-to-employers-outweigh-enhanceddepression-care-costs.shtml

Norcross, J. C., Beutler, L. E., & Levant, R. F. (2006). *Evidence-based practice in mental health: Debate and dialogue on the fundamental questions*. Washington, DC: American Psychological Association.

Obert, J. L., McCann, M. J., Martinelli-Casey, P., Weiner, A., Minsky, S., … Rawson, R. (2000). The matrix model of outpatient stimulant abuse treatment: History and description. *Journal of Psychoactive Drugs, 32*, 157–164.

Orlandi, M. A., Weston, R., & Epstein, L. G. (1992). *Cultural competence for evaluators*. Rockville, MD: Office of Substance Abuse Prevention.

Padwa, H., Teruya, C., Tran, E., Livinger, K., Antonini, V. P., Overholt, C., & Urada, D. (2016). The implementation of integrated behavioral health protocols in primary care settings in *Project Care*. *Journal of Substance Abuse Treatment, 62*, 74–83.

Palinkas, L. A., Aarons, G. A., Horwitz, S., Chamberlin, P., Hurlburt, M., & Landsverk, J. (2011). Mixed methods design in implementation research. *Administration Policy and Mental Health, 38*, 44–53.

Pantin, H., Schwartz, S. J., Sullivan, S., Prado, G., & Szapocznik, J. (2004). Ecodevelopmental HIV prevention programs for Hispanic adolescents. *American Journal of Orthopsychiatry, 74*, 545–558.

Portes, A., & Rumbaut, R. A. (2014). *Immigrant America: A portrait* (4th ed.). Berkeley, CA: University of California Press.

Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *Annals of the American Academy of Political and Social Science, 530*, 74–96.

Ramirez, M. (1999). Multicultural psychotherapy: *An approach to individual and cultural differences* (2nd ed.). Boston: Allyn & Bacon.

Rawson, R. A., Shoptaw, S. J., Obert, J. L., McCann, M. J., Hasson, A. L., Martinelli-Casey, P. J., … Ling, W. (1995). An intensive approach to cocaine abuse treatment. *Journal of Substance Abuse Treatment, 12*, 117–127.

Resnicow, K., Soler, R., Braithwait, R. L., Ahluwalia, J. S., & Butler, J. (2000). Cultural sensitivity in substance abuse prevention. *Journal of Community Psychology, 28*, 271–290.

Rohrbach, L. A. (2014). Design of prevention interventions. In Z. Sloboda & H. Petras (Eds.), *Defining prevention science* (pp. 275–291). New York, NY: Springer.

Rutkowski, B. A., Rawson, R. A., & Freese, T. E. (2012). Editors' introduction: The evidence for integrated care – substance use disorders, mental health, and primary care: California Substance Abuse Research Consortium (SARC) meetings, 2011. *Journal of Psychoactive Drugs, 44*, 281–241.

Sallis, J. F., Owen, N., & Fisher, E. (2008). Ecological models of health behavior. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 465–485). San Francisco, CA: Jossey-Bass.

Sarkisian, C. A., Brown, A. F., Norris, K. C., Wintz, R. L., & Mangione, C. M. (2003). A systematic review of diabetes self-care interventions for older, African-American, or Latino adults. *Diabetes Educator, 29*, 467–479. https://doi.org/10.1177/014572170302900311

Schwartz, S. J., Weisskirch, R. S., Zamboanga, B. L., Castillo, L. G., Ham, L. S., Huynh, Q., … Cano, M. A. (2010). Dimensions of acculturation: Associations with high risk behaviors among college students from immigrant families. *Journal of Counseling Psychology, 20*, 1–15.

Shiraev, E. B., & Levy, D. A. (2010). *Cross-cultural psychology: Critical thinking and contemporary applications*. Boston, MA: Allyn & Bacon.

Simpson, D. D. (2004). A conceptual framework for drug treatment process and outcomes. *Journal of Substance Abuse Treatment, 27*(4), 99–121.

Snowden, L. R. (2001). Barriers to effective mental health services for African Americans. *Mental Health Services Research, 3*, 181–187. https://doi.org/10.1023/A:1013172913880

Spoth, R., Rohrbach, L. A., Greenberg, M., Leaf, P., Brown, C. H., Fagan, A., … Society for Prevention Research Type 2 Translational Task Force Members and Contributing Authors. (2013). Addressing core challenges for the next generation of type 2 translation research and systems: The translation science to population Impact (TSci Impact) framework. *Prevention Science, 14*, 319. https://doi.org/10.1007/s11121–012–0362-6

Storey, J. D., Saffitz, G. B., & Rimon, J. G. (2008). Social marketing. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 435–464). San Francisco, CA: Jossey-Bass.

Substance Abuse and Mental Health Services Administration (SAMHSA). (2014). *Improving cultural competence: Quick guide for clinician*. Treatment Improvement Protocol (TIP) Series No. 59. HHS Publication No. (SMA) 14–4849. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from http://store.samhsa.gov/product/TIP-59-Improving-Cultural-Competence/SMA14-4849?sortBy=3

Substance Abuse and Mental Health Services Administration (SAMHSA). (2017, May). The National Registry of Evidence-based Programs and Practices (NREPP). Retrieved from http://www.samhsa.gov/nrepp

Sue, S., & Zane, N. (2006). Ethnic minority populations have been neglected by evidence-based practices. In J. C. Norcross, L. E. Beutler, & R. F. Levant (Eds.), *Evidence-based practices in mental health: Debate and dialogue on the fundamental question* (pp. 329–337). Washington DC: American Psychological Association.

Sunderji, N., Waddell, A., Gupta, M., Soklaridis, S., & Steinberg, R. (2016). An expert consensus on core competencies in integrated care for psychiatrists. *General Hospital Psychiatry, 41*, 45–52.

Supplee, L. H., Kelly, B. C., MacKinnon, D. M., & Barofsky, M. Y. (2013). Introduction to the special issue: Subgroup analysis in prevention and intervention research. *Prevention Science, 14*, 107–110.

Tashakkori, A., & Teddle, C. (2010). *Sage handbook of mixed methods in social and behavioral research* (2nd ed.). Los Angeles, CA: Sage.

Terrell, M. D. (1993). Ethnocultural factors and substance abuse towards culturally sensitive treatment models. *Psychology of Addictive Behaviors, 7*, 162–167.

Trimble, J. E. (1995). Toward an understanding of ethnicity and ethnic identity, and their relationship with drug abuse research. In G. J. Botvin, S. Schinke, & M. A. Orlando (Eds.), *Drug abuse prevention with multiethnic youth* (pp. 3–27). Thousand Oaks, CA: Sage.

Unützer, J., Katon, W., Callahan, C. M., Williams, J. W., Jr., Hunkeler, E., Harpole, L., … Areán, P. A. (2002). Collaborative care management of late-life depression in the primary care setting: A randomized controlled trial. *JAMA, 288*(22), 2836–2845.

U.S. Department of Health and Human Services (DHHS). (2016). *Facing addiction in America: The surgeon general's report on alcohol, drugs, and health*. Washington, DC: HHS.

van der Kreeft, P., Jongbloet, J., & Van Havere, T. (2014). Factors affecting implementation: Cultural adaptation. In Z. Sloboda & H. Petras (Eds.), *Defining prevention science* (pp. 315–334). New York, NY: Springer.

Whittemore, R. (2007). Culturally competent interventions for Hispanic adults with type 2 diabetes: A systematic review. *Journal of Transcultural Nursing, 18*, 157–166. https://doi.org/10.1177/1043659606298615

Whitt-Glover, M. C., & Kumanyika, S. K. (2009). Systematic review of interventions to increase physical activity and physical fitness in African-Americans. *American Journal of Health Promotion, 23*, S33–S56. https://doi.org/10.4278/ajhp.070924101

Wilson, B. D. M., & Miller, R. L. (2003). Examining strategies for culturally grounded HIV prevention: A review. *AIDS Education and Prevention, 15*, 184–202. https://doi.org/10.1521/aeap.15.3.184.23838