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CULTURALLY ADAPTED MENTAL HEALTH TREATMENTS:
A META-ANALYSIS

by:

Derek Griner

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

Department of Counseling Psychology and Special Education
Brigham Young University

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BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

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Derek Griner

This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the dissertation of Derek Griner in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

CULTURALLY ADAPTED MENTAL HEALTH TREATMENTS: A META-ANALYSIS

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Doctor of Philosophy

In recent years psychologists have increased awareness and concern regarding the quality of mental health services provided to people of color. For several reasons clients of color often find traditional mental health services foreign or unhelpful.

To help diminish obstacles faced by clients of color, several authors have advocated traditional mental health treatments be modified to better match clients' cultural contexts. Researchers have also begun investigating outcomes associated with culturally modified mental health treatments, often contrasting them with traditional mental health services. Recently numerous studies containing empirical data have been published. To date there has been no attempt to review this rapidly growing body of literature. Due to the sheer number of studies analyzing the efficacy of culturally modified treatment, the literature has become large and unwieldy. The present study used

meta-analytic methodology to gather and organize quantitative data obtained from such studies.

Across 80 studies that met criteria to be included in this meta-analysis, the resulting random effects weighted average effect size was $d = .44$, indicating a moderately strong benefit of culturally adapted treatments relative to traditional treatments. To further examine whether the association of treatment outcome and culturally modified treatments varied as a function of various sociodemographic variables, a series of categorical (and where appropriate, continuous) moderator analyses were conducted. Moderation effects were ascertained only for participant age and for Hispanic populations, with studies consisting of participants of higher chronological age and higher percentages of Hispanic participants having effect sizes of greater magnitude than studies with participants of younger ages or with few Hispanic participants. These results may indirectly provide evidence for the importance of client acculturation, given that older populations tend to be less acculturated (and therefore more in need of cultural modifications) than younger populations and that Hispanic populations are more likely to speak Spanish, necessitating adaptation of therapy to be conducted in their native language. Other variables, such as participant gender, did not moderate the results. Overall, the findings provide evidence for the benefit of modifying psychotherapy to match the cultural context of the client. Recommendations for future research on the topic are provided.

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INTRODUCTION

During the past three decades, there has been increased attention and concern regarding both the availability and quality of care given to ethnic minority clients seeking mental health services (Constantine, 2002). As a result, those working in the mental health professions have become more aware of the importance of recognizing cultural factors when working with culturally diverse populations (Sue, 1998).

As the cultural diversity of North America has continued to increase, so has the concern for multicultural competency in mental health provision (Dillard, et al., 1992; Finn, 1994, 1996; Lo & Fung, 2003). According to Lattimore and Borgen (1999), there have been recent predictions that within the next 50 years, ethnic minorities will constitute the majority of the population in the United States. Mental health professionals will therefore have increasingly frequent interactions with people who are culturally and ethnically different than themselves. Many have argued it is therefore imperative that therapists develop the skills necessary to work effectively with people from different cultures (Arredondo & Toporek, 2004; Constantine, 2002; Hall, 1997; Sue D.W. & Sue D., 1999, 2003; Takeuchi, Mokuau, & Chun, 1992; Wampold, 2001). These and other authors have suggested in order to be a competent therapist or counselor, one must be multiculturally competent.

Others have suggested multiculturalism should not be imposed on mental health professionals for a variety of reasons (Coleman, 2004; Kerka, 1998; Thomas & Weinrach, 2004; Vontress & Jackson, 2004; Weinrach & Thomas, 2002, 2004). Some of these reasons include: (a) competency-based education has yet to be established due to a lack of research; (b) the research base for multiculturalism is weak; (c) therapists who

adopt multicultural competencies may gain a false sense of effectiveness; (d) multiculturalism is biased toward racial differences while ignoring other diverse populations; and (e) therapists who claim to have obtained the competencies necessary to be considered culturally competent may not be and as a result could unethically practice outside of their scope of expertise (Weinrach & Thomas, 2002, 2004).

In 2004, the *Journal of Mental Health Counseling* became a forum in which the issues surrounding multiculturalism were discussed and debated. These debates showed that multiculturalism elicits strong feelings and opinions—both pro and con. Due to the conflict regarding the relevance of cultural competence, this study will examine multiculturalism as well as the efficacy of incorporating multicultural perspectives into therapy when working with clients of color (i.e., African American, Asian American, Latino/Hispanic American, and Native American).

Although aspects of culture and multicultural competence have recently received greater attention in the professional literature, Gelso and Fretz (2001) have suggested there are still reasons for people of color to be dissatisfied with the availability and quality of mental health care received:

Numerous researchers agree that the single most important reason both for the underutilization of mental health services by ethnic minority clients and for the high dropout rates are (sic) the inability of psychotherapists and counselors to provide culturally sensitive/responsive therapy for the ethnic minority client. (p.153)

Such lack of cultural sensitivity and the accompanying dissatisfaction with mental health services among historically oppressed racial/ethnic groups has become increasingly recognized and studied.

People of color are dissatisfied with mental health services for several reasons, including the lack of bilingual therapists and the presence of racial biases and stereotypes among some therapists (Marger, 2002; Sue, 1988; Sue & Zane, 1987). Although few therapists are overtly racist, it has been hypothesized that most therapists are not familiar with the cultural backgrounds and lifestyles of various racial/ethnic groups. Therefore, therapists have frequently been unable to generate culturally appropriate forms of treatment and clients of color have often found mental health services strange, foreign or unhelpful (Sue & Zane, 1987).

The paucity of culturally competent care is partly due to the foundation upon which traditional psychology is based. The primary users of psychotherapy in its various forms have historically been educated, employed, articulate ethnically European populations (Duckitt, 1992; Guthrie, 1998; Krawitz & Watson, 1997; Pedersen, 2005). This should come as no surprise since traditional counseling and psychotherapy originated in Europe and North America for individuals from exactly those backgrounds.

Due to the fact counseling and psychotherapy have also focused largely on the therapeutic needs of middle class and White culture (Ponterotto & Casas, 1991; Rogler, Malgady, Constantino, & Blumenthal, 1987; Trusty, Davis, & Looby, 2002), the effectiveness of traditional counseling or psychotherapy for people of color and other historically oppressed groups has been brought into question (e.g., Hall, 2001; Ponterotto & Casas, 1991; Sue & Zane, 1987). Contemporary psychotherapy has continued to reflect

the values of Western culture, particularly with its emphasis on individualism (Carter, 1995; Krause & Howard, 1983; Pedersen, 2004; Ponterotto & Casas, 1991; Trusty, Davis, & Looby, 2002). When traditional counseling and psychotherapy treatments have been conducted, contextual variables such as culture, gender, race/ethnicity, socioeconomic status, values, environment, and discrimination have frequently been ignored or minimized. Thus, the needs of culturally diverse clients have often been left unmet (Hall, 2001; Richardson & Molinaro, 1996; Trusty, Davis, & Looby, 2002).

To counteract the dissatisfaction of mental health services among clients of color, scholars have developed lists of multicultural counseling competencies--the skills that several suggest are necessary to working effectively with clients from diverse backgrounds (Arredondo, et al., 1996; Castro & Alarcon, 2002; Sue, 1998, 2003). The notion of multicultural competence is founded on the principle that people should not only be familiar with the values, beliefs and cultures of others, but they should also be able to work effectively with them (Sue, 1998).

Multicultural competence of mental health practitioners includes the specific skill of adapting treatments and practices to better match the particular needs of the client (Arredondo, et al., 1996). In other words, adapting one's own therapeutic stance may not be sufficient to help the client if the overall structure and process of psychotherapy remains counter-intuitive or conflictive for the client's particular cultural background. Therefore, paralleling the movement toward increasing multicultural competence of individual therapists has been a move toward developing culturally specific forms of therapy. Culture specific therapy requires modification of traditional psychotherapy models to match the concerns and contexts of individuals from different backgrounds

(Gelso & Fretz, 2001). Numerous authors have stressed the importance of adapting treatment to better match with the values and experiences of people of color (e.g., Castro & Alarcon, 2002; Cherry, et al., 1998; Comas-Diaz, 1986; Constantine, 2002; Dillard et al., 1992; Elligan, 1997; Finn, 1994; Flaskerud & Nyamathi, 2000; Gutierrez & Ortega, 1991; Herrera & Sanchez, 1980; Howard, 2003; Jackson-Gilfort, Liddle, Tejada, & Dakof, 2001; Kelley, 1997; Kim, Omizo, & D'Andrea, 1998; Lam & Sue, 2001; Lo & Fung, 2003; Malgady, Rogler, & Costantino, 1990a, 1990b; Rogler et al., 1987; Sue, 2003; Sue & Zane, 1987; Takeuchi, Mokuau, & Chun, 1992; Yeh, Takeuchi, & Sue, 1994; Zane, Hatanaka, Park, & Akutsu, 1994). However, empirical research on cultural specific forms of psychotherapy is in its infancy, with a clear need for additional insights and recommendations based on a thorough review of the research conducted to date.

Given that so many authors have emphasized the importance of adapting psychological services to people of color as well as the current debate regarding the relevance of culturally adapted psychological services, this paper provides a systematic, quantitative synthesis of the relevant empirical literature through meta-analytic methodology. The following section, however, will first provide an overview of scholarship being conducted in the area, including descriptions of potential barriers to (traditional) mental health services faced by ethnic minorities. The topic of multicultural competency will then be addressed, followed by a description of various treatment adaptations that have been attempted to better meet the needs of clients of color.

REVIEW OF THE LITERATURE

Barriers to Access to Mental Health Services

Several authors have observed that people of color tend to underutilize mental health services, seek therapy only when their problems have become severe, and drop out of therapy prematurely (e.g., Flaskerud & Hu, 1994; Padilla, Ruiz, & Alvarez, 1975; Sue & Sue, 1988; Zane, Enomoto, & Chun, 1994). There are several possible explanations for these trends. Sue and Zane (1987) have argued the most notable obstacle to appropriate mental health services faced by people of color is the inability of therapists to provide culturally competent care. This barrier includes differences in values between client and therapist and lack of knowledge of the client's worldview, but on a larger scale it also includes the scarcity of therapists from the same ethnic background as the client, the shortage of bilingual therapists, and the lack of mental health services available in communities where people of color reside (Flaskerud & Hu, 1994).

For professional psychologists of European American descent, working with clients of color will become the norm rather than the exception as demographic trends have indicated (Hansen, Pepitone-Arreola-Rockwell, & Greene, 2000; Lattimore & Borgen, 1999; Takeuchi, et al. 1992). However, cultural values and beliefs of people of color are often incongruent with traditional mental health services. These incongruities, coupled with the regrettable history of oppression toward minority groups in North America have led many people of color to mistrust professional mental health service providers, the vast majority of whom are White (Beauvais & LaBoueff, 1985; Heiman, Burrue, & Chavez, 1975; Jackson, 1983; Leong, 1986; Ridley, 1984; Vace, DeVaney, & Wittmer, 1995). Further escalating the attitude of mistrust toward traditional mental

health service has been the lack of mental health services that specifically cater to the needs/experiences of people of color (e.g., Acosta & Cristo, 1981; Heiman, et al., 1975; Shiang, Kjellander, Huang, & Bogumill, 1998; Sue, Fujino, Hu, Takeuchi & Zane, 1991).

Multicultural Competence in Mental Health Practice

In order to combat the several obstacles described in the previous section and to facilitate improved mental health services to clients of color, the American Psychological Association recently adopted a policy statement regarding multicultural issues in education, training, research, and practice (Sue, 2003). The principles articulated in the document emphasize recognition and respect for clients' multiple contexts. These contexts include a client's race, gender, sexual orientation, abilities, age, socioeconomic status, religion, national origin, and power (Hansen, et al., 2000; Sue, Arredondo, & McDavis, 1992). The three components of: (a) knowledge; (b) awareness; and (c) skills that mental health professionals exhibit when working effectively with culturally diverse individuals have been termed *multicultural competencies* (Constantine, 2002). Each of these components of multicultural competency is described in greater detail below.

Cultural self-awareness. Smith, Richards, Mac Granley, and Obiakor (2004) have described the multicultural competency of awareness as a therapists' knowledge and understanding of self as a multicultural entity in a multicultural environment. This personal awareness of the therapist includes understanding his or her own assumptions, biases, values, worldview, theoretical orientation, privileges and so forth. In order to increase self-awareness, it has been argued that therapists must be explicitly aware of the following (Arredondo, et al., 1996; Hansen et al., 2000; Smith, et al. 2004):

1. How one's own cultural heritage, gender, class, ethnic/racial identity, sexual orientation, disability and age cohort help shape personal values, assumptions, perceptions and biases of clients and their work in therapy.
2. Their stereotypes, biases and assumptions regarding the race, culture, gender, religion, age, etc. of the clients with whom they work.
3. Their theoretical orientation and treatment approach and the possible limits their approach may have on people of color.
4. Their communication style and its impact on clients.
5. Their unearned privileges, especially those that encourage or foster inequality and discrimination.
6. Their own level of discomfort, effectiveness and defensiveness when working with clients.
7. Their actions used to increase multicultural knowledge, skills and efficacy.
8. Their limits in multicultural competency and expertise.

Multicultural knowledge. The multicultural competency of *knowledge* involves therapists' understanding and knowledge of human diversity including race, gender, sexual orientation, religion, culture and so on. In recent position papers, Arredondo and colleagues (1996) as well as Hansen and colleagues (2000) identified the following as knowledge that culturally competent therapists should obtain:

1. Knowledge of how psychological theory, methods of inquiry, and professional practices are historically and culturally embedded and how these theories have changed due to societal and political values.

2. Knowledge of the cultures of clients of color as well as the history of and manifestation of oppression, discrimination, and prejudice they have encountered in the United States.
3. Knowledge of the psychological impacts caused by oppression, discrimination and prejudice.
4. For White counselors, knowledge of how they may have either directly or indirectly benefited from individual, institutional and cultural racism.
5. Knowledge of their own social impact on others.
6. Knowledge of how persons of color have experienced American history.
7. Knowledge of political power dynamics of the workplace and how these dynamics have perpetuated the dominance of certain groups over others.
8. Knowledge of how sociopolitical issues such as poverty, stigmatization, stereotyping, etc. have influenced people of color.
9. Knowledge of family structures, roles, values, beliefs and worldviews of the clients a therapist is working with.
10. Knowledge of the attitudes and perceptions the client has in respect to mental health services.

Multicultural skills. Both awareness and knowledge competencies are prerequisite to a therapist developing multicultural competent skills (Hansen, et al., 2000; Smith et al., 2004). Multicultural *skills* involve the ability of the therapist to use their personal awareness coupled with knowledge of the client's culture and diversity in a therapeutic manner. The following are skills recommended by Arredondo and colleagues (1996) that foster increased multicultural competence among therapists:

1. The ability to see individuals holistically rather than in terms of color, culture, accent or ethnicity alone. This includes seeing the individual according to their historical, sociopolitical and economic context.
2. The ability to recognize and monitor their own positive and negative attitudes, stereotypes, beliefs and reactions when responding to clients.
3. A willingness to seek out educational, consultative, and training experiences to increase their knowledge and effectiveness in working with individuals of color.
4. A constant effort to understand themselves as racial and cultural beings.
5. A constant effort to understand and gain knowledge of the cultures of the clients with which they work. This includes becoming actively involved with individuals of color outside of the counseling setting.
6. Familiarity with relevant literature and research regarding mental health and multiculturalism.
7. A willingness to participate in honest and non-defensive self-evaluation when working with clients.
8. The ability to clearly communicate with a client. This includes both verbal and non-verbal messages being sent. Therapists may need to modify their communication style in order to be effective.
9. A respect for bilingualism. If the language a client requests cannot be accommodated, the therapist should have referrals available.
10. The ability to reduce mistrust attitudes that clients may have and develop a therapeutic alliance.

11. The ability to show respect for beliefs and values of clients that may be different than their own beliefs and values.
12. An understanding of traditional counseling and therapy and the ability to modify assessment and treatment methods according to the needs of the clientele of color.
13. The ability to implement relevant multicultural theory and research in addressing the mental health issues of a client.
14. Working to reduce the barriers that people of color commonly face when receiving treatment.
15. The ability to consult with the clients' support network and other professionals (healers, clergy, family, etc.) when appropriate.
16. The ability to openly discuss the processes of psychological interventions as well as legal rights, expectations, and procedures with clients.
17. The ability to both anticipate and plan for difficulties.

Several researchers have agreed the above listed multicultural competencies are essential in bridging the gap between traditional psychotherapy and the needs of culturally diverse clients (e.g., Bean, Perry & Bedell, 2002; Constantine, 2002; Hansen, et al., 2000; Ito & Maramba, 2002; Sue & Sue, 1972; Sue, 1998; Smith et al., 2004). The quality of the therapeutic alliance between client and therapist has been shown to be indicative of the degree to which a therapist can be effective (Lambert & Bergin, 1994; Sue & Zane, 1987; Wampold, 2001). The development and implementation of multicultural competencies not only increases understanding, but also ultimately enhances the quality of the relationship between client and therapist (Aponte & Wohl,

2000; Pope-Davis, Lie, Toporek, & Brittan-Powell, 2001; Smith, et al., 2004; Sue, et al., 1991).

Cultural Specific Modifications to Mental Health Treatment

In his original call for therapists to culturally adapt treatments to better meet the needs of ethnic minority clients, Sue (1977) made three specific recommendations to modify treatment at both a system level as well as the client-therapist level. First, he suggested that existing mental health facilities hire bilingual/bicultural personnel who could work with clients of color. Next, he suggested the initiation of mental health hospitals or sections of hospitals that specialized in the treatment of clientele of color. Finally, he suggested that because of the stigma attached to the use of mental health services, alternative methods of delivering such services should be employed. These three suggestions have served as a springboard for others in developing culturally sensitive treatments.

Building upon Sue's (1977) recommendations, many subsequent proposals have described and advocated for culturally modified mental health treatments. Matching the values of client and therapist and incorporating relevant cultural content into therapy has been suggested to increase the effectiveness of treatment (Oliver, 1989; Rowe & Grills, 1993; Wampold, 2001). Another suggestion toward modifying treatment is to match the ethnicity and language of the therapist to the client (Lam & Sue, 2001; Uba, 1982). Others have encouraged making ethnic specific treatment more accessible and available (Flaskerud, 1986b; Uba, 1982; Zane, et al., 1994). Another approach to modifying treatment is the collaboration of mental health professionals with the clients' community,

family and spiritual leaders (Hammond & Yung, 1991; Maypole & Anderson, 1987). Each of these broad suggestions is detailed below.

Value match/integration of relevant cultural content. When therapists engage in treatment with an individual from another cultural background and the client has expectations that are significantly different than that of the therapist, it becomes necessary to modify the therapeutic methods being used (Flaskerud & Nyamanthi, 2000; Gwyn & Kilpatrick, 1981). One such value embraced by several cultures that does not mesh well with traditional forms of mental health is the idea of collectivism. Across several cultures the value of collectivism is of higher worth than is the concept of individualism (e.g., Abad, Ramos, & Boyce, 1974; Jackson, 1983; Liu & Liu, 1999; Yang, 1995, 1999). However, individualism is a value that has been incorporated into traditional Western mental health services (Krawitz & Watson, 1997; Pedersen, 2005; Rogler, et al, 1987). Those who value collectivism have often found traditional mental health services to be less effective than those who value an individualistic approach (e.g., Howard, 2000; Schhinke, et al., 1985; Uba, 1982).

The difference in value concerning collectivism vs. individualism among people of color and European Americans is illustrated in attitudes taken toward family. Many cultures view family as a network that includes multiple households, several generations and extended family. In such collectivistic cultures, when one family member experiences problems, the entire network is concerned (Flaskerud, 1982). This collectivistic approach to problem solving is not harmonious with traditional psychotherapy (Ito & Maramba, 2002). In contrast, European Americans typically view family in an immediate sense, which includes father, mother and siblings. When

problems occur, an individualistic approach to problem solving is employed (Flaskerud, 1982). This individualistic style of problem solving is congruent with methods used in traditional psychotherapy (Krawitz & Watson, 1997; Pedersen, 2005).

Attitude toward therapy is another value that is often dissimilar between European Americans and people of color (e.g., Finn, 1996; Rogler et al., 1987; Uba, 1982). For various cultures, emotional difficulties are accompanied with shame and social stigma. When a person of color is in need of mental health care, family members as well as the ethnic minority community often consider this person to be “bad.” Because of the collectivistic nature of many ethnic minorities, the sick individual’s behaviors affect the entire family social standing. Therefore, families may try to hide the afflicted person. Due to their mistrust of the profession of psychology, these families seek professional help only when the individual becomes seriously impaired (Shiang, et al., 1998). Because of their wariness, many ethnic minority groups ultimately question the efficacy of mental health services and its relevance may not be widely accepted (e.g., Katz, 1981; Ridley, 1984; Shiang, et al., 1998).

Wampold (2001) found that the therapist/client alliance is a key to successful therapy. Clients of color are more likely to seek out and use mental health services when their values and beliefs are congruent with that of their therapist. They are least likely to use mental health services in communities that have recognized incongruence between cultural and professional values (Coleman, Wampold, & Casali, 1995; Rogler et al., 1987). If mental health professionals fail to consider the values, beliefs and customs of ethnic minority clientele, it is argued that such clients are likely to be misdiagnosed and given improper treatment (Lopez & Hernandez, 1987). In an effort to increase the

efficacy of treatment for ethnic minorities, several researchers have considered values common to ethnic minority groups with whom they work (Costantino, Malgady, & Rogler, 1986; Satterfield, 1998; Schinke, Schilling, & Gilchrist 1987; Szapoeznik, Rio, Perez-Vidal, Kurtines, Hervis, & Santisteban, 1986).

One such study focused on the values of Latinos who had survived traumatic brain injury. Cultural factors such as language, acculturation, family, and stressors associated with the migration experience, as well as attitudes and beliefs about disability and health care were all incorporated into group therapy (Armengol, 1999). Participants who received this culturally sensitive treatment reported feeling a greater sense of control and empowerment.

Another study employed two social skills training curricula which focused on problem solving, anger management, and conflict resolution (Banks, Hogue, Timberlake, & Liddle; 1998). One curriculum was Afrocentric and incorporated Black history, cultural experiences and emphasized an Afrocentric value system. The results of this group were compared to the results of another group that participated in a culturally relevant, but not Afrocentric curriculum. Results indicated that the Afrocentric approach to social skills training was effective and warranted further research.

Ethnic/language match. A seemingly direct way to support the cultural values of ethnic minority clientele is through matching the client with a therapist of the same ethnicity and/or who speaks the same native language. Many have researched the effectiveness of ethnic and language match between client and counselor and have found that ethnic/language match leads to improved treatment (Campbell & Alexander, 2002; Flaskerud, 1986b; Jackson, et al., 2000; Lin, 1994; Takeuchi, Sue, & Yeh, 1995). A

meta-analysis of the literature by Coleman, Wampold, and Casali (1995) indicated that clients of color preferred ethnically similar counselors to counselors of European descent. Furthermore, studies have shown an *exact* ethnic match of client and counselor (e.g. Mexican American counselor-Mexican American client as opposed to Mexican American counselor-Peruvian American client) has a more positive effect on the outcome of therapy (Flaskerud, 1986a; Flaskerud & Nyamathi, 2000; Sue, 1977; Sue, et al., 1991; Takeuchi, et al., 1992). Perceived similarity apparently fosters an increased development of trust and rapport. This increased trust results in clients viewing their counselor more favorably, which in turn encourages the openness to being influenced during therapy (Herrera & Sanchez, 1980; Takeuchi, et al., 1992; Wampold, 2001).

Another barrier closely related to ethnic match faced by people of color is the lack of therapists proficient in their native language(s). Because language match is so closely associated with the ethnicity of an individual, Sue and colleagues (1998) conducted a study that examined the effects of language match alongside ethnic match. Results indicate that when compared to non-matched clients, those clients matched by language alone, by ethnicity only, and a combination of the two all resulted in fewer client dropouts. The matched clients also attended an increased number of treatment sessions. However, despite recruitment efforts, there continues to be a conspicuous lack of bilingual-bicultural therapists (Acosta & Cristo, 1981; Sue et al., 1998).

Flaskerud and Akutsu (1993) conducted an archival study in the Los Angeles County mental health system. They compared the effectiveness of treatment received by Asian Americans in specialized hospitals to those who received treatment in conventional facilities. They found that Asian American clients who were seen at ethnic-specific

clinics by Asian American therapists were diagnosed with significantly lower percentages of psychotic disorders when compared to Asian clients seen by Asian and White therapists at mainstream clinics. A similar study by Takeuchi and colleagues (1995) supported the findings of Flaskerud and Akutsu (1993).

Accessibility/availability of mental health services. Other researchers have studied the accessibility and availability of mental health care. Potential consumers of mental health are often unaware of existing services. This lack of familiarity is partly due to the lack of coordination between the mainstream social service system and services within pluralistic ethnic communities (Uba, 1982). As a result, clients of color have attended counseling centers that are inconveniently located, expensive, and often insensitive to their needs (Gwyn & Kilpatrick, 1981; Heiman, et al., 1975; Zane, et al., 1994).

Culturally competent care is found in facilities where the aim is to fulfill the needs of clients of color (Flaskerud, 1986b; Trippl & Cheatham, 1989; Yeh, et al, 1988; Zane, et al., 1994.) Uba (1982) suggested culturally sensitive mental health services can be delivered in the following three ways: (a) In mainstream facilities in which all the personnel are trained to provide culturally sensitive treatment to a particular ethnic group; (b) in mainstream facilities in which units of personnel are trained to provide culturally sensitive treatment; or (c) in facilities which are physically separated from mainstream facilities that have personnel trained in providing culturally sensitive treatment to a particular ethnic group.

Trippl and Cheatham (1989) conducted a study in which counseling service availability for Black college freshmen on a predominantly White campus were increased. Their research indicated a greater incidence of contact between the students

and their counselor resulted in a stronger therapeutic alliance as well as the student's increased academic performance.

Results of a study by Yeh, Takeuchi, and Sue (1994) suggested Asian American children who attended ethnic-specific mental health services had better outcomes than those who attended mainstream services. Those attending ethnic-specific services were less likely to drop out after the first session, utilized more services and had higher functioning scores than those attending mainstream services. The availability of such services suggests increased culturally competent care.

Family, community, and spiritual involvement. The value of collectivism discussed earlier lends itself to involving individuals other than the client in therapy with people of color (e.g., Jagers & Moch, 1993; Shiang et al., 1998). Flaskerud (1982) noted that this collectivistic attitude is incorporated in the decision making process of many ethnic minority groups. Culturally modified treatments are able to take advantage of the help and support that the community, family and spiritual leaders can provide (e.g., Armengol, 1999; Jackson-Gilfort, et al., 2001; Shiang, et al., 1998; Prizzia & Mokuah, 1991).

Costantino, Malgady and Rogler (1986) involved mothers in the treatment of their high-risk Puerto Rican children in grades kindergarten through third. The children and mothers read *cuentos*, or folk stories, together. Cultural experts were employed in selecting the stories to be read. These folktales depicted childrearing practices common to Puerto Rican culture. Culturally familiar characters of the same ethnicity of the children were presented to model beliefs, values, and behaviors with which the children could identify. The results indicated that *cuento therapy*, which included the mothers of the

children, significantly reduced the children's trait anxiety compared to traditional therapy and no intervention. These results remained constant even after 1 year. Like others, Costantino employed several modifications in the treatment he developed for Puerto Rican at-risk children. Numerous modifications can be used simultaneously in culturally adapted therapies.

Purpose of the Meta-Analysis

The recent psychological literature has strongly emphasized the need for increased multicultural competence. The number of authors generating empirical research on multicultural competence has also increased exponentially. For example, at least 80 articles containing empirical data on the efficacy of modifying treatment to people of color have been published. However, to date there has been no systematic attempt to gather and organize these data. Due to the sheer number of studies conducted, there is a pressing need to synthesize extant findings and thus provide clear directions for future research. Through the use of meta-analysis this study has gathered and organized the results of empirical research concerned with outcomes associated with culturally modified treatment in order to answer the following question: Will adapting therapy to meet the needs of culturally diverse clients be more effective than traditional psychotherapy? The null hypothesis states that there will be no difference between culturally modified treatment and traditional psychotherapy.

METHOD

Literature Search

In order to obtain published and unpublished studies that examined the effectiveness of culturally modified treatments, the following techniques were used. First, several searches were conducted using the following electronic databases: PsychINFO (WebSPIRS & EBSCO), Family and Society Studies Worldwide, PsycArticles, Social Work Abstracts, Sociological Abstracts, Academic Search Elite, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Criminal Justice Abstracts, Education Resources Information Center (ERIC) databases, Medline databases, Science Citation Index (SCI) Web of Science, Social Sciences Abstracts, Social Sciences Citation Index (SSCI), CQ Researcher and Digital Dissertations. In order to assemble the most extensive possible sample of relevant articles, the following search terms were used: (*outcome or data or subjects or experiment or result* or empirical or quantitative or statistic* or study or research or survey or finding* or analys* or method or patients or participants or design or measure*) and (*counsel* or treatment or guidance or therapy or psychotherapy or session or intake or screening or clinic or agency or service* or interven* or retention or diagnos**) and (“*culture specific*” or “*culturally sensitive*” or “*ethnic specific*” or “*ethnically sensitive*” or “*racially sensitive*” or “*culturally appropriate**” or “*culturally focused*” or “*culturally relevant*” or “*accounting for culture*” or “*culturally informed*” or “*cultural inclusion*” or “*culturally consonant*” or “*culturally competent*” or “*culturally compatib**” or “*culturally responsive**” or “*ethnic focused*” or “*ethnicity focused*” or “*culture compatibl**” or “*racially competent**” or “*racially compatib**” or “*racially appropriate**” or “*racially*

informed” or “ethnically informed” or “racially consonant” or “racially responsive” or “ethnically responsive” or “multicultural specific” or “multicultural sensitive” or “multiculturally appropriate*” or “multiculturally focused” or “multiculturally relevant” or “accounting for multicultural” or “multiculturally informed” or “multiculturally consonant” or “multicultural competen*” or “multicultural compatib*” or “cross-cultur* sensitive*” or “cross-cultural* appropriate*” or “cross-cultural* informed” or “cross-cultural* consonant” or “cross-cultural* competen*” or “cross-cultural* responsive” or “cross-cultural* adapted” or “cross-cultural* skill*” or “multiculturally skill*” or “cultural* skilled” or “culturally adapt*” or “ethnically adapt*”) Databases yielding the most citations were searched one to three additional times in order to diminish inadvertent omissions. Next, reference sections of previously located articles were physically examined to identify additional studies that met inclusion criteria but were not identified in the database searches. Finally, through email, letters and phone calls research team members solicited authors who had published two or more articles on the topic to send additional unpublished studies.*

Inclusion and Exclusion Criteria for Relevant Studies

Studies used in the present exploration were written in English and were found through searches performed through August 2004. These studies also provided quantitative data evaluating a culturally modified mental health treatment. Case studies, single-subject designs, qualitative research articles, and conceptual/theoretical papers were excluded.

Data Coding

Graduate and undergraduate student coders were extensively trained in coding procedures to increase the reliability of their efforts. Coding teams of two members were established. The two-member teams were able to help one another in verifying the accuracy of coding and data entry, thus helping to reduce human error in the coding process.

Coders extracted independent and identifiable characteristics from each study. Some of these characteristics included: (a) the field of the study (psychology, education, etc.) and the source of the study (journal article, dissertation, etc.); (b) the number of participants and their demographics such as gender, ethnicity, and age if reported; (c) the type of sample collection (normal community members, at risk groups and clinical populations); (d) the treatment and design type; and (e) the type of comparisons being made (no group division, groups of mixed racial composition with random assignment to groups/treatments, etc.).

Coders also coded what made the treatment culturally specific, based on information obtained in the studies. Racial/ethnic match of client and counselor, language matching between client and counselor, incorporation of cultural concepts/values/examples, the paradigm of the center, cultural sensitivity training documented for counselors/practitioners, external services (transportation, child care, home visits, social work, legal assistance, etc), length or extensiveness of treatment, and consultation/collaboration with experts/community/family (clergy, curanderos, academics, consumer groups, etc.) were all coded based on the description of the

intervention provided in the study. A copy of the coding sheet used for all variables is found in the Appendix.

In order to obtain accurate data, each article was coded twice before a verification code was conducted. First, an initial coding was performed by a two-member team who read the article and recorded information on sheet 1 of an Excel file. Next, a team consisting of two separate coders read the same article and independently recorded information on sheet 2 of the same Excel file. Finally, a single member from each of the two teams reviewed and verified the data obtained. This verification was done through comparing and contrasting the data on sheet 1 and sheet 2. Discrepancies were resolved through further study, discussion and consensus regarding the article in question. When such study and discussion did not resolve discrepancies, the committee chair, an experienced meta-analyst, was consulted. The verified results were placed on sheet 3 of the same Excel file to be used in statistical analyses.

The majority of information obtained from these studies was extracted verbatim from the reports. As a result, the inter-rater agreement was quite high for categorical variables (Cohen's κ ranged from .72 to .95 across variables, with a mean of .83, SD = .07) and for continuous variables (intraclass correlations [Shrout & Fleiss, 1979] which ranged from .55 to .99, with a mean of .94, SD = .11). Table 1 provides a summary of the inter-rater reliability for categorical and continuous variables coded for in this study.

Computation of Effect Size Estimates

Among the 80 studies included in this meta-analysis, several different statistics were reported: zero order correlations, partial correlations, ANOVA's, *t*-tests, odds ratios, chi squares, means and standard deviations, *p*-values, percentages and frequency counts.

Table 1

Inter-rater Reliabilities for Categorical and Continuous Variables

Categorical Variables	Cohen's Kappa
Field of Study	.86
Sample Type	.88
Ethnicity of Professional reported	.95
Treatment Type	.73
Design Type	.84
Comparison Type	.84
Racial/Ethnic Match	.82
Language Match	.72
Cultural Values Incorporated in Treatment	.89
Cultural Sensitivity Training	.80
Paradigm of the Clinic	.72
External Services Provided	.76
Consultation/Collaboration with Experts	.77
Length of Treatment	.89
Effect Size Type (Whole Sample, Sub sample, etc.)	.86
Statistics Used	.91
Dependent Variable	.89
Mean for Categorical Variables	.83
Continuous Variables	Intraclass Correlations
Year of the Study	.97
Mean Age of Clients	.99
Percent Female of Clients	.97
White American Clients	.99
African American Clients	.98
Hispanic/Latin American Clients	.95
Asian American Clients	.99
Native American Clients	.98
"Other" American Clients	.96
White American Clinician	.97
African American Clinician	.99
Hispanic/Latin American Clinician	.94
Asian American Clinician	.99
Native American Clinician	.99
"Other" American Clinician	.55
Effect Size	.74
N of the Study	.92
N of Experimental Group	.99
N of Control Group	.99
Mean for Continuous Variables	.94

In order to compare and contrast effect sizes from varying studies, the statistics reported were transformed to standardized mean differences (Cohen's d) using the Meta-analysis Calculator software (Lyons, 1996). When an analysis was reported to be "significant" but no statistic was provided, the d value was determined by corresponding to the reported α level (assuming two-tailed $\alpha = .05$ unless reported otherwise). Analyses that reported results as "non-significant" but gave no additional information were set to effect size $d = .00$. These procedures yielded conservative effect size estimates. The direction of all effect sizes was coded uniformly, such that positive values indicated a greater benefit/effect from the culturally modified treatment and negative values indicated that the control or comparison treatment had a more beneficial effect than the culturally modified treatment.

Several studies reported data on multiple outcome measures. For example, some studies assessed attendance/attrition rates in therapy as well as aspects of symptom reduction. According to the assumption of independent samples, there would be a greater likelihood of non-independence in the data should each effect size be used in the omnibus analysis (Cooper, 1998; Cooper & Hedges, 1994; Hedges & Olkin, 1985). Therefore, in order to diminish the threat of non-independence while allowing for more detailed follow-up analyses, the "shifting units of analysis" approach was used (Cooper, 1998; Cooper & Hedges, 1994). According to the "shifting units of analysis" approach each single effect size estimate within each study was coded as if it were an independent event. However, in the omnibus analysis each study contributed only one data point in determining the overall effect of culturally modifying treatment. This was accomplished by averaging the effect sizes within each study into an aggregate effect size (Mullen,

1989). The aggregate effect sizes were used in following analyses, except where more detailed information was required. When more detailed information was required, rather than using the aggregate effect size, the specific effect size representing the information needed was used.

Data Analyses

Data analyses for this project involved four steps: (a) calculation of omnibus effect sizes (averaging effect sizes found across studies); (b) moderator analyses of participant characteristic variables coded from studies; (c) moderator analyses of study characteristic variables coded from the studies; and (d) assessment of possible publication bias (involving specialized statistics developed for that purpose). Aggregate effect sizes have been calculated using random effects models, which weights individual effect sizes differently based on the number of participants in the associated original studies.

Moderator analyses have also been conducted in order to ascertain whether the magnitude of the observed effect sizes differ as a function of other variables, such as participant demographic composition. Specifically, random effects correlations have been run with all participant characteristics coded from the individual studies (e.g., year of study publication, mean age of participants, percentage of female participants, and percentage of participants in a given ethnic group). Random effects analyses of variance were then conducted with all study characteristics coded from the studies (e.g., type of cultural adaptations made to the treatment).

The final set of analyses attempts to determine if publication bias may have influenced the magnitude of the results. Because published studies are more likely to have stronger effect sizes than unpublished studies and because published studies are

easier to obtain than unpublished studies, it is important for meta-analysts to investigate whether the results may have been influenced accordingly (Rosenthal, 1979). To check for this possible bias, three procedures have been used. First, the average effect sizes of the published studies were compared to those from unpublished studies (using analysis of variance). If there is no statistically significant difference, then publication bias would seem an unlikely explanation for the magnitude of the results. Second, a fail-safe N, or an estimate of the number of unlocated studies that would have to be found in order to reduce the magnitude of the results to zero, has been calculated (Rosenthal, 1979). If the fail-safe N is several times larger than the number of studies already obtained, then it will be safe to assume that publication bias did not affect the results of the meta-analysis. Finally, in order to determine the number of studies that are “missing” due to publication bias, the “trim and fill” method of Duvall and Tweedie (2000a, 2000b) was used. This method removes or “trims” the outlying studies that have no corresponding values on the opposite side of the distribution. The mean effect size is then re-calculated, with statistically significant values indicating an absence of evidence of publication bias.

RESULTS

Descriptive Characteristics

In this meta-analysis, statistically non-redundant effect sizes were extracted from 80 studies. Table 2 provides a summary of the descriptive information contained within these studies. The total number of participants reported is 26,154. Of the 80 studies, 72 (90%) reported the gender of the participants with 55.8% of the total participants being female. All 80 studies reported the ethnicity of participants, with a breakdown of 32% African Americans, 30% Hispanic/Latino Americans, 19% Asian Americans, 5% European Americans, 10% Native Americans, 1% “other” Americans (race not specified or included in one of the above), and 3% individuals from outside America (e.g., Asians, Europeans). Among the 80 studies, 38 (47.5%) reported the ethnicity of clinicians/professionals, with a breakdown of 33% African Americans, 9% European Americans (Whites), 28% Hispanic/Latino American professionals, 18% Asian American professionals, 8% Native American professionals, 1% “other” American professionals (e.g., race either not specified or not included in one of the above categories), and 3% professionals living outside of the U.S. Table 3 provides a brief description of each individual study as well as its corresponding effect size estimate.

Omnibus Analysis

Each of the 80 studies included in this meta-analysis contributed only one data point to the omnibus analysis. Across all 80 studies, the random effects weighted average effect size was $d = .442$ ($SE = .04$, $p < .0001$), with a 95% confidence interval of $d = .36$ to $d = .52$. This study contained 75 nonzero effect sizes, of which 71 (95%) were positive

Table 2

Characteristics of Studies Included in Meta-Analysis

Characteristic	Number of Studies (k)
Year of report	
Before 1991	17
1991 – 1999	38
2000 – 2004	25
Field of Inquiry	
Psychology	43
Medicine (includes Nursing)	12
Social Work	5
Multicultural or ethnic studies (e.g., JMCD)	12
Counseling	4
Drug and alcohol abuse	4
Population sampled	
Normal community members	11
At risk groups	37
Clinical populations	32
Treatment type	
Culturally specific individual treatment	18
Culturally specific group treatment	43
Combination of more than one of the above	19

(Table Continued)

Characteristic	Number of Studies (k)
Sample size	
< 50	26
50 – 150	29
151 – 300	13
301 – 1000	8
> 1001	4
Design type	
Cross-sectional	1
Archival analysis	1
Comparison groups (>2 groups, without a control group)	24
Experimental (> 2 groups with a control group)	41
Pre-to-post comparison	13
Intervention type	
No information provided	14
Interventions were not provided for the control/comparison group	12
Some form of intervention provided for the control/comparison group	32
Comparisons across interventions and a group without intervention	7
Pre-to-post comparison	13

(Table Continued)

Characteristic	Number of Studies (k)
Comparison type	
No group division (pre-post comparison)	13
Groups of mixed racial composition (eval of 2 treatments)	15
Groups of exactly same race for all participants (eval of 2 treatments)	52
Type of outcome measure (DV)	
Mental health symptoms	12
Substance use/abuse	4
Treatment duration, utilization or retention	7
Social support/pro-social behavior	7
Satisfaction/evaluation of services received by the client	5
Combination of more than one of the above	45

Table 3

Descriptions of the 80 Individual Studies in the Meta-Analysis

Study	<i>d</i>	<i>N</i>	Comparison Type
Acosta, Yamamoto, Evans, & Skilbeck (1983)	0.42	151	comparison groups of mixed race composition
Armengol (1999)	2.72	6	no group division (pre-post)
Banks, R., Hogue, Timberlake, & Liddle (1998)	0.59	64	comparison groups of same-race participants
Banks, S. R. (1998)	0.17	60	comparison groups of mixed race composition
Bass (2000)	1.26	13	comparison groups of same-race participants
Belgrave, Chase-Vaughn, Gray, Addison, & Cherry (2000) and Belgrave (2002)	0.21	147	comparison groups of same-race participants
Belgrave (2002)	0.61	49	comparison groups of same-race participants
Bishop (2002)	1.23	14	no group division (pre-post)
Botvin, Schinke, Epstein, & Diaz (1994)	0.03	639	comparison groups of mixed race composition
Campbell & Alexander (2002)	0.09	618	no group division (pre-post)
Cervantes, Kappos, Duenas, & Arellano (2003)	0.59	96	no group division (pre-post)
Cherry, Belgrave, Jones, Kennon, Gray, & Phillips (1998)	0.36	165	comparison groups of same-race participants
Costantino, Malgady, & Rogler (1986)	0.46	180	comparison groups of same-race participants
Costantino, Malgady, & Rogler (1994)	0.22	90	comparison groups of same-race participants
Dai, Zhang, Yamamoto, Ao, Belin, Cheung, & Hifumi (1999)	0.96	30	comparison groups of same-race participants
Danford & Parker (1984)	0.00	45	comparison groups of same-race participants
Falconer (2002)	-0.20	25	comparison groups of same-race participants
Fisher (1996)	0.40	791	no group division (pre-post)
Flakerud (1986)	0.00	300	comparison groups of mixed race composition
Flaskerud & Akutsu (1993)	0.08	1528	comparison groups of same-race participants
Flaskerud & Hu (1994)	0.24	222	comparison groups of same-race participants

(Table Continues)

Study	<i>d</i>	<i>N</i>	Comparison Type
Fukui, Kamiya, Koike, Kugaya, Okamura, Nakanashi, Imoto, Kanagawa & Uchitomi (2000)	1.49	54	comparison groups of same-race participants
Gallagher-Thompson, Arean, Rivera, & Thompson (2001)	0.51	70	comparison groups of same-race participants
Gonzalez (1999)	0.00	237	comparison groups of same-race participants
Gonzalez (2003)	0.27	57	comparison groups of same-race participants
Grodnitzky (1993)	0.00	47	comparison groups of mixed race composition
Guinn & Vincent (2002)	0.34	189	comparison groups of same-race participants
Gutierrez & Ortega (1991)	0.60	73	comparison groups of same-race participants
Hammond & Yung (1991)	0.80	19	comparison groups of same-race participants
Harvey & Hill (2004)	0.21	66	no group division (pre-post)
Heppner, Neville, Smith, Kivlighan, & Gershuny (1999)	0.50	41	comparison groups of mixed race composition
Jackson, P.A. (1997)	-0.05	14	comparison groups of same-race participants
Jackson et al. (2000)	0.30	47	comparison groups of same-race participants
Jackson-Gilfort (1997) and Jackson-Gilfort, Liddle, Tejada, & Dakof (2001)	0.71	18	no group division (pre-post)
Kelley (1997)	2.08	19	no group division (pre-post)
Kim, Omizo, & D'Andrea (1998)	0.91	48	comparison groups of same-race participants
King, (1999)	0.01	119	comparison groups of same-race participants
Kohn, Oden, Munoz, Robinson, & Leavitt (2002)	1.18	18	comparison groups of same-race participants
Kopelowicz, Zarate, Smith, Mintz, & Liberman (2003)	0.85	162	comparison groups of same-race participants
Lau & Zane (2000)	0.14	3178	comparison groups of same-race participants
Lin (1994)	0.31	232	comparison groups of same-race participants
Longshore, Grills, & Annon (1999) and Longshore & Grills (2000)	0.40	269	comparison groups of same-race participants
Malgady, Rogler, & Costantino (1990) and Malgady, Rogler, & Costantino (1990)	0.44	90	comparison groups of same-race participants

(Table Continues)

Study	<i>d</i>	<i>N</i>	Comparison Type
Malgady, Rogler, & Costantino (1990)	0.40	210	comparison groups of same-race participants
Mathews, Glidden, Murray, Forster, & Hargreaves (2002) and Mathews, Glidden, Murray, Forster, & Hargreaves (2002b)	0.06	7990	comparison groups of mixed race composition
McGrogan (1998)	1.55	22	no group division (pre-post)
Mickens-English (1996)	0.32	60	comparison groups of same-race participants
Moran (1999)	0.09	85	comparison groups of same-race participants
Myers, Alvy, Arrington, Richardson, Marigna, Huff, Main, & Newcomb (1992)	0.38	92	comparison groups of same-race participants
Myers, Alvy, Arrington, Richardson, Marigna, Huff, Main, & Newcomb (1992)	0.78	81	comparison groups of same-race participants
Normand, Iglesias, & Payn (1974)	0.61	353	comparison groups of mixed race composition
Nyamathi, Leake, Flaskerud, Lewis, & Bennett (1993)	-0.11	858	comparison groups of mixed race composition
Ochoa (1981)	0.58	21	comparison groups of same-race participants
Organista, Munoz, & Gonzalez (1994)	1.41	172	no group division (pre-post)
Prizzia & Mokuah (1991)	1.13	72	comparison groups of mixed race composition
Raymond (1996)	2.15	89	comparison groups of same-race participants
Robinson, Harper, & Schoeny, (2003)	0.15	589	comparison groups of same-race participants
Santisteban, Coatsworth, Perez-Vidal, Mitrani, Jean-Gilles, & Szapocznik (1997)	0.55	122	no group division (pre-post)
Satterfield (1998)	0.16	23	no group division (pre-post)
Schinke, Schilling, & Gilchrist (1987)	0.16	129	comparison groups of same-race participants
Schinke, Orlandi, Botvin, Gilchrist, Trimble, Locklear (1988)	0.52	126	comparison groups of same-race participants
Schwarz (1989)	0.18	72	comparison groups of same-race participants
Shin & Lukens (2002)	1.08	47	comparison groups of same-race participants
Shin (2004)	1.56	47	comparison groups of same-race participants
Smith, Leake, & Kamekona (1998)	1.12	22	no group division (pre-post)
Sobol (2000)	0.00	121	comparison groups of mixed race composition (Table Continues)

Study	<i>d</i>	<i>N</i>	Comparison Type
Szapocznik, Santisbetan, Hervis, & Spencer (1981) and Szapocznik, Santisteban, Kurtines, Hervis, & Spencer (1982)	1.82	67	comparison groups of same-race participants
Szapocznik, Rio, Perez-Vidal, Kurtines, Hervis, & Santisteban (1986)	0.40	31	comparison groups of same-race participants
Tacher (1987)	1.40	36	comparison groups of same-race participants
Takeuchi, Sue, & Yeh (1995)	0.46	1821	comparison groups of same-race participants
Timberlake (2000)	0.60	74	comparison groups of same-race participants
Thomas (1995)	0.26	116	comparison groups of mixed race composition
Tom (1989)	0.43	24	comparison groups of same-race participants
Tripl & Cheatham (1989)	0.31	212	comparison groups of same-race participants
Tucker (1973)	0.54	40	comparison groups of same-race participants
Yeh, Takeuichi, & Sue (1994)	0.49	912	comparison groups of same-race participants
Zane, Hatanaka, Park, & Akutsu (1994)	0.04	885	comparison groups of mixed race composition
Zane, Enomoto, & Chun (1994)	-0.48	85	comparison groups of mixed race composition
Zane, Aoki, Ho, Huang, & Jang, (1998)	0.06	94	no group division (pre-post)
Zhang & Dixon (2001)	1.65	54	comparison groups of same-race participants

and 4 (5%) were negative. Effect size estimates ranged from $d = -.48$ to $d = 2.7$. The variability of the effect size estimates was quite high, with the index of heterogeneity reaching statistical significance ($Q_{(79)} = 473.1, p < .0001$). These results suggest that systematic effect size variability was unaccounted for. In order to determine the degree to which other variables moderated the variability in magnitude of effect size estimates, further analyses were conducted.

Moderation By Sociodemographic Variables

A series of analyses using participant characteristics were performed to further explore whether the association of treatment outcome and culturally modified treatments varied as a function of various sociodemographic variables (see Table 4).

In order to establish whether differences in age of the sample account for significant between-studies variance, the 67 studies that reported age of participants were correlated with the corresponding average effect size. The weighted correlation was .31 ($p = .002$). Thus studies with participants who were older in age tended to yield effect sizes of somewhat higher magnitude than those in which participants were younger.

The effect of gender was also examined. The effect sizes from the 72 studies that reported the gender of the participants were correlated with percentage of female participants in the study. The resulting random effects weighted correlation was .05 ($p = .59$), indicating no association between participant gender and study outcome. To further explore the relationship between gender and effect size, effect sizes extracted from studies that had either 100% female or 100% male participants were compared with one another. The differences between samples with exclusively females or males did not

Table 4

Weighted Mean Correlations of Study Effect Sizes with Study Characteristics.

Variable	k	$d+$	Q-value	p-value
Year of Study	80	.02	.07	.79
Mean Age	67	.31	9.57	.002
% Female	72	.05	.29	.59
% African American client	36	.07	.18	.67
% Hispanic American client	33	.39	8.82	.003
% Asian client	21	.07	.21	.65
% White American client	11	-.02	.004	.95
% Native American client	9	.15	.20	.66
Number of participants	80	-.21	5.99	.01

reach statistical significance $Q_b = .05$ ($p = .82$), confirming that participant gender did not moderate the results obtained.

To ascertain whether differences in the racial/ethnic composition of the sample accounted for significant between-studies variance, the percentage of clients from each racial/ethnic group was correlated separately with the corresponding effect size. Most of the 80 studies consisted of participants from a variety of racial groups, with 36 studies having at least some African American participants, 33 having some Hispanic/Latino(a) participants, 21 having some Asian American participants, 11 having some White American participants, and 9 having some Native American participants.

Within the 36 studies reporting some African American participants, the weighted correlation was $.07$ ($p = .67$), indicating no association between the results obtained and African American participants. Within the 33 studies reporting some Hispanic/Latino(a) American participants, the weighted correlation was $.39$ ($p = .003$). This indicates that studies with higher percentages of Hispanic participants have effect sizes of greater magnitude than studies with participants of fewer Hispanic participants. Within the 21 studies having some Asian American participants, the weighted correlation was $.07$ ($p = .65$), indicating no association between the results obtained and Asian American participants. And within the 9 studies having some Native American participants, the weighted correlation was $.15$ ($p = .66$), once again indicating no association between the results obtained and Native American participants. As an additional step in determining possible differences in the results based on ethnicity, non-redundant effect sizes calculated exclusively with samples of a specific ethnic group were analyzed (e.g, 100% African American participants compared with samples of 100% Asian American

participants, etc.). The results of the one-way analysis of variance (ANOVA) conducted were not statistically significant ($Q_b = 3.5, p = .32$). Thus it would appear that the ethnicity of the client did not moderate the results obtained, with the exception being for participants of Hispanic backgrounds, with greater numbers of participants from that ethnic group being associated with effect sizes of higher magnitude.

In order to examine the effects that ethnicity of the mental health professional had on effect size, a one-way ANOVA was conducted to determine the difference between studies that reported the ethnicity of professionals and those that did not. The results of the one-way ANOVA conducted were not statistically significant ($Q_b = .03, p = .86$), indicating the ethnicity of professionals did not moderate the results.

The clinical nature of the sample was then analyzed. Comparisons were made between normal community members, at-risk groups, and clinical populations. The resulting Q_b value of 2.8 ($p = .25$) was non-significant, indicating the clinical nature of the sample did not moderate results. Normal community members were as likely to benefit from treatment as at-risk groups or clinical samples.

Moderation By Study Characteristics

Next, a series of one-way ANOVAs of study characteristic variables coded from the studies were performed to obtain the amount of between-studies variance (see Table 5). The Q_b statistic indexes the amount of between-studies variance accounted for by an individual moderator variable. Individual moderator variables with statistically significant Q_b values have mean effect sizes that differ across various levels of the moderator variable.

Table 5

Weighted Average Effect Sizes across Categorical Variables

Variable	Q _b	p	k	d	95 % CI	Q _w	p
Field of Study	2.7	.75					
Psychology			43	.44	[.32, .56]	71.0	.003
Medicine (includes nursing)			12	.43	[.22, .63]	21.6	.03
Social Work			5	.49	[.15, .84]	7.5	.11
Multicultural/Ethnic Studies			12	.60	[.36, .83]	21.5	.03
Counseling			4	.40	[.02, .78]	.6	.90
Drug and Alcohol Abuse			4	.28	[-.05, .62]	1.6	.67
Publication	.03	.86					
Not published			19	.43	[.24, .61]	41.4	.001
Published			61	.45	[.36, .53]	94.9	.003
Sample Type	2.8	.25					
Normal Community Members			11	.35	[.12, .57]	11.7	.31
At-risk Groups			37	.40	[.27, .52]	34.0	.56
Clinical Populations			32	.52	[.40, .65]	84.0	<.0001
Gender of Client	.05	.82					
100% Male			6	.35	[-.06, .77]	3.2	.66
100% Female			10	.41	[.14, .69]	10.2	.33
Ethnicity of Client	3.5	.32					
100% African American			25	.39	[.24, .54]	16.7	.86
100% Hispanic/Latino(a) American			19	.54	[.37, .70]	23.1	.19
100% Asian American			13	.55	[.36, .74]	21.1	.05
100% Native American			7	.65	[.36, .93]	27.7	.0001

(Table Continued)

Variable	Q _b	p	k	d	95 % CI	Q _w	p
Ethnicity of Professional	.33	.56					
Not Reported			42	.42	[.31, .53]	72.4	.002
Reported			38	.47	[.35, .59]	62.1	.006
Treatment Type	.25	.88					
Culturally Specific Individual			18	.45	[.29, .61]	55.8	<.0001
Culturally Specific Group			43	.47	[.35, .59]	39.5	.58
Combination of the Above			19	.41	[.24, .58]	29.8	.04
Design Type	5.5	.06					
Comparison groups (>2 groups, no control group)			24	.43	[.29, .56]	71.0	<.0001
Experimental (>2 groups, with control group)			41	.38	[.27, .50]	32.5	.79
Pre-to post-test comparison			13	.68	[.46, .89]	24.3	.02
Intervention Type	6.5	.17					
No information provided			14	.38	[.19, .58]	13.6	.41
No intervention provided for control			12	.38	[.16, .61]	6.3	.85
Some form of intervention provided for control			32	.45	[.32, .58]	74.1	<.0001
Intervention and no-intervention groups comparison			7	.27	[-.003, .55]	2.6	.86
Pre-to-post comparison			13	.68	[.46, .91]	23.1	.03
Comparison Type	14.4	.0007					
No group divisions (pre -post)			14	.62	[.41, .83]	28.5	.008
Comparison groups of mixed racial composition			14	.16	[-.002, .33]	15.8	.26
Comparison groups of same-race participants			52	.49	[.39, .59]	85.5	.002
Racial/Ethnic Match	17.5	.0002					
Not specified or no			34	.59	[.47, .71]	78.0	<.0001
Yes			33	.44	[.32, .56]	46.0	.05
Attempted to match			13	.16	[.01, .32]	9.1	.69

(Table Continued)

Variable	Q _b	p	k	d	95 % CI	Q _w	p
Language Match	.05	.83					
Not specified or no			14	.48	[.27, .67]	28.2	.009
Yes			37	.50	[.38, .63]	62.7	.004
Use of Cultural Values	.05	.82					
Not specified or no			21	.43	[.29, .58]	49.0	.0003
Yes			59	.45	[.35, .55]	81.1	.02
Cultural Sensitivity Training	.36	.55					
Not specified or no			67	.45	[.37, .54]	114.6	.0002
Yes			13	.39	[.18, .59]	19.5	.08
Paradigm of Center/Clinic	3.5	.06					
Not specified or no			52	.51	[.40, .61]	74.0	.02
Yes			28	.35	[.22, .48]	59.5	.0003
External Services Provided	4.2	.04					
Not specified or no			64	.49	[.40, .58]	114	.0001
Yes			16	.29	[.12, .46]	15.6	.41
Collaboration with Experts	.10	.76					
Not specified or no			49	.43	[.34, .53]	92.5	.0001
Yes			31	.46	[.32, .60]	43.4	.05
Length of Treatment	.25	.97					
Not specified			7	.43	[.16, .69]	23.9	.0006
Single session			7	.51	[.24, .77]	15.8	.01
2-10 sessions			30	.44	[.30, .57]	49.0	.01
11+ sessions			36	.44	[.32, .57]	43.1	.16

(Table Continued)

Variable	Q _b	p	k	d	95 % CI	Q _w	p
Outcome Measures (DV)	8.4	.13					
Mental health symptoms			12	.39	[.18, .60]	20.0	.05
Substance use/abuse			4	.55	[.22, .88]	20.4	.0001
Treatment duration, utilization or retention			7	.35	[.11, .60]	7.6	.27
Social support/pro-social behavior			7	.52	[.21, .82]	9.7	.14
Client's satisfaction/evaluation of services			5	.93	[.57, 1.3]	8.2	.08
Combination of the above			45	.42	[.30, .53]	52.5	.18

Note. Q_b = Q-value for variance between groups. Q_w = Q-value for variance within groups.

To determine whether there were differences in the fields from which studies were obtained (e.g., counseling, psychology), a one-way ANOVA across fields of study was conducted. The resulting Q_b value was 2.7 ($p = .75$), indicating differences between fields of study did not reach statistical significance and therefore did not moderate the overall results obtained.

Next, aspects of the construction of the study such as type of treatment, design type, intervention type and comparison types were examined. The type of treatment was examined to determine whether differences occurred between individual treatment, group treatment, or a combination of individual and group treatment modalities. The resulting Q_b value .25 ($p = .88$) was non-significant, indicating the type of treatment did not moderate results.

Next the type of design used in the study was examined. There were no statistical differences found between comparison group designs, experimental designs, and pre-to-post designs ($Q_b = 5.5, p = .06$). Once again, these results indicate the design type did not moderate results.

To determine whether there were differences in the types of intervention control groups used, a one-way ANOVA across types of control groups was conducted. The resulting Q_b value of 6.5 was statistically non-significant ($p = .17$), indicating that differences between the types of control groups used in the studies did not moderate the results obtained.

Finally, the type of racial composition of the research sample was further examined. The results of the one-way ANOVA ($Q_b = 14.4, p = .0007$), indicate the mean average effect sizes differed significantly across this variable. As would be expected, no

group divisions (pre-post) comparison yielded the highest mean average effect size ($d = .62$), followed by comparison groups of same-race participants ($d = .49$), and finally comparison groups of mixed racial composition ($d = .16$).

Specific aspects of the interventions that were deemed to be relevant to cultural adaptations were then examined. The first culturally specific intervention examined was racial/ethnic match between the client and therapist. The results of the one-way ANOVA ($Q_b = 14.4, p = .0007$), indicated that the mean average effect sizes differed significantly across the type of ethnic match characteristic of the study. Specifically, those studies which either had no information or reported they did not racially/ethnically match participants and professionals yielded the highest mean average effect size ($d = .59$), followed by those that reportedly did match ($d = .44$), and lastly those that attempted to match ($d = .16$).

The only other culturally specific intervention examined that reached statistical significance was evidence that the treatment provided external services such as childcare or transportation to impoverished populations. The results of the one-way ANOVA ($Q_b = 4.2, p = .04$), indicated that the mean average effect sizes across this variable differed significantly. Specifically, those studies which either provided no information or reported they did not provide external services produced the highest mean average effect size ($d = .49$), followed by those that reportedly did provide such services ($d = .29$).

One-way ANOVAs were also conducted across other variables evaluating the type of interventions provided. The differences were all statistically non-significant for the following six variables: (a) language match between client and clinician ($Q_b = .05, p = .83$); (b) incorporation of cultural content into treatment ($Q_b = .05, p = .82$);

(c) evidence of cultural sensitivity training among clinicians ($Q_b = .05, p = .83$); (d) evidence that the paradigm of the treatment facility/organization was specific to a cultural group ($Q_b = 3.5, p = .06$); (e) evidence of collaboration with cultural experts ($Q_b = .10, p = .76$); and (f) the length of treatment ($Q_b = .10, p = .76$). Thus these six aspects of the treatment provided did not appear to moderate the overall results obtained.

In order to determine whether there was a statistically significant difference in effect sizes according to outcome measures, a one-way ANOVA across outcome measures was conducted (e.g., mental health symptoms, educational outcomes, improved relationships). The resulting Q_b value is 8.4 ($p = .13$), indicating differences between the outcome measures used in the studies did not reach statistical significance. Thus, outcome measure was not a moderating variable.

To determine if there were differences in the magnitude of the results obtained in studies over time, the year of the study publication (or defense for doctoral dissertations) was correlated with the corresponding effect size for that study. The random effects weighted correlation was .02 ($p = .79$), indicating no association between the results obtained and the date of publication/completion.

Finally, the number of participants reported in all 80 studies was correlated with the corresponding average effect size. The weighted correlation was $-.21$ ($p = .01$), indicating a mild but statistically significant association between the results obtained and the number of participants in the study. Thus there was a small tendency for studies with fewer participants to have effect sizes of higher positive magnitude than studies with larger numbers of participants. Although this trend is typical in meta-analytic studies, this finding also raised the possibility that the results of the meta-analysis were misleading

because studies with small numbers of participants are more likely to remain unpublished (and therefore not included in the meta-analysis) than studies with large numbers of participants. Therefore, additional analyses were conducted to evaluate the possibility that publication bias impacted the overall results of this study.

Assessment of Publication Bias

Publication bias, also called the “file drawer” effect (Rosenthal, 1979) refers to studies on a given topic with large (and/or statistically significant) effect size estimates having a higher probability of being published than do studies that yield smaller (and/or statistically non-significant) effect size estimates. Comparatively, published studies tend to possess strongest effect size estimates and are easier for meta-analysts to obtain than are unpublished studies. Hence, if care is not taken to assess for publication bias, the resulting effect size estimates from a meta-analysis can be biased against the null hypothesis.

As a first step in the process of evaluating possible publication bias, a visual display of the effect sizes (x-axis) by the number of participants per study (logarithmic y-axis) was conducted (Figure 1). Typically, it is expected that the resulting pattern of data will resemble an inverse funnel or elongated pyramid, which shape demonstrates that the studies with the largest number of research participants tend to have decreased variability in the magnitude of effect sizes. Conversely, studies with fewer research participants (located at the bottom of the plot) should be widely dispersed due to sampling error. Evidence against publication bias is found when studies appear across the full range of the bottom of the plot, without “missing” corners of the pyramid. However, with the data from the 80 studies included in this meta-analysis, the scatterplot demonstrated a

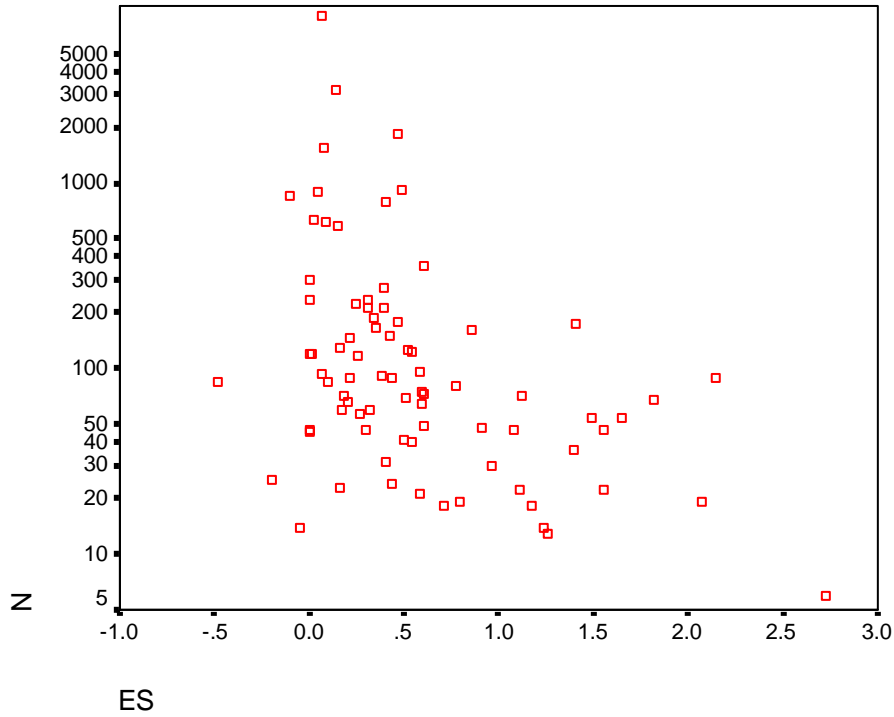


Figure 1. Scatterplot of effect sizes (x-axis) by the number of participants per study (logarithmic y-axis)

positively skewed pattern around the mean effect size, with studies of low sample size and negative results “missing” from the plot. Because studies with low sample size and negative results tend to remain unpublished, the possibility of publication bias seemed likely and further examination of potential publication bias was necessary (Rosenthal, 1979).

As a second step, the mean weighted effect size from unpublished reports was compared to the mean weighted effect size from published reports. As seen in Table 4, studies that were published in journals (mean $d = .45$) yielded only slightly larger effect sizes than did studies that were unpublished (viz., conference presentations, theses, and dissertations; mean $d = .43$). A mixed effects ANOVA conducted between published and unpublished studies revealed no statistically significant difference ($Q_b = .03, p = .86$). Although it was found that the unpublished studies yielded slightly smaller estimates concerning the efficacy of culturally modified treatment than did the published studies, the amount of difference was trivial and statistically non-significant. Therefore, this analysis did not support the customary finding for published reports to contain effect sizes of higher magnitude than unpublished reports, which evidence contradicts the possibility of publication bias affecting the results.

As a third step, a fail-safe N (Begg, 1994) was conducted. A fail-safe N is an estimate of the number of “missing” research reports averaging an effect size of $d = .00$ that would be required to render the present omnibus effect size estimate statistically non-significant. Calculation of the fail-safe N showed that 274 studies with null results would need to be located. Given we were only able to locate a total of 80 studies, both published

and unpublished, it seems highly unlikely that 274 additional studies on the topic have been conducted, let alone remained unpublished.

As a final step, the “trim and fill” method of Duvall and Tweedie (2000a, 2000b) was utilized to estimate the number of missing studies due to publication bias. This method involves removing (“trimming”) outlying studies that have no corresponding values on the opposite side of the distribution and then re-calculating the mean effect size. This process is repeated until the distribution is symmetrical with respect to the mean. In our analyses, we followed the recommendations of Duval and Tweedie (2000b) in using L_{0+} to estimate the number of “missing” studies, using formulae provided by Jennions and Moller (2002). The final step in the procedure is to replace the “trimmed” studies along with “filled” estimated values of the “missing” studies on the other side of the distribution. The “filled” studies correspond with the opposite values of those “trimmed.” The resulting data set inclusive of “filled” missing studies is then used to calculate a new omnibus effect size, with statistically non-significant values indicating potential publication bias. In the current study, the recalculated random effects weighted mean effect size was $d = .26$ ($p < .00001$). Thus publication bias does not appear likely to be a threat to the results obtained in this meta-analysis.

DISCUSSION

This chapter presents an overview of the findings of this meta-analysis, including an interpretation of the variables that moderated the results. It also addresses the limitations of the study and provides suggestions for future research. This chapter concludes with a discussion of implications for professionals when culturally modifying mental health interventions for people of color.

Overview of Main Effects

The omnibus effect size calculated in this meta-analysis showed an overall positive effect of culturally modifying treatment to better serve the needs of people of color. Across all 80 studies that investigated the effect of culturally modifying treatment, the random effects weighted average effect size was $d = .442$. In other words, on average those receiving culturally modified treatment were 44% of one standard deviation above the mean of those not receiving culturally modified treatment.

In terms of magnitude, this effect size approaches Cohen's (1987) description of a "moderate" effect size of .50. This finding is particularly significant considering effect size differences among various forms of psychotherapy (e.g., cognitive vs. psychodynamic vs. humanistic) generally differ very little, typically between 0 to 21% of a standard deviation (Wampold et al., 1997), a phenomena known as the "Dodo bird effect." Clearly, the magnitude of the effect size extracted with culturally adapted treatments has major implications for the way in which psychotherapy is conducted with people of color, given that the differences in outcomes accounted for by culturally adapting treatment are well above those obtained among traditional forms of treatment.

As a further interpretation of the magnitude of the omnibus effect size extracted in this study, an effect size of $d = .44$ is approximately equivalent to around 17% of the participants receiving culturally modified treatment received substantially greater benefit than traditional psychotherapy. Said differently, when the distributions of participants' scores in traditional vs. culturally adapted psychotherapy are compared, there would be a 29% non-overlap between the distribution of scores, with approximately 14.5% of those receiving modified treatment scoring above and beyond what would be possible had they received traditional treatment and with 14.5% of those who received traditional treatment scoring lower than what would be expected had they received culturally modified treatment.

Overall, of the 80 studies included in this analysis, 71 effect sizes were positive in their direction, whereas 5 had effect sizes of zero, and only 4 of the studies were negative in direction. The results appear to be consistently in the positive direction. Thus this meta-analysis demonstrated that most participants in the majority of research studies experienced meaningful and positive results when treatments were culturally modified. Culturally modified treatments better met the needs of the clients than the comparison treatments.

Summary of Moderator Variables

Sociodemographic moderating effects were ascertained only for participant age, Hispanic populations, and number of participants in the study. Studies consisting of participants of higher chronological age and higher percentages of Hispanic participants had effect sizes of greater magnitude than studies with participants of younger ages or with few Hispanic participants. The acculturation level of the participants is one possible

explanation for these results, particularly given that age, English proficiency and preference, migration and socioeconomic status all influence acculturation (Gloria, Ruiz, & Castillo, 2004). Older populations tend to be less acculturated (and therefore more in need of cultural modifications) than younger populations, and Hispanic populations are more likely to speak Spanish, be migrants, and remain in lower socioeconomic status years after migration. In short, there are reasons to believe that psychotherapy may require additional modifications for non-acculturated Hispanics than for other racial/ethnic groups in the United States. Thus the culturally adapted treatments for older and Hispanic populations would be more efficacious (i.e., have effect sizes of higher magnitude) because of the possible moderating influence of acculturation level. However, because acculturation level of the participants was not assessed in this study, this interpretation remains speculative and warrants further investigation in future studies.

Another moderating effect for study characteristics was discovered for the composition of the research sample. The average effect size was of largest magnitude when there was a single group of participants evaluated using pre- to posttest methodology. This finding is to be expected, given that pre- to posttest methodology typically yields higher effect sizes than research designs involving comparison groups. However, this same analysis indicated that comparison groups that consisted of same-race participants yielded effect sizes of higher magnitude than groups of mixed racial composition. This finding is noteworthy because it implies that cultural adaptations to mental health interventions are more efficacious when the adaptations are specific to a particular cultural group. General adaptations designed to be sensitive to many cultural

groups are still more efficacious than no cultural adaptations, but optimal benefit is apparently derived when the treatment is tailored to a specific context.

Another moderating effect for study characteristics was discovered for racial/ethnic match between the client and the therapist. Those studies that either provided no information or reported they did not racially/ethnically match participants and professionals yielded higher average effect sizes followed by those who reportedly did match and lastly by those who attempted to match. When no information was provided or was unclear regarding the racial/ethnic match, the data was coded as “not specified or no.” Of the 34 (43%) studies coded as “not specified or no,” the majority did not provide enough information to determine whether racial/ethnic matching had occurred. As a result, there were likely studies that did or attempted to racially/ethnically match participants and professionals, but did not report that procedure. This could affect the subsequent effect sizes. These results should therefore be interpreted with caution.

The only other study characteristic that moderated effects was found for whether or not external services were provided to participants. Studies that provided no information or explicitly stated they did not provide such services had higher average effect sizes than studies reporting external services were provided. The majority of the studies did not explicitly state whether external services were provided and were therefore coded as “not specified or no.” Once again this variable could have been affected by a lack of reporting and should also be interpreted with caution. Other study characteristic variables did not moderate the results.

Strengths of the Meta-Analytic Methodology Used

This meta-analysis had several strengths. First, meta-analyses offer information that traditional narrative literature reviews are unable to provide. One of the most promising aspects of a meta-analysis is its ability to better determine the causal effects of psychotherapy in general as well as specific subtypes of psychotherapy (Cooper & Hedges, 1994; Matt & Navarro, 1997). In the current study, a subclass of psychotherapy (culturally modified treatment) has been examined with greater precision and accuracy than it could have been through studying individual outcome studies alone. Aggregation of the 80 individual outcome studies in this meta-analysis ultimately increased the sample size of observations regarding culturally modified treatment while decreasing the standard error of the mean. Cook and Leviton (1982) and Matt and Cook (1994), have suggested meta-analyses provide estimates concerning causal effects that are less biased than the majority of individual outcome studies.

As a result, meta-analyses provide greater generalizability than do individual studies. This is due to meta-analyses being designed to incorporate broader topics and more abstract ideas than individual studies. In the current study, statistics from individual studies have been standardized to Cohen's d , which allows for comparisons among studies across several different variables. This type of statistical analysis is typically unavailable in traditional narrative literature reviews.

Second, through the use of several statistical procedures, sociodemographic and study characteristic variables have been examined in ways atypical of traditional narrative literature reviews. Matt and Navarro (1997) have explained the generalizability that is possible through meta-analyses:

Whereas individual outcome studies inform us about effects of *specific* interventions, in *specific* patient samples, in *specific* settings, and with respect to *specific* measures, meta-analysis teaches us about generalized effects of *classes* of interventions, *classes* of patients, *classes* of settings, and *classes* of measures.

(p. 3)

This generalization brings to light possible areas for future research.

Finally, due to the increasing number of studies analyzing the efficacy of culturally modified treatment, this meta-analysis has gathered and organized this rapidly growing body of literature.

Limitations of the Meta-Analysis

As is true with other research designs, limitations exist in meta-analytic procedures as well. This meta-analysis had several limitations. Although the majority of these limitations are minor, they warrant further discussion.

First and foremost, the result of any meta-analysis is dependant upon the studies it includes. The quality, methodology and research design of each individual study influences the outcome of any meta-analysis (Cooper, 1998; Cooper & Hedges, 1994; Matt & Navarro, 1997). Limitations in individual studies included in a meta-analysis often leave questions unanswered providing direction for future research.

A second limitation of this study is that the data in individual studies were rarely reported in a disaggregated manner. Reporting only aggregate data increases the likelihood that within-group differences will be left undetected. Although treatments that were culturally modified had an overall positive effect on the participants involved, it is unlikely that all participants improved as a result of the culturally modified treatment

they received. This author therefore recommends that future research employ additional analyses to help determine the trends associated with within-group differences.

Third, as was noted previously 14 of the studies included in this meta-analysis utilized single group pre-to-post assessment of participants without a comparable control group, which design type has several threats to internal validity. Although such a research design may have been warranted in the past when researchers were unsure of the efficacy of culturally modifying treatments, the present analysis has established an overall positive effect of culturally modifying treatments. Several have agreed there is a need to further understand culturally modified treatment through more sophisticated and nontraditional methodology (e.g., Darcy, Lee, & Tracey, 2004; Helmes, 2002; Ponterotto, 2002). This author recommends that use of single group pre-to-post design types when examining the efficacy of culturally modifying treatment is no longer justified with future researchers strongly encouraged to use experimental if not even more complex (e.g., Solomon Four) designs.

Fourth, this meta-analysis did not control for threats to study internal validity due to the allegiance between culturally adapted treatment and the researchers conducting the studies. As a result, experimenter bias may have influenced the overall effect size obtained in this study. Research on culturally adapted treatments would likely benefit from having critical observers involved in future studies and from incorporating other methodological steps, such as blind assignment to treatment groups, to reduce the threat of experimenter bias inflating the magnitude of the results obtained.

Fifth, studies typically did not provide detailed descriptions of the modifications made to treatments. Greater specificity in the intervention descriptions would be

beneficial for purposes of replication and meta-analytic coding. It may be useful for future research to explicitly explain the modifications made to therapy such as racial/ethnic match, language match, which cultural values (if any) were used, cultural sensitivity training of the professional, paradigm of the center/clinic, whether external services were provided and if collaboration with experts occurred.

Finally, results reported as “non significant” were at times ambiguous, making the direction of the effect size difficult to determine. To compensate for this lack of information, the effect sizes were coded as having a value of zero, when they most likely had effect sizes that were small but higher than zero. Replacing unreported effect sizes with zero, though conservative, may affect the overall effect size in a negative manner. Matt and Navarro (1997) reviewed a meta-analysis in which 540 zero effects were combined with 1,828 reported effect sizes. As a result, the overall effect dropped from .93 to .72; a 23% decrease. This author recommends that future researchers be explicit in explaining the magnitude and direction of “non significant” results, reporting effect sizes rather than *p*-values alone.

Implications for Clinical Practice and Future Research

The results of the present meta-analysis provide evidence for the benefit of culturally modifying treatment to better match the cultural context of the client. One important finding in the present study is the effect that the composition of comparison groups had on the efficacy of treatments. As previously mentioned, comparison groups that consisted of same-race participants were more effective ($d = .49$) than groups consisting of mixed racial composition ($d = .16$). Treatments that were modified to meet the needs of a particular cultural group appear to be more effective than treatments that

were culturally modified in a general manner. Therefore, this author recommends that culturally modified treatments be tailored to a particular cultural group.

There are also several implications of the present study for future research. One issue related to research design is the use of pre-to-post study designs. As previously mentioned, due to the findings of this meta-analysis, pre-to-post study designs are no longer deemed necessary. Pretests may sensitize participants in a study to the desirable outcome, making it difficult to attribute the posttest results to the treatment itself rather than expectation biases among participants. Although the post-test results could be directly related to the treatment received, there is also the possibility that the results are related to the potential sensitizing effect that pre-tests may have. This threatens external validity and makes it difficult to generalize results from one study using pre-to-post designs to other samples (Heppner, Kivlighan, & Wampold, 1999). Should researchers be interested in pre-to-post effects, this author suggests a Solomon four-group design be used. This research design allows a researcher to examine the effects of a given treatment as well as examine the potential sensitizing effect that pretests may have. Another strength inherent in the Solomon four-group design is a replication of the treatment condition. Should the researcher discover treatment effects in both cases, the generalizability and external validity of a study are greatly enhanced (Heppner, Kivlighan, & Wampold, 1999). One drawback to the Solomon four-group design is the inherent cost in essentially running two investigations simultaneously. In order to run such studies, large amounts of funding are required, which issue will be addressed in greater detail shortly.

Another issue related to study design deals with reporting and investigating trends within and across different populations. Matt and Navarro (1997) concluded there has not been enough research done to generalize the efficacy of psychotherapy across cultures. Traditionally there has been a lack of reporting in regard to the efficacy of counseling and psychotherapy treatment for nondominant racial and ethnic groups (Fuertes, et. al., 2005). In a review of the meta-analysis by Wampold et al. (1997), Fuertes and colleagues (2005) found that overall only 7.5% of the participants reported were people of color. Because the majority of efficacy studies are conducted using White North American samples, the effectiveness of psychotherapy with other racial/ethnic populations has been questioned. Some useful information may come from between-group studies, but future research would likely also benefit from studies designed to ascertain the trends associated with within-group differences (Heppner et al., 1999; Ito & Maramba, 2002).

In their review of several counseling journals, Heppner, et al. (1999) found that within-subjects designs are much less frequently employed in counseling research than are between-group designs. Although this may imply that between group designs are ideal for counseling research, these authors suggest that within-subject designs are simply being underused. Although within-subject designs generally require more time and are associated with threats to internal validity, due to order and sequence effects, it should be noted that such designs reduce participant variability and decrease the number of participants needed in a study. This author therefore recommends that researchers go beyond between-group designs to employ within-subject research designs as well. Researchers should carefully determine which design would best address the research question at hand while considering issues related to internal and external validity.

Experimenter bias is another research issue that deserves further discussion. As was previously mentioned, the allegiance of researchers and clinicians to culturally adapted treatments could have influenced the results of this study. In other words, the researchers and clinicians could have had higher expectations for client improvement when treatments were culturally modified, they could have unintentionally communicated to clients the nature or expected outcomes of the study, and perhaps in some rare cases, they might have analyzed the data in such a way as to show optimal efficacy for culturally modified treatments in contrast with other treatments. To reduce the likelihood that experimenter bias is a confound in studies evaluating treatment outcomes with culturally adapted treatments, future outcome research could include critical observers to ensure treatment fidelity. In particular, researchers should verify that the types of treatments received by control groups are at least hypothetically equally robust in order to provide the most accurate comparison between treatments. That is, researchers should provide bona fide control conditions, rather than treatments with pre-existing differences in quality that might in and of themselves account for the differences observed. For example, such comparisons can be done by providing a type of intervention that has been found to be effective with White clients—and then also modifying that treatment to be culturally appropriate for the target population in that particular study. Future research may also benefit from researchers explicitly stating the measures being taken to control for experimenter bias.

However, in increasing the efforts aimed at obtaining more empirically rigorous results, some cautions need to be articulated. Culturally modified treatments involve many components (i.e., ethnic match, language match, adaptation of values/content,

providing external resources to facilitate client well-being, etc.). The most important consideration, however, is that the treatment is modified to meet the cultural background of the individual client. Thus psychotherapy with clients of a particular racial/cultural background will differ greatly depending upon the geographic region, urban/suburban residence, socioeconomic status, acculturation level, etc. of the particular client.

Therefore, it may not be beneficial to attempt to isolate which particular components of psychotherapy result in the most beneficial outcomes. Furthermore, efforts to standardize culturally modified treatments through “manualizing” interventions would likely destroy the flexibility essential to culturally adapting treatments. This author therefore suggests that researchers explore other options to verify treatment fidelity other than scripting culturally adapted therapy.

Another issue dealing with research is the manner in which data is reported. Although the majority of the specific aspects of the interventions that were deemed relevant to cultural adaptations were statistically non-significant, they deserve further examination. The data in many of the studies included in this meta-analysis did not make explicit the information regarding the manner in which treatment was culturally modified. As a result, the data in this meta-analysis regarding the efficacy of these cultural modifications could be inaccurate. When studies included in this meta-analysis did not provide information about these cultural modifications or were unclear in their description of such modifications, they were coded as “not specified or no.” Future research would benefit from making explicit the modifications employed to make the treatment culturally sensitive. Some of these modifications that could be considered include: (a) racial/ethnic match of client and counselor; (b) language match between

client and counselor; (c) incorporation of cultural concepts/values; (d) cultural sensitivity training of the professional; (e) paradigm of the clinic; (f) whether external services are provided; (g) collaboration with experts/family/community; and (h) the length of the treatment.

The way in which culture influences the therapist/client relationship is another area which would benefit from future research. One of the most important factors in effective psychotherapy is the relationship between the client and therapist (Lambert & Bergin, 1994; Wampold, et al., 1997; Wampold, 2001). Although the working alliance alone is not enough for successful therapy, it has been demonstrated to be a key component in psychotherapy. Lambert and Bergin (1994) found that therapists' qualities explain around 9% of the variance in outcome. A meta-analysis by Wampold (2001) has supported Lambert and Bergin's finding in that therapist effects account for 6-9% of variance in outcome. In his recommendations, Wampold stressed the importance of clients selecting therapeutic approaches that consider multiculturalism. He suggested that clients of color who have historically experienced oppression would benefit from seeking counselors who understand this dynamic and are multiculturally competent. Although several researchers agree that the quality of the working alliance is important in effective counseling, there has been little research regarding the effect that shared cultural beliefs have on the working alliance (Beutler, Machado, & Neufeldt, 1994). Following a review of the literature, Fuertes, et al. (2005) came to the conclusion that "there is a need for rigorous research that examines outcomes and how mental health care can be improved for racial and ethnic minority populations in the United States" (p. 269).

Collectively, there has been little attention paid to culture and how it may affect therapy. This was shown in Matt & Navarro's (1997) meta-analysis.

There is surprisingly little attention given to psychotherapy effects in African-American, Latino, Asian-American, and Native American Indian populations – not to mention different ethnic groups in non-English-speaking countries. Clearly, to argue for the efficacy of psychotherapy in improving public health, there is a need for rigorous outcome studies in specific target populations of settings and clients that are currently underrepresented in the existing literature. (p. 27)

It is noteworthy that of the 63 meta-analyses included in Matt & Navarro's (1997) meta-analysis, only three meta-analysts reported coding information regarding the ethnic background of patients.

Further examination of these meta-analyses revealed that although ethnic background was coded for, there was a general lack of reporting in the original articles of such ethnic background. Videka-Sherman (1988) reported 68% of the original studies used did not report ethnicity. The minority of studies that did report found that on average 90% of the clients were White. Kazdin, Bass, Ayers and Rodgers (1990) attempted to examine the effects of racial/ethnic status, but were unable to because 79.8% did not specify such information. Garret (1985) coded for ethnicity by breaking clients into Anglo, minority and mixed ethnicity groups. Perhaps most importantly, not one of the 63 studies provided any results by race, ethnicity, or culture. Further evidence of the need for increased research in this area is found in Fuertes and colleagues (2005) review of Wampold's (1997) meta-analysis. In their review, Fuertes et al. randomly selected 21 of

the 114 studies to further examine. Of the 21 studies reviewed, only 4 reported ethnicity, and once again no studies reported results by race, ethnicity, or culture.

Although there is a pressing need for further research in the area of multiculturalism, cultural competency research has traditionally faced a lack of funding (Sue, 1999; 2003). This is due to the reluctance of funding agencies to back non-empirically supported research such as cultural competency research. A lack of funding makes it difficult for cultural competency research to proceed and build an adequate research base. Sue (1999, 2003) explained the trap in which cultural competency research has found itself as a “vicious cycle.” In this cycle, funding is often unavailable. The lack of funding directly reduces a researcher’s ability to conduct the studies required to meet the criteria established for rigorous efficacy studies. Without an adequate research base founded on rigorous efficacy studies funding is not granted. Thus, since cultural competency research has not been empirically supported, funding typically has not been allocated to further research on multiculturalism. Yet, in order to become empirically supported, funding is needed to support these expensive studies. The efficacy of treatment has become the gold standard that funding agencies have used when deciding whether or not to fund projects (Sue, 2003). This meta-analysis has gathered and synthesized the effects of individual studies and has found culturally modified treatment to be efficacious. This author therefore recommends that funding agencies increase the priority given to research proposals investigating culturally adapted forms of psychotherapy and similar studies designed to increase the efficacy of psychotherapy among clients of color.

Conclusion

Overall, the findings provide evidence for the benefit of modifying psychotherapy to match the cultural context of the client. Of the 80 studies examined, the majority (71) were positive in direction, whereas only 4 of the studies reviewed revealed a negative effect size. These conclusions are however based on aggregate data, therefore future research would benefit from examining the circumstances and degree to which an individual does not benefit from culturally modified treatment. Pre-to-post design types are discouraged due to the findings of this meta-analysis. Within-group research designs are encouraged. In order to help provide treatment that is meaningful and lasting, professionals are encouraged to culturally modify treatments according to the needs of their clients.

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Studies marked with an asterisk were included in the meta-analysis.

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Appendix A

Coding Sheet

- A. Short Description
- For Authors with only one article included in our study: Last name of main author and the last two digits of year (ex. Belavich 98)
 - For authors that have more than one article included in our study that have also been published in the same year: Last Name + last two digits of year + Journal abbreviation in CAPS (ex. Koenig 99 AJG)
 - For authors with multiple studies in one article: Last name + last two digits of year + lower case letter (in sequential order) (ex. Levin 99 a, Levin 99 b....etc)
 - For articles with multiple samples in a single study: Last name + last row digits of year + lowercase letter + number (in sequential order) (ex. Levin 98 a1, Levin 98 a2....etc) – can eventually be used to identify effect sizes.
- B. Full APA Style citation: Author, A.B., & Colleague, J.F. (year). Title of the article.
Journal Title, Vol, pages.
- C. Year of study
- D. Field NOTE: The article MUST be a mental health treatment
- psychology (includes counseling psychology)
 - sociology
 - medicine (includes psychiatry)
 - nursing
 - social work
 - education
 - religion
 - family and human development
 - multicultural or ethnic studies (even if one of the above also, i.e., JMCD)
 - counseling
 - drug and alcohol abuse (journal, not title of article)
- E. Coder (s):
Enter your team #s
- F. Sample type 0= normal community members, 1= at-risk groups, 2= clinical populations
- G. Mean Age **of Clients/Patients** (of the participants included in this row, effect size)
- H. Percent female **of Clients/Patients** (of the participants included in this row, effect size)
- I. Ethnicity Reported **of Clients/Patients**
0=no (if no, then leave columns J through Q blank)
1=yes
- J. Percent White American (of the participants included in this row, effect size – same for all below)
- K. Percent African American

- L. Percent Hispanic/Latin American
M. Percent Asian
N. Percent Native American
O. Percent “other” American (race not specified or not included in one of the above)
P. Percent White International (Europeans, Australians, Canadians, New Zealanders, etc = NOT living in USA)
Q. Percent “other” International (Central/South American, Asian, African = NOT living in the USA)
- R. Ethnicity Reported of **Clinicians/Professionals**
0= no (if no, then leave columns S through Z blank)
1= yes
- S. Percent White American (of the participants included in *this row*, effect size – same for all below)
T. Percent African American
U. Percent Hispanic/Latin American
V. Percent Asian
W. Percent Native American
X. Percent “other” American (race not specified or not included in one of the above)
Y. Percent White International (Europeans, Australians, Canadians, New Zealanders, etc = NOT living in USA)
Z. Percent “other” International (Central/South American, Asian, African = NOT living in the USA)
- AA. Treatment type
11= culturally specific individual psychology/counseling
12= culturally specific individual substance abuse
13= culturally specific individual other
14= culturally specific group psychology/counseling
15= culturally specific group substance abuse
16= culturally specific group other
17= culturally specific family psychology/counseling
18= culturally specific family other
19= culturally specific community/contextual
20=more than one of 11-19 (aggregates of the above)
- AB. Design type
1=Cross-Sectional (one time surveys)
2=Predictive, longitudinal (across time – no intervention)
3=Archival analysis (using extant data bases or records)
4=**Comparison groups** (> 2 groups, NO control group)
5=**Experimental** (>2 groups, YES control group compared in *this* effect size)
6=**Pre- to post-test comparison** (single group over time with intervention – not compared to control group)
- NOTE: For any value of 4 or 5 you also need to include one of the following decimal point indicators:
.0 = No information provided
.1 = Interventions were NOT provided for the control group (wait list, etc.)
.2 = Some form of intervention was provided for the control/comparison group
.3 = Comparisons across interventions and also a group without intervention
(combination of 1&2)

AC. Type of comparison being made (for *this effect size*) - and random vs. convenience assignment

- 1= no group divisions (only one treatment; evaluated pre- to post-test)
- 2= groups of *mixed* racial composition, but convenience/self-selection assignment

assignment

(e.g., evaluations of two treatments that the participants selected)

- 3= groups of *mixed* racial composition, with random assignment to groups/treatments

- 4= groups of *exactly the same race for all participants*, but convenience/self-selection assignment

(e.g., evaluations of two treatments that the participants selected)

- 5= groups of *exactly the same race for all participants*, with random assignment to treatments

- 6= groups of *different races*, and convenience/self-selection assignment (groups based on race, such as Whites receiving normal therapy and People of Color receiving modified therapy)

What makes this treatment *Culturally Specific*? Use the method/procedure section description, not the article title

AD. Racial/ethnic match of client and counselor (same race client and counselor) (note, mark column AS)

0= not specified

1= YES (the clients in this study were matched on race with their counselor)

2= Attempted (they routinely do this, so many of the clients in this study are matched on race)

3= NO (specified that they did NOT do this)

AE. Language matching (native language matched counselors/interpreters) (leave blank for English only groups)

0= not specified or no, 1= YES

AF. Cultural concepts/values/examples included in the intervention (e.g., afrocentric, mistrust, collectivism, untu)

0= not specified or no, 1= YES

AG. Cultural sensitivity training documented for the counselors/practitioners

0= not specified or no, 1= YES

AH. Paradigm of the center/clinic (clinic has cultural name and/or serves a specific group or neighborhood)

0= not specified or no, 1= YES

AI. External services (transportation, child care, home visits, social work, legal assistance, medical assistance)

0= not specified or no, 1= YES

AJ. Consultation/Collaboration w/ Experts/Community/Family (clergy, curanderos, academics, consumer groups)

0= not specified or no, 1= YES

- AK. Length or extensiveness of treatment
0= not specified, 1= single session (talk or video), 2= 2-10 sessions (typical), 3= 11+ (or inpatient)

Results

- AL. What type of effect size?
- 1 = This is the ONE MAIN effect size in this article (statistically independent)
(There is only one effect size in this article and this is it.)
 - 2 = This is one of >1 MAIN effect sizes (whole sample) (conceptually replicated)
Multiple dependent measures administered, each measure is a 2 on a separate line
IE, one of several effect sizes computed with the entire sample
 - 3 = This is a PARTIAL or modified effect size (subgroup)
IE, this effect size pertains only to a certain subgroup, like gender or race
not to the entire sample.
 - 4 = Aggregate MAIN effect size (computed average of only 2s)
IE, you need to average multiple effect sizes where more than one are reported
for the entire sample. Make sure the ESs combined are conceptually similar.
 - 5 = Aggregate PARTIAL group effect size (of 3s, computed by group)
IE, you need to average multiple effect sizes where more than one are reported
for a particular subgroup (women only, African Americans only)
 - 6 = Aggregate MAIN effect size based on summed subgroups (summed 3s)
IE, you need to average multiple effect sizes where more than one are reported
across several subgroups.

- AM. Stats used
- 1 = Zero order correlations (pearson r, spearman rho, psi coefficient)
 - 2 = Partial correlations, beta weights (regression), path coefficients
 - 3 = ANOVA (F-tests)
 - 4 = t-test
 - 5 = Odds ratios
 - 6 = Chi square
 - 7 = Means & Standard Deviations, or D (mean diff)
 - 8 = ANCOVA (analysis of covariance) - be sure to code covariate
 - 9 = P value only reported, r computed as estimate
 - 10=Combination (Particularly for aggregates)
 - 11=Percentages or frequency counts

- AN. Effect size
For d, enter the value.
For all other types of effect sizes, convert the value to d using the effect size software (ie, for odds ratios, r, F values, etc.)
Positive values = beneficial effect of treatment
(improvement pre-post or fewer symptoms than comparison group)

Negative values = harmful effect of treatment

(worse pre-post or more symptoms than comparison group)

For aggregate effect sizes based on adding up subgroups (6), *weight the overall ES calculated by the N of each subgroup.*

AO. Total sample size that *this effect size* is based on

Optimally, base your estimate of N off of the degrees of freedom or N used in this specific analysis, with degrees of freedom between being # of groups minus one and degrees of freedom within being the number of participants minus the number of groups.

For aggregates, use largest N if averaging 2s; use the summed N if combining 3s

AP. Sample size, experimental group (cultural specific group or pre-test N if no comparison)

AQ. Sample size, control/comparison group (if any)

AR. Type of outcome measure (DEPENDENT variable)

0= general happiness or positive wellbeing (self-esteem, etc.) = non-clinical population

1= general mental health symptoms (GAS, OQ-45, SLC-90, MMPI, *multiple symptoms*)

2= specific mental health symptom (anxiety, depression, phobia, etc.) or diagnosis

3= substance use/abuse (number of drinks, intentions to drink, etc.)

4= cultural variable (cultural knowledge, ethnic identity, affirmation)

5= treatment duration, utilization, or retention (number of sessions, drop-out rates, etc.)

6= social support or family cohesion

7= pro-social behaviors/attitudes (school interest, compliance, assertiveness, anger, aggression, cooperativeness, self-control, empathy)

8= satisfaction/evaluation of services received or ratings of therapists by clients

9=

10= more than one of the above (for aggregates, across several types)

AS. Additional effect sizes that could be extracted from this study (relevant to another topic)

1. Therapist-client match

2. Client Outcome in treatment

3. Client Access/Use of service (utilization)

4. Training-Therapist

5. Diagnosis rates

6. Culturally specific (sensitive) treatment

7. Attitude towards mental illness by client (of color)

8. Identity (Racial, ethnic)

9. Acculturation of client

10. Expectation for counseling by the client (view of counselor by the client)

11. Prejudice or bias of the counselor (toward the client)

12. Client perceptions of counselor competency

AT. Verbal descriptions/problems and clarifications of this study (IF NECESSARY)