Moving Towards a Comprehensive Understanding of Multicultural Counseling Competence: The Role of Diversity Cognitive Complexity

by

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ABSTRACT

This study explored several training variables that may contribute to counseling trainees' multicultural counseling self-efficacy and multicultural case conceptualization ability. Specifically, this study aimed to examine the cognitive processes that contribute to multicultural counseling competence (MCC) outcome variables. Clinical experience, multicultural knowledge, and multicultural awareness are assumed to provide the foundation for the development of these outcome variables. The role of how a counselor trainee utilizes this knowledge and awareness in working with diverse populations has not been explored. Diversity cognitive complexity (DCC) quantifies the process by which a counselor thinks about different elements of diversity in a multidimensional manner. The current study examined the role of DCC on the relationship between training variables of direct clinical experience with diverse populations, multicultural knowledge, and multicultural awareness and the two training outcomes (multicultural counseling self-efficacy and multicultural case conceptualization ability).

A total of one hundred and sixty-one graduate trainees participated in the study. A series of hypotheses were tested to examine the impact of DCC on the relationship between MCC predictors (multicultural knowledge, multicultural awareness, and direct contact hours with diverse clinical populations) and two MCC outcomes: multicultural counseling self-efficacy and multicultural case conceptualization ability. Hierarchical regression analyses were utilized to test whether DCC mediated or moderated the relationship between the predictors and the outcome variables. Multicultural knowledge and clinical hours with diverse populations were significant predictors of multicultural counseling self-efficacy. Multicultural awareness was a significant predictor of

multicultural case conceptualization ability. Diversity cognitive complexity was not a significantly related to any predictor or outcome variable, thus all hypotheses tested were rejected.

The results of the current study support graduate programs emphasizing counselor trainees gaining multicultural knowledge and awareness as well as direct clinical experience with diverse clinical populations in an effort to foster MCC. Although diversity cognitive complexity was not significantly related to the predictor or outcome variables in this study, further research is warranted to determine the validity of the measure used to assess DCC. The findings in this study support the need for further research exploring training variables that contribute to multicultural counseling outcomes.

DEDICATION

To my incredible husband, Jon, thank you for inspiring me daily. I look forward to the next chapter.

To Baxter, Madison, and Rocco, for reminding me to be present in the moment.

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INTRODUCTION AND LITERATURE BACKGROUND

PROBLEM STATEMENT

Within the next 20 years, the number of Americans identifying as a member of a racial minority group will surpass those who identify as White (United States Census Bureau, 2008). Such a statistic supports numerous calls over the past 30 years from scholars and researchers regarding training counselors to work with diverse populations (e.g., Sue et al., 1982; Arredondo & Toporek, 2004). There have been, and continues to be, disparities across race/ethnicity in access to quality mental health services in the United States (Sue, Zane, Nagayama Hall, & Berger, 2009). In addition to population size and access to resources, the effectiveness of therapy interventions for diverse client populations is also cause for concern. Although empirical studies examining therapy outcomes with culturally appropriate treatment interventions are rare, there is some evidence that culturally adaptive therapy is more effective (Griner & Smith, 2006). Given these disparities and the rapid change in demographics in the upcoming decades, it is imperative to continue to expand the knowledge base in multicultural counseling in order to foster better mental health services for diverse populations.

Over the past several decades, based on theories, training practices, and empirical studies, there has been a plethora of articles published on how to improve multicultural therapy. The roots of the multicultural counseling competency movement began with Sue and colleague's (1982) landmark call to the profession. Sue et al. (1982) presented a case for counseling curriculum to include an emphasis on working with diverse

populations. They argued that, traditionally, therapists are trained to apply all interventions in the same manner to all clients regardless of cultural background and that therapeutic interventions are originally developed within the context of the dominant culture's values. When such interventions are enacted with populations that do not subscribe to those values, those clients are seen from a deficit perspective, which often has negative effects on individuals and communities. Sue et al.'s (1982) article became the basis for much of the conceptual and empirical research conducted in the following decades.

Within the multicultural literature, culture was discussed as the lens by which all individuals interact with their world, therapy included. As the literature grew, multicultural counseling was referred to as the most critical concept in psychology since humanism (Pedersen, 1991). Arredondo and Toporek (2004) stressed the ethical ramifications of providing competent therapy to diverse populations, as the current model of providing the same services to all clients has shown that *one size does not fit all*. Highlighting the significance of the movement within the field of psychology, the authors also noted that "multicultural competency is becoming a way of life" (p. 63).

Ten years after Sue et al. (1982) initiated a shift in perspective within psychology to consider cultural competence as part of mental health services, Sue, Arredondo, McDavis (1992) offered a three by three matrix to understand cultural competence in therapists. Specifically, to form a picture of how competence can be observed and instilled in counselors, the matrix incorporated three dimensions of knowledge, awareness, and skills with three counselor characteristics of awareness of counselor

biases and worldview, knowledge and understanding of the client's worldview and the ability develop culturally appropriate interventions. This matrix provided the framework for research on cultural competence over the next decade. Scale development to assess the three dimensions has contributed greatly to the overall understanding of how counselors develop a sense of their own cultural competence.

One of the major research contributions to the field of multicultural counseling competence has been the development of several scales designed to measure therapists' competence (Hays, 2008). These scales are based on the three dimensions of multicultural counseling competence: knowledge, awareness, and skills. Despite utilizing the same three dimensions proposed by Sue et al. (1992), these scales have shown different underlying factor structures that are not consistent with the three-dimensions originally postulated. Among the three dimensions, multicultural knowledge and awareness have received more robust empirical support (Kitaoka, 2005). Additionally, counseling trainees with more hours working with diverse populations reported higher levels of multicultural knowledge and awareness (Ponterotto, Gretchen, Utsey, Rieger, & Austin, 2002). The skills dimension, however, has consistently been a difficult construct to capture empirically.

The inability of MCC self-report measures to capture the three dimensional multicultural counseling framework demonstrates a larger issue; there is a disconnect between the conceptual framework of MCC and empirical evidence (Kitaoka, 2005). Empirical studies have lagged behind conceptual contributions in the field (Atkinson & Israel, 2003). While the conceptual and theoretical literature provides a platform for

understanding the importance of multicultural counseling, future research must expand beyond the original framework. Gaining a better and perhaps more comprehensive understanding of how therapists perform culturally appropriate behaviors in session can only benefit the field of counseling and counseling psychology.

A possible new direction for multicultural research is to examine counselor outcome variables that occur prior to the actual demonstrated skill. The need for competent therapy practice is obvious; however, the process by which therapists develop the ability to perform culturally sensitive interventions and techniques relies on more immediate training variables. Such variables could include multicultural counseling self-efficacy and case conceptualization ability. Understanding counselor self-efficacy when working with racially different clients could provide new insight into cross-cultural therapy (Sheu & Lent, 2007). In addition to examining counselor self-efficacy, understanding the counselor's ability to conceptualize client presenting issues provides a different perspective to view this paradigm. Being able to understand a client's presenting issues within a cultural context is likely a pre-requisite for providing culturally appropriate treatment (Constantine, 2001). Exploring the constructs that predict these multicultural outcome variables will provide insight for graduate programs for training therapists to work effectively with diverse client populations.

Multicultural knowledge and awareness, in addition to direct contact hours, have been linked to important training variables such as the number of multicultural counseling courses taken (Allison, Echemendia, Crawford, & Robinson, 1996) and implicit racism (Castillo, Brossart, Reyes, Conoley, & Phoummarath, 2007). However,

these variables have not predicted the typical outcome variable of MCC research, that is, observed skills. In working toward an expansion of the current conceptualization of culturally appropriate counseling, it is important to look beyond the knowledge imparted to counselor trainees about multicultural issues and their level of self-awareness. Counseling students develop a basic understanding of diversity and multicultural issues within multicultural counseling courses. How that information translates to training outcomes has not been explored. It is likely that simply learning factual knowledge and obtaining clinical experience is not sufficient in predicting training outcomes as it is not *what* a therapist knows but *how* they use that information.

A quantitative construct that may shed light on the translation of information to working in a cross-cultural counseling setting is diversity cognitive complexity (Adams-Webber, 2003). Cognitive complexity is the manner in which an individual understands, differentiates, and integrates various concepts (i.e., concepts related to diversity). Diversity cognitive complexity (DCC) can be thought of as a map that counselors use to determine a course of action in a cross-cultural therapy interaction. Within the context of diversity, cognitive complexity can be measured in two domains: 1) differentiation, which is the ability to distinguish between various elements of diversity (such as gender, race, socioeconomic status, etc.); and 2) integration, the ability to understand the similarities between those elements and to integrate the elements into a cohesive picture of the client's worldview. Individuals who demonstrate high levels of cognitive complexity are more likely to pick up on subtleties within social situations and to develop

more appropriate, coherent behavioral responses when faced with ambiguity (Spengler & Strohmer, 1994).

While previously unexplored within the realm of multicultural counseling, DCC likely contributes both to conceptualizing client issues in a multicultural framework and to fostering counselor self-efficacy in performing culturally appropriate skills in session. It is possible that the level of DCC moderates the relationship between the predictor training variables of multicultural knowledge, awareness, and clinical training with training outcome variables. Alternatively, DCC could be the causal link between the predictors and outcomes, thus a mediation relationship should be examined.

Training counselors to work effectively with diverse client populations has been and will continue to be a critical mission of counseling graduate programs. Statistics on disparities in access to quality mental health services highlight the immediate need for research to catch up with the conceptual arguments for cultural competence. Given the gap between theory and research, future studies should move beyond the original conceptualization of cultural competence of knowledge, awareness, and skills by examining new outcome variables. Additionally, cognitive complexity within the domain of diversity is a potential link between the knowledge base acquired in multicultural counseling courses and multicultural outcomes such as self-efficacy and case conceptualization ability. This research study aims to shed light on the cognitive processes that influence how the knowledge gained in multicultural counseling courses combined with clinical hours translates to training outcome variables.

LITERATURE REVIEW

For the past 30 years, the topic of multicultural counseling competencies has been extensively discussed within the psychology literature (e.g., Arredondo, Rosen, Rice, Perez, & Tovar-Gamero, 2005; Worthington, Soth-McNett, & Moreno, 2007). Sue et al.'s (1982) landmark call for training clinicians to become more competent when working with culturally diverse populations continues to be essential in the U.S. as the population of the country has become increasingly diverse (U.S. Census Bureau, 2008). The 2008 U.S. Census Bureau survey indicated that approximately one quarter of the population identifies as a member of a racial minority group and projected that the populations of various racial groups will continue to increase to the point where 54% of the U.S. population will be non-White by 2050.

The diversification of the U.S. population was originally cited as the rationale for training counselors to work with diverse populations (Sue et al., 1982); however, the MCC movement has grown to address deeper rooted issues related to culture and diversity. Sue et al.'s (1982) call to action produced a paradigm-shift in the focus of counseling at the time (Essandoh, 1996). Pederson (1991) postulated that following the other three major movements (psychodynamic, behaviorism, and humanistic) within the counseling profession, multiculturalism had become the "fourth force" in explaining human behavior.

MCC: The fourth force. The position paper published by Sue and colleagues in 1982 was the first publication calling for counselor training programs to emphasize cross-cultural therapy within their curriculum. The authors provided a clear definition of cross-

cultural counseling/therapy: "any counseling relationship in which two or more of the participants differ with response to cultural background, values, and lifestyle" (p. 47). In addition to clarifying the definition, the authors pointed to numerous reasons why a cross-cultural perspective is necessary within the field of counseling. The lack of research focused on racial minority groups and the deficit model applied to minority groups were named as two of the driving forces for proposing cross-cultural training. One's personal values and beliefs provide the lens by which therapists understand their clients, and this may contribute to subscribing to a deficit model when conceptualizing minority clients. Sue et al. (1982) also warned that misinterpretations about the role of culture in a client's presenting concerns within a cross-cultural therapy context can lead to alienation or mistrust. This landmark article ended with a request for the development of MCC guidelines for training programs and clinicians.

In response to the mounting literature discussing the need for therapists to be competent in their work with diverse populations, MCC and related standards were later developed (Sue, Arredondo, & McDavis, 1992). Sue, Arredondo, and McDavis (1992) revisited the theoretical rationale for multicultural competencies first outlined in the 1982 Sue et al. article. The ethical obligation to work within a clinical area of competence included working with diverse clinical populations according to Sue, Arredondo, and McDavis (1992). Developing and defining a more comprehensive set of competencies allowed for clinicians to evaluate their own competence and for graduate programs to keep their training culturally sensitive. The competencies were produced using the framework of the three by three matrix (knowledge, awareness, and skills by

characteristics of the counselor). This matrix produced nine competencies; however, the product remained somewhat vague in regard to observed counselor skill.

In 1996, in an effort to provide guidelines and a context for training and competent work, Arredondo et al. expanded the multicultural counseling competencies into 31 competency statements within 119 explanatory statements. The competencies were presented with clinical and personal examples for more clarification than provided by the original guidelines published by D. W. Sue et al. (1992). Arredondo et al. (1996) noted that those competencies were developed as a guide that would continue to evolve as multicultural research and literature expanded. Following the expansion of the MCC, several articles were published debating their content and structure (e.g., Arredondo & Toporek, 2004; Gallardo, Johnson, Parham, & Carter, 2009; Weinrach & Thomas, 2002). The integration of the multicultural counseling coursework within curriculum for training counselors came soon after the expansion of the competencies (Arredondo & Arciniega, 2001).

In an effort to understand MCC, several self-report measures were developed according to the knowledge, awareness, and skills dimensions of MCC. One of the first measures, the Cross-Cultural Counseling Inventory-Revised (CCCI-R; LaFromboise, Coleman, & Hernandez, 1991) was based on the dimensions of cultural competencies first outlined by D. W. Sue and colleagues in 1982. The CCCI-R was designed from an observer perspective allowing for supervisors to evaluate trainees' competence. The 20-item scale, while developed to measure three factors (Cross-Cultural Counseling Skill, Sociopolitical Awareness, and Cultural Sensitivity), was specified to be interpreted in a

unidimensional manner. While the CCCI-R was one of the first measures developed to assess multicultural competence, it lacked an underlying structure mirroring the knowledge, awareness, and skills dimensions (Hays, 2008). While the factor analysis was not consistent with the three dimensions of MCC, the measure does distinguish between individuals with or without multicultural training, indicative of criterion validity (Ponerotto, Reiger, Barrett, & Sparks, 1994).

Scores on the CCCI-R (LaFromboise et al., 1991) have been linked to training outcomes that may influence a therapist's ability to work in a competent manner with diverse populations. Ladany, Inman, Constantine, and Hofheinz (1997) explored the role of racial identity and multicultural knowledge and multicultural awareness on counselor trainee multicultural counseling competence. In a study of 116 doctoral and master's level counselor trainees, Ladany et al. (1997) examined how racial identity influenced self-reported multicultural competence. The results of their study suggested that the relationship between racial identity and self-reported multicultural knowledge and awareness was more complex for White graduate trainees as compared to students who are racial ethnic minorities. Ladany et al. (1997) suggested that the straight-forward relationship between racial identity and self-reported competence of trainees of color may be due to higher frequency of cross-cultural therapy hours leading to higher self-efficacy in working with diverse populations.

In the 1990s a few self-report MCC measures were developed in the U.S. D'Andrea, Daniels, and Heck (1991) constructed the Multicultural Awareness, Knowledge, Skills Survey (MAKSS) to assess knowledge, awareness, and skills of

counselors within the multicultural counseling domain. Factor analyses revealed that the three dimensions were not supported empirically (Kitaoka, 2005). Graduate students who obtained multicultural counseling training demonstrated significantly higher scores on the MAKSS as compared to students without similar experience (D'Andrea et al., 1991).

Sodowsky, Taffe, Gutkin, and Wise (1994) also utilized the knowledge, awareness, and skills dimensions of MCC to develop the 40-item Multicultural Counseling Inventory (MCI). Each item of the MCI was developed from a behavioral perspective (i.e., "I recognize") for each of the three dimensions. Exploratory factor analyses yielded a four factor structure of awareness, knowledge, skills, and relationship. The discrepancy between the theoretical underpinnings of the scale and its factor structure resulted in Sodowsky and colleagues (1994) noting that the understanding of MCC is still evolving. In regards to criterion validity, the MCI differentiated between therapists who reported more than 50% of their clinical work completed with racially different clients and those who reported less cross-cultural counseling hours (Sodowsky et al., 1994).

A fourth scale, the Multicultural Counseling Awareness Scale (MCAS; Ponterotto et al., 1996) was developed around the same time period as the CCCI-R, MAKSS, and MCI. The MCAS was also designed with the intent to follow the three factor model. The MCAS is a subject-centered scale designed to measure: (a) multicultural knowledge and skills in the broad domain of multiculturalism and specific areas of diversity; (b) awareness of the Eurocentric worldview and its impact on the counseling relationship;

and (c) the factor of social desirability. Factor analyses on the MCAS suggested a 2-factor structure that led to a revision of the scale. The revision, named the Multicultural Counseling Knowledge and Awareness Scale (MCKAS; Ponterotto et al., 2002), taps the dimensions of knowledge and awareness but not skills. Significant differences on MCKAS scores were present between counselors with varying education levels.

The development of the four scales provided a vehicle for researchers to explore the construct of MCC in an empirical manner, progressing from the conceptual or theoretical models of MCC. A content analysis of MCC empirical research revealed that Sue et al.'s (1982) MCC model was widely accepted within the counseling and counseling psychology field (Worthington, Soth-McNett, & Moreno, 2007). However, scholars who reviewed the literature noted the majority of articles published on the topic of multicultural counseling were conceptual (Atkinson & Israel, 2003; Pope-Davis, Ligiero, Liang, & Codrington, 2001). The caveat mentioned by Kitaoka (2005) highlights the disconnect that exists between the theory of MCC, the research conducted, and the data collected. This lack of integration has led to minimal revisions of Sue's (1982) original conceptualization of MCC. To determine if the current paradigm is the most accurate way of understanding the manner in which therapists work effectively in cross-cultural counseling, it is important to explore additional variables to capture the variance in training outcomes better. While theoretical and conceptual discussions within the literature are important, a clear need exists for further empirical exploration of predictors, training outcomes, and therapy outcomes of these competencies.

MCC: Knowledge and awareness. The variety of instruments developed to assess therapist multicultural counseling competence has allowed for empirical exploration; however, there are numerous limitations with the scales that have been developed. Although the MCC measures were developed based on the model of multicultural knowledge, awareness, and skills (Sue et al., 1982), the factor analyses of the scales have yielded a variety of factor structures. Although instrument development utilized thorough literature reviews and content experts, the developed scales yielded different underlying structures with confirmatory analyses resulting in scales with one factor (CCCI-R; LaFromboise et al., 1991), two factors (MCKAS; Ponterotto et al., 1996), and four factors (MCI; Sodowsky et al., 1994). An added complication related to the multicultural counseling instruments is that despite similarly named subscales (i.e., knowledge, awareness); these scales may be measuring different constructs.

Despite the limitations of the current multicultural counseling competence instruments, multicultural knowledge and awareness continue to be variables of interest in contributing to multicultural competence, both conceptually and empirically. One instrument that has promising psychometric properties is the MCKAS (Ponterotto et al., 2002). While other instruments were developed based on the tri-partite model as defined by D. W. Sue et al. (1982), the items of the revised MCKAS were modified to best fit the results of the factor analysis which yielded two factors: multicultural knowledge and multicultural awareness. The MCKAS demonstrated both high internal reliability of items (Ponterotto et al., 2002) and criterion validity as it has been linked to relevant training variables (e.g., Cannon, 2008). Counselor trainees demonstrated higher levels of

multicultural knowledge after completing an intervention addressing issues of cultural competence, oppression, and diversity (Cannon, 2008). Additional studies have examined predictors of multicultural knowledge and awareness.

The idea that training experiences would be related to self-reported multicultural knowledge and awareness is a logical assumption and is supported empirically. Clinician self-reported multicultural knowledge and awareness as measured by the MCKAS has been positively linked to graduate education experience (Ponterotto et al., 2002). Additionally, completion of multicultural counseling courses has been found to promote higher self-reported multicultural awareness and decreased implicit racism (Castillo et al., 2007). Such courses also have been linked to higher levels of cultural knowledge in the context of counseling. Training variables such as clinical hours with diverse clients and workshops and coursework completed in multicultural counseling are linked to self-reported multicultural counseling knowledge and awareness (Allison et al., 1996). It appears that more exposure to coursework, training opportunities, and clinical work with diverse populations has a positive impact on counselor trainees' self-reported multicultural knowledge and awareness.

Although there is evidence that multicultural knowledge and awareness are related to important training variables such as clinical experience with diverse populations, they have not been shown to predict observed competent clinical behaviors. Worthington, Mobley, Franks, and Tan (2000) explored the relations of self-reported multicultural knowledge, awareness, and skills to clinical attribution and observer ratings. Thirty-eight licensed therapists were provided a taped simulated intake session as a

stimulus for providing clinical responses. Participants were prompted to attribute a cause of distress for the client. A variety of multicultural knowledge and multicultural awareness scales were then administered to explore the relationship between self-reported competence and observer-rated competence. The authors reported little relation between self-report and observer ratings of culturally appropriate skills. Given the link between knowledge and awareness to other training variables (such as clinical experience), it is likely that another variable may mediate or moderate the relationship between knowledge and awareness and training outcome variables.

Therapist multicultural knowledge and awareness clearly contributes to the development of competence, but those two factors alone are not sufficient for observed skill. A study examining the relationship between self-reported multicultural competence and demonstrated performance indicated that self-reports are often elevated when compared to observer ratings of a multicultural counseling role play (Cartwright, Daniels, & Zhang, 2008). Despite discrepancies, both counselor trainee's self-reported and observer ratings of their multicultural knowledge and awareness increase over a semester of clinical work. Research exists to support the concept that multicultural knowledge and multicultural awareness are important for training purposes but do not directly translate to actual observed competence (e.g., Cartwright et al. 2008; Worthington et al., 2000). D. W. Sue's 1992 conceptualization of MCC was a springboard for research of culturally appropriate therapy, however the model presented has not been adequately supported empirically. An alternative training model for MCC should consider outcome variables

that differ from the vague concept of "skills" outlined in the three by three matrix model of competencies.

Research examining multicultural counseling competence can utilize a variety of outcome variables. Previous research has utilized multicultural knowledge, awareness, and skills (as measured by the assessments previously discussed) as outcome variables (e.g., Allison et al., 1996; Sodowsky, Kuo-Jackson, Richardson, & Tiongson Corey, 1998). Training outcome variables can be categorized as immediate (counselor confidence), short-term (observed skill), or long-term (therapy outcomes). The theoretical and conceptual literature has focused on the need for multicultural counseling competence to produce more effective treatment for diverse client populations (e.g., Arredondo & Toporek, 2004; Gallardo et al., 2009). Symptom relief, therapy attrition rates, and client satisfaction are some examples of long-term outcome variables that can be explored. Shorter-term outcomes encompass demonstrated skills of the clinician, which previously have been examined through self-report and other-report instruments (e.g., MAKSS; D'Andrea et al., 1991; MCI; Sodowsky et al, 1994). Immediate outcome variables such as counselor self-efficacy may offer a closer look at the process of developing multicultural competence. Additionally, immediate outcome variables can provide training programs with a measure to be assessed prior to a trainee seeing clients, without risking harm to clients. Variables that can be assessed early in the training process, prior to clinical experience also provide training programs with opportunities for remediation.

Alternative multicultural counseling outcome variables. Conceptual and empirical evidence supports the importance of training therapists to work with diverse client populations; however, the MCC model was not sufficient in, and not designed for, explaining the process by which a counselor becomes multiculturally competent. Taking a step back from the MCC model to understand better the relationship between training variables and immediate outcomes such as multicultural self-efficacy and multicultural case conceptualization ability may contribute to the current multicultural literature. Multicultural knowledge and awareness have consistently been linked to training variables such as education and clinical hours with diverse populations. To develop multicultural self-efficacy, a clinician must first have knowledge about multicultural counseling and diverse cultural groups as well as develop awareness of the role of culture in therapy. Such knowledge and awareness is also a prerequisite for recognizing cultural factors that are present in a client case and then for incorporating that information into a culturally appropriate treatment plan. However, while knowledge and awareness may serve as the foundation of effective multicultural counseling, they, in themselves, do not shed light on how a trainee turns such knowledge and awareness into specific in-session behaviors that are assumed to bring about positive outcomes. Understanding what is missing in this process is of great importance because it could help us improve the quality of training. Possible variables that might fill this gap include multicultural self-efficacy and case conceptualization ability.

The ultimate goal of the MCC movement is for therapists to counsel clients in a culturally appropriate manner, thus providing better, more effective services for all. The

current measures of MCC have been unable to replicate the intended three-factor model of knowledge, awareness, and skills. Specifically, counseling skills utilized when working with clients from diverse backgrounds have proven to be difficult to capture with the current self-report measures. Sheu and Lent (2007) pointed out that, often, MCC scales intending to assess counselor skill are comprised of items capturing self-perceived ability rather than demonstrated clinical skill. Given the difficulties in capturing multicultural skill, it is important to explore other variables that can contribute to a better understanding of multicultural counseling competence.

Self-efficacy theory can contribute to the current understanding of how to develop general and multicultural clinical skills in graduate student trainees (Constantine & Ladany, 2000; Sheu & Lent, 2007). Self-efficacy, the confidence one has in his/her ability to perform a task successfully, is assumed to contribute to the ability to perform that specific task (Bandura, 1990). Lent, Hill, and Hoffman (2003) found that graduate students who reported confidence in their ability to perform general clinical tasks in three areas (performing helping skills, session management skills, and counseling challenges) were positively associated with their performance in therapy role plays. Since general counseling self-efficacy has been linked to performance, counseling self-efficacy related to multicultural counseling skills is a relevant construct to explore.

Sheu and Lent (2007) developed the Multicultural Counseling Self-Efficacy, Racial-Diversity Form (MCSE-RD) to assess counselor self-efficacy within the domain of multicultural counseling with racially diverse clients. Sheu and Lent (2007) emphasized that self-efficacy is a predictor of successful future behaviors and is not an

objective measure of skill. The MCSE-RD consists of three subscales assessing counselor confidence in carrying out (a) Multicultural Intervention (e.g., handle cultural impasses), (b) Multicultural Assessment (e.g., appropriately assess clients from a cultural perspective), and (c) Multicultural Session Management (e.g., perform routine tasks within a culturally-appropriate framework).

The construct of multicultural self-efficacy appears to be distinct yet related to general counseling self-efficacy (Rigali-Oiler, Sheu, Mejia, & Weber, 2009; Sheu & Lent, 2007). Initial validation of the MCSE-RD scores yielded support for discriminant validity when compared with MCC scales such as the MCI (Sheu & Lent, 2007). Graduate students' confidence in their ability to perform culturally appropriate skills in session has been linked to several training outcomes. For example, the MCSE-RD scores have been found to be correlated with interest in working with diverse clients, positive outcome expectations for working with such a population, and intent to work with racially diverse individuals in the future (Rigali-Oiler, Sheu, Mejia, & Weber, 2010). Multicultural self-efficacy provides insight into the internal processes that contribute to counselor behavior. Not only is self-efficacy an immediate training outcome variable, but it contributes to longer term outcome variables as well (e.g., intention to work with diverse populations in the future) making it a valuable variable to consider within an alternate training model.

The ability to conceptualize a client's presenting issues within a cultural framework may also be a precursor to performing competent counseling. Multicultural case conceptualization ability is defined as the counselor trainee's ability to conceptualize

a client's presenting concerns and to develop a culturally appropriate treatment plan. This conceptualization process requires both understanding client's presenting issues within a given cultural context and incorporating those cultural components into interventions to alleviate client distress (Ladany et al., 1997). A counselor's ability to conceptualize case scenarios in a culturally appropriate manner has been considered a marker for multicultural competence.

Ladany and colleagues (1997) developed a coding system to quantify participant conceptualization ability. In Ladany et al.'s 1997 study, participants were required to provide two responses to a single case scenario: a) a conceptualization explaining the etiology of the presenting concern and b) an outline for a client treatment plan to address the presenting concerns. The coding system was modified from Tetlock and Suefeld's (1988) system that was based on general clinical case conceptualization ability. Participant conceptualization and treatment plan responses are both coded on their degrees of incorporation and separation. Incorporation captures a counselor's ability to connect various clinical interpretations together (i.e., racial context with depressive symptoms), whereas separation is the level at which an individual can offer alternative perspectives on the presenting concern's etiology or for the treatment plan. The initial validation of the coding system within the multicultural domain was conducted by Ladany et al. (2007) and demonstrated high levels of interrater agreement (r = .86 for etiology ratings and .87 for treatment plan ratings).

Multicultural case conceptualization ability has been linked to several variables relevant to the training of graduate students. One study with 132 graduate counseling

students found that higher levels of empathy were associated with better multicultural case conceptualization ability (Constantine, 2001). The graduate students who reported completing more formal multicultural training had higher scores on the multicultural case conceptualization ability measure (Ladany et al., 1997; Lee & Tracey, 2008). Ladany and colleagues (1997) investigated the relationship between multicultural case conceptualization ability and self-reported multicultural competence, as measured by the CCCI-R, with a sample of counselor trainees. Multicultural case conceptualization ability did not predict self-reported competency in the study, which may be related to the limitations of the CCCI-R measure. The number of multicultural or diversity-based courses taken by graduate trainees was positively related to the ability to create a culturally appropriate treatment plan. Multicultural case conceptualization ability appears to add to the greater understanding of multicultural competence as it encompasses a more immediate outcome variable.

Multicultural counseling self-efficacy and case conceptualization ability are outcome variables that offer a more immediate look at the process by which therapists become competent in working with diverse populations. The multicultural knowledge and awareness developed in training programs certainly fosters self-efficacy in counseling students and provides a basis for their ability to develop multicultural case conceptualizations. This relationship may not provide a complete picture as it does not take into account *how* knowledge and awareness lead to training outcome variables. Personal Construct Psychology (Kelly, 1955) provides a theoretical basis for *how* human

beings incorporate factual knowledge about diverse populations into therapeutic interactions.

Personal construct psychology: Expanding the multicultural paradigm. George Kelly first proposed Personal Construct Psychology (PCP) in 1955 to explain how humans interact with one another. The theory is built on the notion that individuals are bound by their own subjective reality. It is this reality that influences how individuals develop a sense of identity and, in turn, interact with their world around them (Walker & Winter, 2007). In 1955, Kelly explained this process as occurring when an individual "looks at his [her] world through transparent patterns or [templates] which he [she] creates and then attempts to fit over the realities of which the world is composed" (p. 8). The theory of PCP posits that human beings develop construct systems that could include unlimited units of knowledge that are linked together to form a map for interacting with the world. In other words, it is not just the knowledge one has about a topic, but how that information is structured that determines how the individual interacts with the world. Understanding a counselor trainee's cultural worldview, or diversity construct system, provides insight into how counselors interact with diverse clients in therapy.

Kelly (1955) proposed that all individuals have a diversity construct system that they operate within, similar to the modern day concept of cultural worldview within counseling and clinical psychology. Individuals develop a diversity construct system based on information taught in both implicit (interactions with others) and explicit (taught specific information in an academic context) settings. After developing a diversity construct system, people test and revise those constructs the rest of their lives (Hardison

& Neimeyer, 2007). In the context of multicultural counseling training, a trainee, based on his or her diversity-related knowledge, awareness, and experience, develops a diversity construct system. The diversity construct system is the structure by which one organizes multicultural knowledge and awareness. The system then guides a therapist's understanding of and interaction with clients who have diverse cultural backgrounds. Such interaction could then feed back to the revision of the diversity construct system. As counselors engage in cross-cultural interactions either formally (e.g., multicultural coursework or direct clinical hours with cross-racial clients) or informally (e.g., day-to-day casual interactions), they test their diversity construct systems to determine their response set in those interactions. Those cross-cultural interactions then confirm or disconfirm the diversity construct system (Oliver & Schlutsmeyer, 2006). If the interaction occurs as predicted by the diversity construct system, then the individual's system is strengthened. When a cross-cultural interaction does not match the diversity construct system, an individual can experience distress, anxiety, confusion, and dissonance (Kelly, 1955), thus lowering the therapist's sense of self-efficacy in working with a particular population. Modification of those diversity construct systems allows the individual to reconcile the dissonance experienced and to adapt better to the external world.

Intercultural interactions were highlighted in Kelly's 1955 text as a common social setting in which interpersonal difficulties can occur based on different cognitive structures. Despite the knowledge imparted on counselor trainees and the self-awareness fostered within diversity classes, it is inevitable that trainees will still experience a cross-

cultural faux pas in a therapy setting. If the diversity construct systems of the counselor and the client are different, such difference could lead to misunderstanding of cultural factors and/or difficulties in interpersonal communication. When these cultural impasses occur, the counselor's self-efficacy in his/her ability to work with a client with a particular cultural background may decrease.

Cross-cultural counseling can be viewed within the framework of diversity construct systems. For example, a therapist in the U.S. has most likely learned some information about Native Americans within a multicultural counseling course. From learning about this cultural group in an academic setting, interpersonal interactions with peers and family members, or watching television, a diversity construct system related to Native Americans has been constructed. When that therapist has a counseling session with a Native American person, he/she utilizes his/her diversity construct system to determine how to interact (e.g., perhaps minimizing eye contact while talking with the individual who is an older Native American). Depending on the Native American client's response, the therapist will either confirm his/her diversity construct (e.g., minimizing eye contact is a positive response set) or disconfirm the diversity construct (e.g., revaluate whether the amount of eye contact is appropriate for all Native American clients).

Diversity construct systems provide a framework for understanding the process of cross-cultural interactions. It is not simply the information counselors *have* (i.e., multicultural counseling knowledge and awareness) but *how* that information is *organized* and *used* in interpersonal interactions, such as those between a counselor and a

client. A diversity construct system is comprised of various pieces of information about culture and diversity that may include types of diversity and cultural norms, along with broader concepts about oppression and privilege. The organization of the diversity construct systems depends on the degree to which an individual can differentiate various elements of diversity (e.g., race is a highly visible element of diversity as compared to religion/spirituality which is closer to invisible) while at the same time integrate the constructs he or she uses to evaluate these elements. To understand better how counselors make decisions in cross-cultural interactions, it may be beneficial to explore how the counselor's knowledge about culture is structured within a diversity construct system and how complex such a system is.

Cognitive complexity. Cognitive complexity is a variable(s) that quantifies the structure within an individual's construct system. Bieri, Blacharsky, and Reid (1955) defined cognitive complexity as the mechanism that allows people to formulate hypotheses about social interactions in a multidimensional manner. In the case of diversity construct systems, cognitive complexity represents the manner in which an individual views diversity and culture as multidimensional. The level of complexity is based on two variables, differentiation and integration (Crockett, 1965). Differentiation refers both to the amount of diversity information recognized and the level in which diversity elements can be distinguished from one another. Integration refers to the manner in which the constructs that link elements of diversity are related to each other. Being able to detect subtle differences in interpersonal interactions may provide an

advantage regarding predicting and then choosing an appropriate response (Adams-Webber, 2003).

Given the role of diversity construct systems in interpersonal interactions, cognitive complexity may help explain the cognitive process that occurs in a counseling setting. Being able to generate a variety of responses in a counseling situation and choosing the most appropriate response may lead to more successful interactions with others (Bieri et al., 1955). The complexity of one's diversity construct system is influenced by the knowledge and awareness of a given topic. It is likely that multicultural coursework, readings, and discussions contribute to the development and revision of those construct systems. Counselors draw upon their diversity construct systems when given a clinical scenario. When the diversity construct system is more complex, the counselor is able to view the client's presenting issues within a multidimensional manner, thus feeling more confident in his/her ability to choose an appropriate response.

Diversity cognitive complexity may contribute to the development of multicultural self-efficacy and the ability to conceptualize clients in a multicultural framework. One possibility is that diversity cognitive complexity mediates the relationship between predictor variables of clinical hours, knowledge, and awareness with the two outcome variables of multicultural counseling self-efficacy and multicultural case conceptualization ability. Learning factual information about diversity alone is not sufficient for bringing about desirable training outcomes; diversity cognitive complexity may be playing a role in the relationship. The ability to differentiate between various

elements of diversity is imperative when conceptualizing client presenting issues in a culturally sensitive way. Diversity cognitive complexity integration may enhance counselors' ability to understand the relationship that underlies all elements of diversity (as represented by constructs), which in turn facilitates the conceptualization of a client's multiple identities. Since multicultural knowledge and awareness are cognitive processes, any study examining those variables could be implicitly capturing diversity cognitive complexity. In order to isolate the unique contributions of multicultural knowledge, awareness, and diversity cognitive complexity on multicultural counseling outcomes, a mediation model must be tested. The current study aims to assess whether diversity cognitive complexity could mediate the relationship between training predictors (such as multicultural knowledge and awareness) and multicultural outcome variables.

Alternatively, the relationship between training predictors (i.e., direct client hours, knowledge, and awareness) and outcome variables could be moderated by diversity cognitive complexity. Constantine and Ladany's (2000) study suggested that multicultural knowledge, awareness, and clinical hours did not directly predict case conceptualization ability. The lack of relationship between these variables could be indicative of an interaction caused by a third variable, such as diversity cognitive complexity. Knowledge and awareness certainly contribute to developing self-confidence in performing a skill; however, the relationship between those variables may vary based on level of cognitive complexity. For instance, if a counselor reports high levels of knowledge and awareness but is unable to think about diversity in a multidimensional manner or integrate the underlying constructs of diversity, it is possible

that counselor may become overwhelmed with the abundance of client information, and his/her case conceptualization ability may be limited. On the other hand, high levels of diversity cognitive complexity would likely enhance the positive relationship between the predictor variables and multicultural self-efficacy and case conceptualization ability. Counselors are able to draw upon a larger pool of clinical hypotheses when they have higher levels of cognitive complexity. Being able to consider multiple hypotheses and embracing the complexity of the human experience foster counselor self-efficacy to perform culturally sensitive behaviors.

Counseling courses that incorporate both learning content and applied skills may contribute to the development of cognitive complexity. Engaging in a counseling microskills course was shown to increase the cognitive complexity of graduate trainees (Duys & Hedstrom, 2000; Little, Packman, Smaby, & Maddux, 2005). Given that multicultural coursework provides content to build upon an existing diversity construct system, a similar relationship is likely to exist between multicultural knowledge and awareness and cognitive complexity. Multicultural knowledge and awareness fostered in a classroom setting may act as a catalyst for the development of complexity in counselors' diversity construct systems.

Just as gaining knowledge and awareness regarding multicultural issues may contribute to self-efficacy, increased cognitive complexity may enhance multicultural self-efficacy. Bieri and colleagues (1966) postulated that higher levels of cognitive complexity would allow individuals to have more confidence in their own response set in a given situation. Cognitive complexity has been linked to self-efficacy in general

interpersonal interactions (Adams-Webber, 2003). It is, therefore, logical to hypothesize that counselors-in-training whose diversity construct systems have higher complexity would also exhibit higher multicultural counseling self-efficacy. With more experience in cross-cultural settings, trainees would have more opportunities to develop and revise their diversity construct systems, which could lead to greater cognitive complexity. With a more complex diversity construct system, a trainee may be more able to devise multiple hypotheses based on the cultural context of a client's presenting issues. Being able to compare various interventions fosters the development of counselors' self-efficacy in choosing and performing culturally appropriate treatment plans.

While distinguishing between various elements of diversity is important for therapeutic behaviors, understanding how those elements are related to one another or integrated together, into a single identity and client experience, is just as important. Without the ability to relate the elements of diversity together, counselors may only focus on each element individually (e.g., focusing on the experience of being Native American, and a woman but not the intersection of the two identities). The ability to integrate diversity elements to form a coherent conceptualization of a client's experience is indicative of higher levels of cognitive complexity.

Complex diversity construct systems are also likely to be associated with the ability to conceptualize client issues in a culturally appropriate manner. Part of this multidimensional cognitive processing requires incorporating new information from a client case into existing constructs (Scott, 1962). Counselors who have more complex construct systems may seek out additional client information to incorporate and expand

into their existing system rather than relying on the minimal information needed to develop culturally appropriate interventions (Spengler & Strohmer, 1994). The incorporation and synthesis of cultural information relevant to client cases is important to multicultural case conceptualization ability (Ladany et al, 1997).

Being able to incorporate multiple pieces of clinical information, including information incongruent with a counselor's diversity construct system, has been linked to cognitive complexity. Tripodi and Bieri (1964) found that counselors with higher levels of cognitive complexity were able to integrate clinical information that initially contradicted a construct system. Counselors who demonstrated a greater ability to conceptualize the world in a multidimensional manner were more adept at integrating a plethora of clinical information for conceptualizations (Watson, 1976). The ability to understand a client's cultural worldview and appreciate its subtleties within therapy may be related to cognitive complexity. Cognitive complexity has been shown to be a moderating variable in clinician decision making (Spengler & Strohmer, 1994; Walker & Spengler, 1995). For example, experienced therapists who demonstrate higher levels of cognitive complexity were less likely to make diagnostic mistakes when presented with contextual factors in a client case scenario (Spengler & Strohmer, 1994). Conversely, counselors with lower levels of cognitive complexity had engaged in stereotyping more frequently when conceptualizing client concerns and also made more diagnostic mistakes (Spengler & Stohmer, 1994). Walker and Spengler (1995) reported a similar finding regarding a clinician's ability to accurately diagnosis depression in a patient who also had a diagnosis of AIDS. Diversity cognitive complexity could similarly moderate the

relationship between training variables and multicultural counseling outcome variables. In the context of cross-cultural counseling, there are many factors that need to be attended to when conceptualizing clients' presenting issues and developing an appropriate treatment plan. And, based on the literature, a higher level of cognitive complexity is likely to be associated with better case conceptualization ability.

Repertory grids for assessing cognitive complexity. The potential for cognitive complexity to contribute to an alternate training model requires the development of a diversity specific cognitive complexity measure. One common method of assessing cognitive complexity is through repertory grids. Over 1,000 research articles have been published utilizing the repertory grid technique to assess the relationships between constructs (Neimeyer, Baker, & Neimeyer, 1990). This method allows researchers to develop a clearer picture of an individual's construct system through matrix or numerical form (Mau, 1997). The development of grids usually follows a three-step procedure to be individualized to each person: (a) Elicit elements (race/ethnicity, gender, religion); (b) elicit constructs (the manner in which those elements are similar or different from each other; e.g., visible vs. invisible); (c) rate each element along the constructs (e.g., gender as most visible, then race/ethnicity, and religion rated as more invisible). This method allows researchers to elicit elements and constructs of a grid that are unique to each individual, hence, providing abundant information on how the individual perceives the external world. However, this approach is limited in regards to generalizability for the very same reason. A comparison study of reliability between researcher-supplied and participant-elicited grids yielded no significant differences (Mau, 1997).

Where there are standardized grids for assessing personal construct systems in the fields of personality research and vocational psychology, there are currently no such procedures developed specifically for the diversity domain. Often, when studied within the realm of counseling, cognitive complexity is measured in the domain of personal relationships (e.g., Duys & Hedstrom, 2000; Wendler & Nilsson, 2009). Wendler and Nilsson's (2009) attempt to explore the role of general cognitive complexity and trainees' awareness and appreciation of cultural diversity underscores the importance of domain specificity. Wendler and Nilsson (2009) utilized the relationship domain with elements such as mother, best friend, boss, in measuring cognitive complexity. Cognitive complexity was not a significant predictor of participant beliefs about diversity. Wendler and Nilsson (2009) postulated that their decision to measure cognitive complexity in a general, rather than diversity-specific, manner could have contributed to the non-significant results. There has been empirical support for domain specific cognitive complexity providing more information about the cognitive processes in counselors as compared to general measures (Welfare & Borders, 2010).

In the current study, a diversity grid was developed to assess cognitive complexity of an individual's diversity construct system and was modeled after general repertory grids, including both provided elements (y axis of the grid) and provided constructs (x axis of the grid). The diversity grid was designed to measure how a participant understands the relationships among various elements of diversity (e.g., ethnicity/race, religion/spirituality, socioeconomic status, sexual orientation, and gender). The elements of diversity were compared to one another along each of the constructs, which are

adjectives presented as two poles of the same construct (e.g., visible / invisible). Elements were rated along the continuum based on how much the participant believes the element of diversity to be visible or invisible. The result of rating each element across various constructs is a matrix representation of one's diversity construct system (see Figure 1, page 53). Then, a participant's cognitive complexity (i.e., differentiation and integration) are derived from the matrix.

Multicultural knowledge and awareness are likely predictive of both multicultural self-efficacy and multicultural case conceptualization; however, the relationships with both outcome variables are dependent on the levels of differentiation and integration. Counseling students who demonstrate high levels of both differentiation and integration are likely to have the highest reported multicultural self-efficacy and case conceptualization ability. The ability to differentiate between the elements of diversity while still understanding the integrative nature of a single identity (e.g., gender identity and racial identity) may contribute to a counselor's confidence in his/her ability to address issues related to elements of diversity in session. High levels of differentiation with low levels of integration is indicative of recognition of the differences in elements of diversity but a lack of understanding the integrative nature of a client's identity. High integration with low differentiation may signal a lack of knowledge about diversity and multicultural issues, thus treating all elements of diversity as a single entity. Counseling students with low levels of both differentiation and integration are likely to report the lowest levels of multicultural self-efficacy and case conceptualization ability. The development of a diversity grid would allow for exploring the role of cognitive

complexity in the diversity domain and its relations to multicultural self-efficacy and multicultural case conceptualization ability.

PURPOSE OF THE STUDY

The increasing population growth among minority groups in the United States indicates a clear need for the training of counselors who can work effectively with diverse client populations. The original model of MCC, which is based on knowledge, awareness, and skills, is unable to explain the process by which counselors develop the ability to work in a multiculturally competent manner. Exploring immediate training outcome variables, such as multicultural counseling self-efficacy and case conceptualization ability, can provide insight into the process by which counselors learn how to work effectively with clients who have different cultural backgrounds.

Diversity cognitive complexity may provide new insight into the process by which trainees translate what is learned in the classroom to performance in the therapy room. Since multicultural knowledge and awareness are cognitive processes and cognitive complexity is a measure of cognitive processing, it is possible that diversity cognitive complexity is contributing to the variance that previously was accounted for solely by multicultural knowledge and awareness. One way to parcel out the unique contribution of diversity cognitive complexity, multicultural knowledge, and multicultural awareness on multicultural counseling outcomes is by testing a mediation model.

Multicultural knowledge, awareness, and experience working with diverse client populations all contribute to a counselor's diversity construct system; however, the level

of complexity of that system may be the intermediate link between training variables such as multicultural knowledge and awareness and multicultural counseling outcomes. Previous research indicated general cognitive complexity moderated counselor's ability to accurately conceptualize client concerns (i.e. Spengler & Strohmer, 1994); therefore, it is possible that diversity cognitive complexity moderates the relationship between the predictor variables and multicultural counseling outcome variables. Diversity cognitive complexity provides a window into the manner in which counselor diversity construct systems are structured and utilized when thinking about diversity.

The purpose of the current study was to explore the mediating and moderating effects of counselors' cognitive complexity on the relationship between training predictors (i.e., direct contact hours, multicultural knowledge and awareness) with the outcome variables (i.e., multicultural counseling self-efficacy, multicultural case conceptualization ability). A pilot study was conducted to develop the Diversity Grid in which the elements and constructs were supplied by the researcher. The purpose of the Diversity Grid was to measure diversity cognitive complexity. After the standardization of the grid, counseling and clinical graduate students were surveyed to explore the mediation and moderation effects of diversity cognitive complexity on the predictors and outcome variables. Specifically, the research questions and hypotheses were as follows:

Research question A: Does diversity cognitive complexity (i.e., integration and differentiation) mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy? Hypotheses for research question A: A1. There will be a

significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy. A2. Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy.

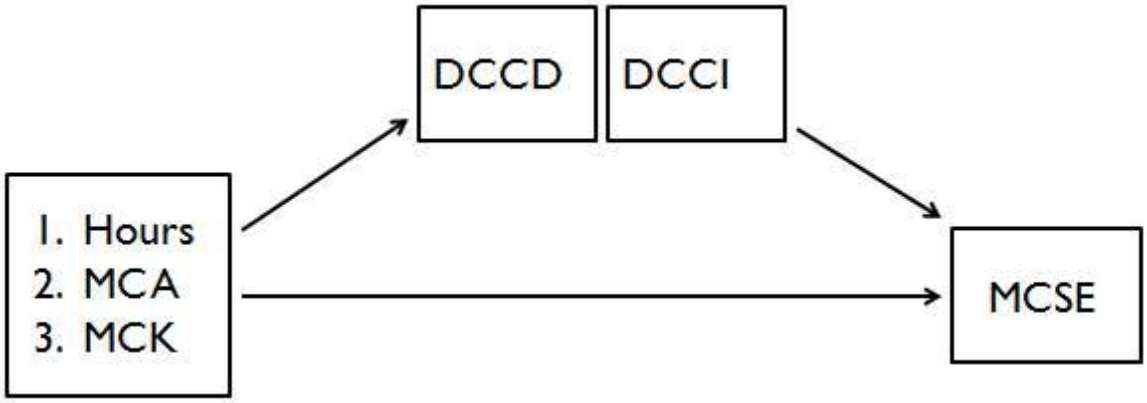

Figure 1. Mediation model for hypotheses A1 and A2. Hours = direct contact hours with racially-different clients; MCA = multicultural awareness; MCK = multicultural knowledge; DCCD = diversity cognitive complexity differentiation; DCCI = diversity cognitive complexity integration; MCSE = multicultural counseling self-efficacy.

Research question B: Does diversity cognitive complexity (i.e., integration and differentiation) mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability? Hypotheses for research question B: B1. There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. B2. Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability.

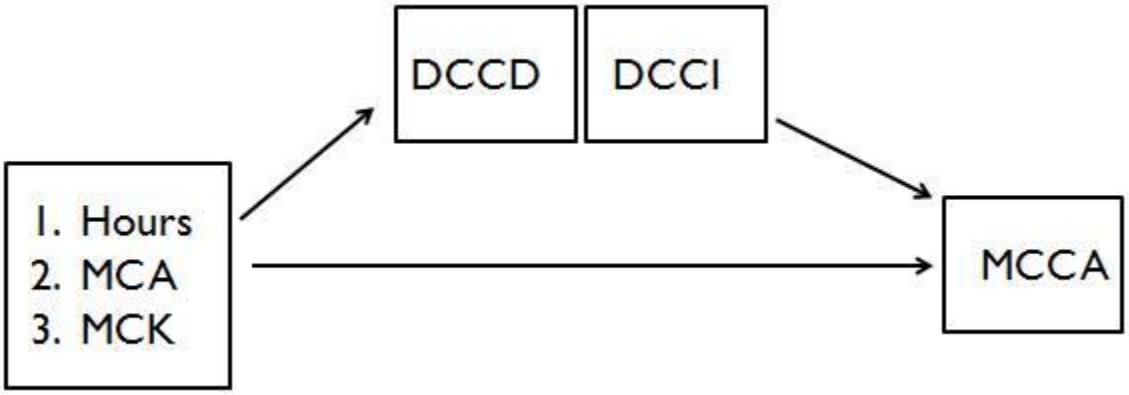

Figure 2. Mediation model for hypotheses B1 and B2. Hours = direct contact hours with racially-different clients; MCA = multicultural awareness; MCK = multicultural knowledge; DCCD = diversity cognitive complexity differentiation; DCCI = diversity cognitive complexity integration; MCCA = multicultural case conceptualization ability.

Research question C: Does diversity cognitive complexity (i.e., integration and differentiation) moderate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy? Hypothesis for research question C: C1. The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural self-efficacy.

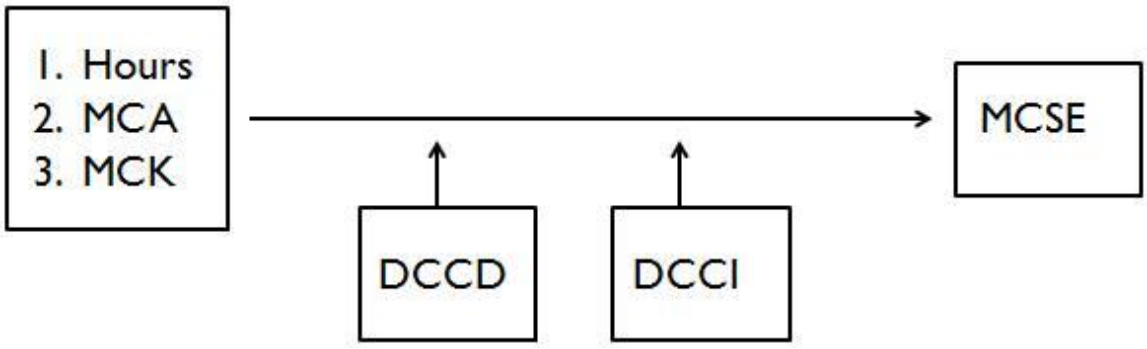

Figure 3. Moderation model for hypothesis C1. Hours = direct contact hours with racially-different clients; MCA = multicultural awareness; MCK = multicultural knowledge; DCCD = diversity cognitive complexity differentiation; DCCI = diversity cognitive complexity integration; MCSE = multicultural counseling self-efficacy.

Research question D: Does diversity cognitive complexity (i.e., integration and differentiation) moderate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability? Hypothesis for research question D: D1. The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural case conceptualization ability.

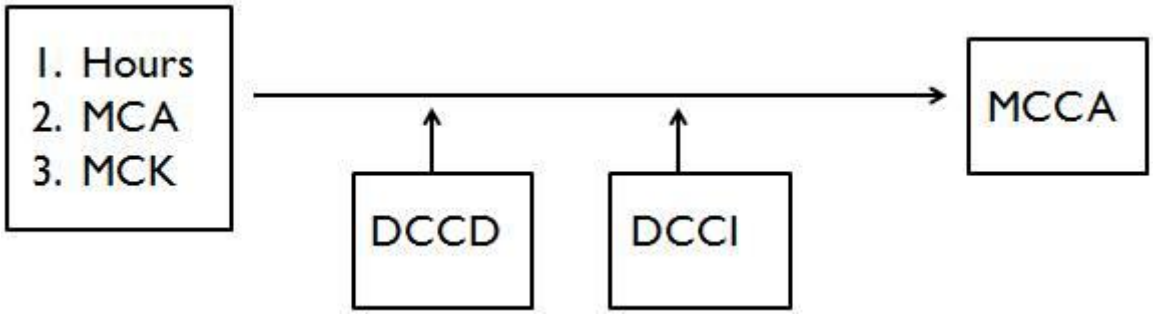

Figure 4. Moderation model for hypothesis D1. Hours = direct contact hours with racially-different clients; MCA = multicultural awareness; MCK = multicultural knowledge; DCCD = diversity cognitive complexity differentiation; DCCI = diversity cognitive complexity integration; MCSE = multicultural counseling self-efficacy.

Chapter 2

METHODS

PARTICIPANTS AND RECRUITMENT

After Institutional Review Board approval was obtained (see Appendix A), recruitment was conducted through personal contact and listservs of professional organizations such as the Council of Counseling Psychology Training Programs listserv. QuestionPro software was used for online data collection. Informed consent was obtained from all participants prior to their completing the surveys (see Appendix B). After completing the survey, participants were instructed to email the principal investigator their email addresses to enter a raffle to win an online gift certificate. To maintain confidentiality, participants' emails were not linked to their data. See Appendices B, C, D, E, and F for the scales used in the current study.

One hundred and sixty-one graduate trainees currently enrolled in American Psychological Association (APA) or Council for Accreditation of Counseling & Related Educational Programs (CACREP)-accredited counseling-related graduate programs participated in this study; however, 10 participants were removed from the analysis due to missing over 25% of response sets within the online survey. One hundred and sixteen (77%) participants were female, 35 (23%) were male, and participants ranged in age from 21 to 56 years of age (M = 28.39, SD = 6.05). The majority of participants identified as White (n = 111, 73.5%), and the remaining participants identified as Multi-ethnic (n = 10, 6.6%), Latino/a (n = 6, 4.0%), African American, (n = 5, 3.3%), Asian American (n = 5, 73.5%), international (n = 5, 3.3%), or Native American (n = 3, 2.0%), and six (4.0%)

participants identified as a member of a racial group not listed in the demographics survey. These demographics are representative of the current racial/ethnic demographic of Counseling, Clinical, and Counseling Psychology programs in the United States.

Regarding participant educational program and background, the majority of participants were working toward a doctoral degree (Ph.D., *n* = 90, 59.6%; Psy.D., *n* = 22, 14.6%), with the remaining participants working toward a master's degree (*n* = 39, 25.8%). Most participants reported having earned a master's degree (*n* = 88, 58.3%) prior to their current degree pursuit. A small number of students reported having earned a doctorate in a different field (*n* = 6, 4.0%). The most commonly reported area of psychology being studied was Counseling Psychology (*n* = 75, 49.7%), followed by Clinical Psychology (*n* = 48, 31.8%), and then Clinical Mental Health Counseling (*n* = 17, 11.3%). The remaining participants reported they were studying in areas of School Counseling (*n* = 6, 4.0%), Counselor Education (*n* = 2, 1.3%), Community Counseling (*n* = 1, .7%), Health Psychology (*n* = 1, 0.7%), and Student Affairs (*n* = 1, 0.7%). The majority of participants had completed at least one multicultural counseling course prior to participation (one course, *n* = 66, 43.7%; two courses *n* = 37, 24.5%; three or more courses *n* = 26, 16.6%). Approximately 15% of students reported not having any multicultural counseling course at the time of taking the survey. In comparison, a much larger number of participants reported never attending a workshop that covered multicultural counseling topics (*n* = 58, 38.4%). See Table 1 for the descriptive statistics of participant cross-cultural clinical hours. To be eligible for participation, students must have completed at least one semester of clinical practicum. The initial power and sample

size analyses (power level = .08, α = .05, f^2 = .15) suggested that a sample size of 113 was required for the regression procedure utilized in this study.

Table 1

Overview of the Cross-Cultural Direct Contact Hours

Variable	0-8 Hours		9-16 Hours		17-24 Hours		25-32 Hours		33 + Hours	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
African Am	46	30.5	22	14.6	11	7.3	12	7.9	60	39.7
Asian Am	83	55.0	27	17.9	19	12.6	6	4.0	16	10.6
Latin@	56	37.1	24	15.9	14	9.3	12	7.9	45	29.8
Native Am	116	76.8	12	7.9	7	4.6	8	5.3	8	5.3
White	23	15.2	12	7.9	8	5.3	10	6.6	98	64.9
Multiracial	44	29.1	32	21.2	18	11.9	16	10.6	41	27.2

Note. African Am = African American, Asian Am = Asian American, Native Am = Native American.

INSTRUMENTS

The online survey consisted of an informed consent page, a demographics page, and four instruments. Within the demographics page (see Appendix B), the independent variable of cross-cultural direct contact hours was assessed. To minimize any priming effects, instruments assessing the dependent variables were presented first followed by the independent variables. The following instruments were presented to participants: Multicultural Counseling Knowledge and Awareness Scale (Ponterotto et al., 2002), Multicultural Case Conceptualization (Ladany et al., 1997), Multicultural Counseling

Self-Efficacy – Racial Diversity form (Sheu & Lent, 2007), and the Diversity Grid. Participants were allowed to end the survey at any time.

Independent variable: Multicultural Counseling Knowledge and Awareness Scale. (MCKAS; Ponterotto et al., 2002). The 32-item MCKAS measures participants' multicultural knowledge about various aspects of diversity as well as awareness of their own ethnocentric biases within counseling (see Appendix C). The 12-item Multicultural Awareness subscale consists of items such as "I am aware that being born a White person in this society carries with it certain advantages," and "I believe that my clients should view the patriarchal structure as ideal." Sample items from the 20-item Multicultural Knowledge subscale are "I understand the impact and operations of oppression and the racist concepts that have permeated the mental health profession," and "I am aware of certain counseling skills, techniques, or approaches that are more likely to transcend culture and be effective with any clients." Following the instructions, "Using the following scale, rate the truth of each item as it applies to you," participants rated each item on a 1 (*Not at all True*) to 7 (*Totally True*) Likert-type scale. Higher scores represent stronger endorsement of multicultural knowledge and multicultural awareness. The average score for each subscale was utilized.

Ponterotto et al. (2002) reported internal consistency reliability coefficients of .85 for both the Knowledge and Awareness subscale scores. Both were also found to correlate with the scores on the Multicultural Counseling Inventory (*MCI*; Sodowsky et al., 1994) and the Multigroup Ethnic Identity Measure (*MEIM*; Phinney, 1992). Specifically, the Knowledge subscale score was positively correlated with the MCI skills,

MCI knowledge, MCI awareness subscale scores, and the MEIM ethnic identity scale score. The Awareness subscale score was positively linked to MCI awareness subscale score (Ponterotto et al., 2002). For this study, the Multicultural Counseling Awareness subscale Cronbach's alpha was .81 (M = 6.10, SD = .33) and the Multicultural Counseling Knowledge subscale Cronbach's alpha .91 (M = 5.39, SD = .30).

Dependent variable: Multicultural Counseling Self-Efficacy Scale – Racial Diversity. (*MCSE-RD*; Sheu & Lent, 2007). The MCSE-RD is a measure designed to assess participant's confidence in their ability to succeed at specific multicultural counseling skills when working with racially diverse clients (see Appendix D for the scale used in the current study). Multicultural counseling self-efficacy has been linked to training outcomes, such as the intent to work with racially diverse populations in the future (Sheu, Rigali-Oiler, & Lent, 2012). Additional variables correlated with MCSE-RD include scores derived from the MCI and Counselor Activity Self-Efficacy Scales (CASES; Lent et al., 2003). The three subscales of the MCSE-RD include: (a) Multicultural Counseling Intervention (24 items); (b) Multicultural Counseling Assessment (6 items); and (c) Multicultural Counseling Session Management (7 items). Higher scores represent higher levels of confidence in one's ability to perform multiculturally appropriate tasks. A sample Intervention item is "Take into account cultural explanations of the client's presenting issues in case conceptualization." For Assessment, a sample item is "Conduct a mental status examination in a culturally sensitive way." A sample item for the Session Management subscale is "Keep sessions on track and focused with a client who is not familiar with the counseling process."

Participants rate items using a 10-point Likert-type scale with anchors of 0 (*No Confidence at All*) to 9 (*Complete Confidence*). Sheu and Lent (2007) reported a Cronbach's alpha for the total scale of .98 (M = 5.39, SD = 1.57). For this study, the Cronbach's alpha for the total MCSE-RD scale was .98 (M = 7.39, SD = .62). The total average score of MCSE-RD was used for the regression analysis.

Dependent variable: Multicultural Case Conceptualization Ability. (*MCCA*, Ladany et al., 1997). Multicultural Case Conceptualization Ability (MC Case Conceptualization Ability) measures one's ability to conceptualize clients within a multicultural context, both in explaining clinical etiology and in developing relevant treatment interventions. MC Case Conceptualization Ability is modeled on previously developed case conceptualizations (e.g., Constantine & Ladany, 2000; Ladany et al., 1997). Counselor-trainee factors positively linked to MC Case Conceptualization Ability include empathy attitudes (Constantine, 2001), ethnic tolerance attitudes and the lack of racist beliefs (Constantine & Gushue, 2003), and multicultural training (Lee & Tracey, 2008).

The ability to conceptualize clients is measured on two variables, *separation* and *incorporation*. Separation is defined as the ability to develop different interpretations of a client's presenting issue as well as to provide alternative treatment options while referencing multicultural variables (e.g., culture, race, ethnicity, sex, age) (Ladany et al., 1997). Incorporation is defined as connecting those various interpretations and treatment options to form a coherent conceptualization (Ladany et al., 1997). Since each participant responded to two different case scenarios, each participant received two

scores for separation and two scores of incorporation. The four scores were summed to create a single multicultural case conceptualization ability indicator. Two coders were trained to assess the degree of separation and incorporation in each participant's case conceptualization. Previous studies have found high interrater reliability among coders (r = .86 in Ladany et al., 1997; r = .87 in Tetlock & Kim, 1987). For this study, the interrater agreement was r = .87.

Multicultural Case Conceptualization Ability development and procedure. Scenarios were modeled after those utilized in Constantine and Ladany's (2000) case conceptualization study. The racial backgrounds of clients in the scenarios for the current study were based on the three largest ethnic minority populations in the United States (U.S. Census Bureau, 2008), specifically Latino/a, African American, and Asian American. The two client scenarios (one of a female client and one of a male client) read by each participant varied by race and gender, with all other details of the case remaining the same. For example, the client might be a Latino male or an African American female. For each scenario provided, participants received one of three options based on client racial background. A question about birthday month was used to assign participants randomly to one of three race/ethnicities in the client case vignettes.

Participants were presented with two different client scenarios. For each scenario, they were asked to visualize themselves as a counselor about to see a client for the first time. Participants were provided with a standard intake form that presented basic demographic information (i.e., age, gender, sexual orientation, marital status, race, etc.). In addition to the intake form, a short vignette was provided. Instructions told the

participant to: “imagine you are in your first session with this client and you just read the intake form. You have asked the client ‘what brings you in today?’ and the client provides the following response.” A short paragraph is then presented with the client’s response to “what brings you in today.”

For the case of Rebecca, the initial intake form was presented with basic demographics, her occupation (student), and her self-reported presenting problems of relationship stress and academic concerns. The vignette provided participants with the following information:

> I’ve just been feeling really down lately. I haven’t been doing very well in my classes and I have a specific scholarship GPA I have to keep for every semester. If I lose my scholarship I can’t afford to be at school anymore. I’m taking classes for engineering and they are so hard. I was hoping to find a study group in my classes, but the only people I see – I don’t know, I just can’t relate to them. In one of my classes I’m the only girl with a class of 25 guys. I thought school was going to be a lot easier – but I just don’t fit in. The classes are harder than I thought and I have been feeling really alone. I miss my family a lot, I try to talk with them every day but I feel like I can’t tell them how I’m really feeling. I’m the first person to go to college in my family, and I don’t want to let them down… and even if I told them what I was feeling, they don’t understand what it’s like to be here. I don’t know, maybe college isn’t for me.

See Appendix F for the remaining scenarios used in the study.

After reading each scenario, participants were prompted to write two short essays. For the first essay, participants were instructed: "Write a conceptualization of at least three sentences describing what you believe to be the etiology of [the client]'s psychological difficulties (i.e., provide a conceptualization of the presenting concerns)." Participants were then prompted for the second essay with the following statement: "Describe a treatment plan(s) you would develop for [the client] with at least three sentences." Each essay required a minimum of a three-sentence response from the participant.

Multicultural Case Conceptualization Ability raters. Two advanced graduate students in a Counseling Psychology program were trained to rate participants' responses to the MC Case Conceptualization Ability scenarios. Advanced graduate students were chosen due to past clinical experience. Raters were unaware of the study hypotheses at the time of the coding. The first rater identified as an African American male, and the second rater identified as an Asian female. Both raters had at least one multicultural counseling class and one year of clinical practicum. In addition to written directions for response ratings (see Appendix G) the principal investigator provided six hours of training focusing on the method used for rating case scenarios. Raters read and discussed articles that utilized MC Case Conceptualization as a measure (e.g., Lee & Tracey, 2008; Ladany et al., 1997). Following an overview and discussion of how to rate scenario responses, raters examined sample conceptualizations and discussed separation and incorporation within the responses. The principal investigator provided continuous feedback during the training to ensure reliability among ratings. Training continued until

an interrater reliability of 85% was met, as suggested by Ladany et al. (1997). During the coding process, raters were instructed not to consult about participant responses in order to maintain an unbiased review of participant responses. After coding was completed, the two raters and the principal investigator discussed any participant responses that were deemed "questionable" by either rater until a consensus was reached by the three individuals.

Multicultural Case Conceptualization Ability coding system. The coding system utilized by Ladany and colleagues (1997) to assess multicultural case conceptualization ability was adopted in this study. Ladany and colleagues (1997) modified a coding system originally developed by Tetlock and Suedfeld (1988) to assess case conceptualization within a multicultural context. Both separation and incorporation are components of the case conceptualization score. Although the measure utilized two essays to assess case conceptualization ability, raters coded both essays for each case scenario during the coding process.

Raters coded overall separation for each case scenario independently. The construct of separation captures the ability to recognize elements of diversity. For the purpose of coding, cultural diversity factors were limited to the following elements: Age, disability, race, ethnicity, sexual orientation, socio-economic status, religion/spirituality, and gender. Separation ratings ranged from 1 to 3 (1 = no mention of cultural factors, 2 = 1 to 2 culturally based factors mentioned, 3 = 3 or more culturally based factors mentioned).

Similar coding guidelines were utilized for rating incorporation within participant essays. Incorporation captures the *how* (how do cultural factors contribute to the presenting concerns) and *why* (why is it important to address cultural factors in treatment) related to the case scenario. Incorporation ratings ranged from 1 to 3 (1 = no attempt at connecting cultural factor to psychological issues or treatment plan, 2 = 1 to 2 attempts at connecting cultural factors to psychological issues or treatment plan, 3 = 3 or more attempts at connecting cultural factors to psychological issues or treatment plan). The detailed scoring protocol established by Ladany et al. (1997) is presented in Appendix D.

Raters coded both case scenarios for every participant. After each rater coded participant responses, a single index was created to represent multicultural case conceptualization ability. Specifically, for each of the two essays, a participant received one separation score and one incorporation score from each rater. Those ratings were then summed to create single separation scores for every participant. The same process was followed for the incorporation scores. Next, the separation scores for every participant were averaged, as were the incorporation scores, resulting in a single separation index and a single incorporation index for each participant. These two indices were then summed to create a single case conceptualization index ranging from 4-12.

Mediation/moderation variable: Diversity Cognitive Complexity. Diversity cognitive complexity (DCC) is the ability to distinguish between various elements (such as race/ethnicity, gender, sexual orientation, disabilities), while being able to integrate the information in a multifaceted manner (Bieri et al., 1966). The diversity grid was used to assess the structure and content of an individual's cognitive map, in this case, their

diversity cognitive complexity (Walker & Winter, 2007). Specifically, an individual's ability to distinguish information is measured with a single index (i.e., *differentiation*) and the ability to integrate information is measured with another index (i.e., *integration*). The diversity grid was used to measure DCC. The pilot study describing the standardization process is reported under the Pilot Study section. Studies exploring correlations of general cognitive complexity indicate that therapists with higher cognitive complexity make fewer diagnostic mistakes (Spengler & Stohmer, 1994) and are better able to integrate contradictory or incongruent clinical information as compared to those with lower cognitive complexity (Holloway & Wolleat, 1980). In the context of multicultural counseling, higher levels of complexity are likely to predict the ability to understand the diverse dimensions of a client.

The development and structure of the grid was modeled based on a grid used to measure general cognitive complexity (e.g., Bieri et al., 1966; Holloway & Wolleat, 1980). Standardization of the grid (i.e., all participants rate eight elements across eight constructs) is necessary for administrative efficiency and consistency within the measure regarding the operationalization of diversity cognitive complexity. Grids are composed of elements on the horizontal axis and constructs on the vertical axis. Elements represent a sampling of different aspects of the phenomenon of interest (e.g., diversity). A construct is a unit of description used by individuals to organize and understand the elements (Bieri et al., 1966). Each construct is bipolar; finite, and dichotomous (Kelly, 1955).

The eight-by-eight Diversity Grid (see Appendix E) was standardized based on the pilot study. The Diversity Grid had constructs (e.g., "discrete vs. continuous," "visible vs. invisible") along the vertical axis and elements of diversity along the horizontal axis. Participants were instructed to rate each of the eight diversity elements (race, sexual orientation, gender, socioeconomic status, immigration status, religion/spirituality, disability status, and age) across each of the constructs based on a five point Likert-type scale with anchors of 1 and 5. For example, along the construct of "visible (1) – invisible (5)," a possible set of ratings could be as follows: race (3), sexual orientation (4), gender (1), socioeconomic status (5) immigration status (3), religion/spirituality (5), disability status (2), and age (1).

In light of Bieri et al.'s (1966) description of cognitive complexity as the ability to interpret social behavior in a multidimensional manner, it was important to consider indices of both differentiation and integration. The more individuals can understand the similarities while also conceptualizing differences between diversity elements, the higher their cognitive complexity. For the primary study, quantitative analyses were conducted to develop the two indices (differentiation and integration) representing cognitive complexity. The math programming software MATLAB was utilized to develop the two indices. The program utilized can be found in Appendix H.

One aspect of DCC that was measured is differentiation. If an individual is unable to differentiate between the various elements of diversity (i.e., rating the five elements similarly along numerous constructs), this is considered low differentiation. An example of low differentiation along a construct of "visible – invisible" would be as

follows: race (2), sexual orientation (1), gender (1), socioeconomic status (2) immigration status (2), religion/spirituality (3), disability status (2), and age (1). The standard deviations of the ratings were calculated for each diversity construct on the set of elements to develop a differentiation (DCCD) index (Mau, 1997). Standard deviations were summed and divided by the number of constructs on the grid for each individual participant.

In addition to distinguishing the nuances between elements of diversity (i.e., differentiation), an integration index was also calculated for DCC. An individual's ability to synthesize knowledge about each of the elements of diversity within multiple constructs element is integration. Level of integration among diversity elements was assessed by calculating product-correlations among the construct ratings (Mau, 1997). This was conducted by entering each rating as a variable to be used in a correlation analysis. After correlation coefficients were squared and summed, the average correlation coefficient was weighted based on the eight constructs. This resulted in a single integration (DCCI) index for each participant.

Diversity grid pilot study. A pilot study was conducted to standardize the Diversity Grid for the measurement of DCC. The process of standardization of the diversity grid was based on Jankowicz's (2004) recommendations. Grids are composed of elements and constructs. The elements of the grid were chosen based on the common conceptualization of cultural components: the ADDRESSING model of diversity (Hays, 2008). ADDRESSING incorporates the following aspects: age, disability (developmental disability and acquired disability), religion/spirituality, ethnicity/race, socioeconomic

status, sexual orientation, indigenous affiliation, nationality, and gender. While all of the ADDRESSING aspects of diversity are important in the context of multicultural counseling, eight common cultural identifiers were chosen as grid elements: race, sexual orientation, gender, socioeconomic status, immigration status, religion, disability status, and age. While immigration status was not part of the original ADDRESSING model, given the sociopolitical context of immigration status in the United States of America in the past decade, it was chosen to be part of the diversity grid.

A semi-structured interview was utilized to elicit constructs for the diversity grid. The interviews were conducted by the principal investigator. Nine counseling psychology doctoral students ranging from 24 to 38 years in age from diverse cultural backgrounds and levels of training were recruited for the pilot study. Participants were interviewed individually and informed that the purpose of the interview was to see how the participant understands diversity from his/her point of view. It was emphasized in the interview that there are "no wrong answers" to encourage an honest, complete picture of their worldview. The domain of the grid was explained as "diversity." Participants were asked to distinguish between elements of diversity within several constructs in a systematic manner. During the interview, participants were prompted to consider the ways in which two of the elements are similar to one another while also different from a third element (i.e., "Of the following elements, race, gender, and spirituality/religion, how are any two of them similar to one another while different from the third?"). These prompts assisted participants in the development of constructs.

Participants were prompted to generate as many constructs as possible; however, the principal investigator guided participant responses along specific construct development guidelines. Jankowicz (2004) recommended considering three factors when determining which constructs described by participants are "good": (a) there is a clear contrast between the two poles of the construct (e.g., visible-invisible is distinct in comparison); (b) it provides an appropriate level of detail for comparisons; and (c) there is an obvious link to the domain of the grid. To be considered bipolar, constructs must incorporate two opposite concepts rather than one concept and its absence (i.e., "visible-invisible" are distinct while "important-not important" captures a construct and the void of that construct).

Once a clear bipolar construct was elicited and checked with the pilot participants, the participants were asked to rate each element along the construct with a scale ranging from 1 to 5 (with 1 representing one pole of a construct and 5 representing the alternative pole) as a guide for rating all elements within the grid. In the pilot study, participant ratings served as a check for each of the constructs to ensure the bipolar descriptive could be applied to each of the elements in the grid. This procedure continued until the participant exhausted his/her list of possible diversity constructs. Within the nine interviews, there was an average of eight constructs. A total of eight constructs were chosen for inclusion in the Diversity Grid standardization as they were each mentioned in at least four of the semi-structured interviews. After all interviews were completed, the eight most common were chosen for the standardized Diversity Grid. The final version of the diversity grid was comprised of eight elements and eight constructs (See Figure 1).

For the purposes of online data collection, the format was modified due to the limitations of the online survey software. The format changed to eight separate grid items that allowed participants to rate each diversity element on a set of constructs separately. See Figure 1 for a sample diversity grid item assessing the construct of "visible-invisible" and Appendix E for the complete diversity grid measure.

Construct → Element ↓	Visible				Invisible
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

Figure 5. Diversity Grid item "visible-invisible."

Following the pilot study, the diversity grid was integrated within an online survey that included the other measures and a demographics sheet.

PROCEDURES

Training directors of academic programs accredited by APA or CACREP across the U.S were e-mailed a link to the study and asked to distribute the e-mail to their students. National listservs (e.g., APA Division 17 listserv, Council of Counseling Psychology Training Programs listserv) were utilized to recruit participants. If a participant left the study, their responses were deleted from the online survey. An incentive for participation was offered in the form of a raffle entry to win one of five, $20

online gift certificates. After participants completed the online survey, they were prompted to e-mail the principal investigator with "raffle" in the subject line. There was no way to link this e-mail or individual participants with survey results. Entry into the raffle was optional. One hundred twenty four participants e-mailed the investigator to enter into the raffle.

Analysis plan. After data collection and rater coding of the multicultural case conceptualization ability were completed, analyses testing the relationship among MC knowledge, awareness, previous clinical experience, DCC, multicultural case conceptualization ability and multicultural self-efficacy were conducted. Means, standard deviations, and reliability estimates for all variables, as well as their intercorrelations, were analyzed. Standard scores were used to determine the presence of outliers within the data set.

Conceptual and empirical evidence supported the possibility of DCC impacting the relationship between training predictors (i.e., direct hours, MC knowledge, and MC awareness) and training outcome variables (i.e., multicultural counseling self-efficacy and multicultural case conceptualization ability). Both the mediation and the moderation hypotheses were tested to determine the nature of how DCC shapes multicultural training outcomes. In an effort toward parsimony, hypotheses were tested using hierarchical regression. Prior to model testing, the assumptions of multiple regression (i.e., normality, linearity, homoscedasticity) were examined.

Mediation statistical analyses. There are several steps for testing a mediation model (Frazier, Tix, & Barron, 2004). When one variable explains the relationship

between a predictor and an outcome variable, there is a mediation effect. For a mediation relationship to exist, the primary assumption that the mediating variable is correlated with the predictor and outcome variables must be met (Baron & Kenny, 1986). Additionally, there must be a significant relationship between the predictor variables and the outcome variables, the predictor and the mediator variable, and lastly, the mediator variable must be linked to the outcome variable above and beyond the relationship of the predictor to the outcome variable. While there is theoretical support for these relationships, they must be statistically tested as well to establish a mediation model.

If the primary assumption of mediation was met, a set of regression equations tested whether a mediation relationship existed for multicultural counseling self-efficacy. The following hypotheses were tested with a single hierarchical regression equation: A1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy. A2) Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy.
Specifically, the following analysis would be conducted:

1) A hierarchical regression conducted to assess whether there is a significant relationship between the predictor variables (direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy.
2) A regression analysis to assess whether there is an effect of the predictors on diversity cognitive complexity on multicultural counseling self-efficacy.

3) A regression equation to test the relationship between the mediator, diversity cognitive complexity, and multicultural counseling self-efficacy with the predictor variables being parceled out.
4) A regression equation to test the relationship between the predictors and multicultural counseling self-efficacy holding diversity cognitive complexity constant.

If the mediation primary assumptions were met, the same set of regression equations would be conducted to establish a mediation relationship between the predictors, DCC and multicultural case conceptualization ability. The following hypotheses were tested: B1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. B2) Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. Specifically, the following steps were taken:

1) A hierarchical regression assessed whether there is a significant relationship between the predictor variables (direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability.
2) A regression analysis assessed whether there is an effect of the predictors on diversity cognitive complexity on multicultural case conceptualization ability.

3) A regression equation tested the relationship between the mediator, diversity cognitive complexity, and multicultural case conceptualization ability with the predictor variables being parceled out.
4) A regression equation tested the relationship between the predictors and multicultural counseling case conceptualization ability holding diversity cognitive complexity constant.

If the relationship between predictors and outcomes became non-significant after introducing the mediator, a fully mediated model would have been supported; on the other hand, if the relationship was lessened but still significant, a partial mediation model would have been determined to be in place (Frazier et al., 2004). Kenny et al. (1998) suggested a procedure to test for partial mediation, which will be conducted if necessary. The procedure consists of exploring the significance of the products of the pathway of predictors to the mediator and the mediator to the outcome variables. Once a product is constructed, it would be divided by the standard error, and tested against the significance level of .05.

Moderation statistical analyses. For testing the moderation effect of cognitive complexity on the relationship between the predictors and outcome variables, all variables were centered to reduce issues of multicollinearity among variables (Frazier et al., 2004). Interaction terms were created by multiplying the predictor variables (multicultural knowledge and multicultural awareness) and the two moderators comprising DCC (i.e., differentiation and integration). There was a total of eight

interaction terms to predict the two outcome variables of multicultural counseling self-efficacy and multicultural case conceptualization ability.

The first moderation hypothesis tested was: C1. The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural self-efficacy. A hierarchical regression was conducted with the predictor variables (i.e., direct cross-racial contact hours, multicultural knowledge, and multicultural awareness) entered first followed by the moderator (i.e., differentiation and integration), and finally the interaction terms (MC knowledge and integration, MC awareness and integration, and MC knowledge and differentiation, MC awareness and differentiation) to predict multicultural self-efficacy. Of the possible interaction terms, these terms were chosen as they were hypothesized to have a significant impact on the multicultural outcome variables. The same regression analysis was also conducted to predict multicultural case conceptualization ability to test the following hypothesis: D1. The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural case conceptualization ability.

Chapter 3

RESULTS

The results of the preliminary analyses and the results of the four research questions are presented in this chapter. The software program MATLAB was utilized to develop the DCC indices. All other statistical analyses were conducted using the Statistical Package for the Social Sciences Version 18.0 (SPSS 18.0).

DESCRIPTIVE STATISTICS

Descriptive statistics for the independent, moderation/mediation, and dependent variables were derived (see Table 2). The analysis of descriptive statistics indicated that the results were normally distributed. The standard scores of the variables were examined and cases that were 3 $\pm$ standard deviations would be removed from the data set; however, no outliers were identified.

Table 2

Descriptive Statistics for Continuous Variables

Variable	Alpha	*M*	*SD*	Min	Max	Range
Independent Variables						
MCA	.81	6.10	.67	1.00	7.00	6.00
MCK	.91	5.39	.84	1.00	7.00	6.00
Dependent Variable MCSE-RD	.98	7.39	1.36	1.00	10.00	9.00
Dependent Variable MCCA		8.13	2.10	4.00	12.00	8.00

Note. MCA = Multicultural Knowledge and Awareness Scale – Awareness subscale; MCK = Multicultural Knowledge and Awareness Scale – Knowledge subscale; MCSE-RD = Multicultural Self-Efficacy – Racial Diversity scale; MCCA = Multicultural Case Conceptualization Ability.

PRIMARY ANALYSIS

First the assumptions associated with multiple regression analysis were examined. Normality was assessed by plotting the residuals for each variable using histograms with a normal curve applied overtop. A visual inspection indicated the data were normally distributed. The skewness and kurtosis statistics of distributions were also analyzed (See Table 3). The normal range of skewness and kurtosis (greater than -1 and less than +1) were used to determine normality. All variables were determined to be within range of normality for both skewness and kurtosis. Multicultural awareness skewness was slightly elevated (-1.03); however, this was not significant enough to indicate violation of

normality. Therefore, the assumption of normality was considered met for each of the variables used in the analyses.

Table 3

Skewness and Kurtosis Statistics

Variable	Skewness Statistic	Kurtosis Statistic
Hours	0.371	-0.778
MCA	-1.030	0.597
MCK	-0.703	0.813
DCCD	-0.171	0.035
DCCI	0.478	0.850
MCSE-RD	-0.623	0.235
MCCA	-0.238	-0.673

An examination of both linearity and homoscedasticity was conducted to test assumptions of normality further. First, scatterplots were developed and assessed to test for linearity (Tabachnick & Fidell, 2007). A visual inspection of the scatterplots yielded acceptable linearity for variables that appeared to be related, and the relationship was linear in nature. Homoscedasticity was assessed by visually inspecting the scatterplots for each model. After inputting a best fit line, it was determined that the error variance was constant within each variable, thus the assumption of homoscedasticity was met.

Statistical analyses addressing mediation research questions. The first step in assessing for a mediation effect is to examine correlation coefficients among the

independent variables and both dependent variables (multicultural counseling self-efficacy and multicultural case conceptualization ability). Participant cross-cultural direct client hours were significantly and positively related to multicultural knowledge, multicultural awareness, and both dependent variables. Multicultural knowledge had a large positive correlation with multicultural awareness and both dependent variables. In regards to the two DCC indices, differentiation (DCCD) and integration (DCCI), neither was significantly related to the three predictor variables. DCC was not significantly related to multicultural counseling self-efficacy or to multicultural case conceptualization ability. The two indices, integration and differentiation, were significantly and positively related to one another. See Table 4 for a listing of the correlation coefficients, means, and standard deviations.

According to Baron and Kenny (1986), to determine a mediation effect, the mediating variables must first demonstrate a significant relationship with the predictor and outcome variables. The preliminary analyses failed to meet assumptions of mediation, thus further analyses were not warranted. Based on the preliminary analyses, the following hypotheses regarding the mediating effect of DCC on the relationship between the predictors and multicultural counseling self-efficacy were rejected: A1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy; A2) Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy. Similarly, the

following hypotheses for research question B were rejected: B1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability; B2) Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability).

Table 4

Means, Standard Deviations, and Zero-Order Correlations of Variables

Variable	1	2	3	4	5	6	7
1. Hours	-						
2. MCA	0.17*	-					
3. MCK	0.28**	0.36**	-				
4. DCCD	-0.07	-0.01	-0.01	-			
5. DCCI	0.03	0.07	0.11	0.31**	-		
6. MCSE-RD	0.33**	0.21	0.58**	0.03	0.12	-	
7. MCCA	0.18*	0.29	0.26**	0.09	0.07	0.13	-
M	12.72	6.10	5.39	0.125	19.37	7.39	8.13
SD	5.95	0.67	0.84	0.033	6.71	1.36	2.10

Note. N=151. All means are based on item-level means. Hours = direct contact hours with racially-different clients; MCA = Multicultural Knowledge and Awareness Scale – Awareness subscale; MCK = Multicultural Knowledge and Awareness Scale – Knowledge subscale; DCCD = Diversity Cognitive Complexity – Differentiation; DCCI = Diversity Cognitive Complexity – Integration; MCSE-RD = Multicultural Self-Efficacy – Racial Diversity scale; MCCA = Multicultural Case Conceptualization Ability.
** p < .05 **p < .001;*

Statistical analyses addressing moderation research questions. Prior to data analyses, variables were centered to avoid multicollinearity (Cohen et al., 2003; Tabachnick & Fidell, 2007). After variables were centered, product terms were created for testing the moderating effect of DCC: multicultural awareness and differentiation; multicultural awareness and integration; multicultural knowledge and differentiation; and multicultural knowledge and integration.

Predicting multicultural counseling self-efficacy. The first moderation hypothesis, C1) stated: The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural self-efficacy. In other words, DCC will have a moderating effect on the relationship between the predictors and multicultural self-efficacy. To assess for the potential moderating effect of DCC on the relationship between predictor variables and the outcome variable of multicultural counseling self-efficacy, a three-step hierarchical regression was conducted.

In Step 1, participant clinical hours with cross-racial individuals, multicultural awareness (MCA), and multicultural knowledge (MCK) were entered to test main effects. In Step 2, the two diversity cognitive complexity indices (DCCD and DCCI) were entered as a single block. In the third and final step, all of the product terms (MCAxDCCD, MCAxDCCI, MCKxDCCD, and MCKxDCCI) were entered to test the moderation effects. Multicultural self-efficacy was the dependent variable in the model testing.

Direct cross-cultural counseling hours, multicultural counseling awareness (MCA), and multicultural counseling knowledge (MCK) (Block 1), contributed significantly to the model, $R^2 = .366$, $\Delta F(3, 147) = 28.340$, $p < .001$. The first equation accounted for approximately 36.6% of the variance in multicultural counseling self-efficacy. In regards to the second step of the regression equation, the two diversity cognitive complexity indices (DCCD and DCCI) did not contribute above and beyond step one $R^2 = .371$, $\Delta R^2 = .004$, $\Delta F(2, 145) = .475$, $p > .05$. Finally, the interaction

between multicultural knowledge and awareness and the DCC indices also did not significantly predict multicultural self-efficacy $R^2 = .366$, $\Delta R^2 = .008$, $\Delta F(4, 141) = .472$, $p > .05$. A non-significant standardized regression coefficient and change in R^2 for the product terms indicated there was not a moderation effect for multicultural self-efficacy. Multicultural counseling knowledge was a significant individual predictor of multicultural counseling self-efficacy, $\beta = .891$, $sr^2 = .55$, $p < .001$. The number of direct cross-cultural contact hours endorsed by participants was the second significant individual predictor, $\beta = .185$, $sr^2 = .19$, $p < .010$. The remaining predictors (multicultural counseling awareness, DCCD, and DCCI) did not emerge as significant individual predictors of multicultural counseling self-efficacy. The results of the hierarchical regression testing the moderation of predictor variables on predicting multicultural counseling self-efficacy are displayed in Table 5.

Table 5

Hierarchical Multiple Regression Analysis for the Interactions of Diversity Cognitive Complexity and Multicultural Knowledge and Awareness in Predicting Multicultural Counseling Self-Efficacy (N = 151)

Variable	*B*	*SE B*	*β*
Step 1[a]			
Hours	0.041	0.016	0.179*
MCA	-0.029	0.143	-0.014
MCK	0.869	0.118	0.535**
Step 2[b]			
Hours	0.042	0.016	0.182*
MCA	-0.031	0.144	-0.015
MCK	0.861	0.119	0.530**
DCCD	1.530	2.867	0.037
DCCI	0.009	0.014	0.042
Step 3[c]			
Hours	0.042	0.016	0.185*
MCA	-0.013	0.146	-0.006
MCK	0.891	0.126	0.548**
DCCD	1.524	2.897	0.037
DCCI	0.007	0.015	0.034
MCA X DCCD	4.408	5.021	0.063
MCA X DCCI	0.009	0.025	0.029
MCK X DCCD	-1.820	3.583	-0.047
MCK X DCCI	0.013	0.020	0.065

Notes: [a] R^2 = .366 (*ps* < .001), [b] R^2 = .371 (*ps* > .05), [c] R^2 = .379 (*ps* > .05)

[a]*Hours = direct contact hours with racially-different clients; MCA = Multicultural Knowledge and Awareness Scale – Awareness subscale; MCK = Multicultural Knowledge and Awareness Scale – Knowledge subscale; DCCD = Diversity Cognitive Complexity – Differentiation; DCCI = Diversity Cognitive Complexity – Integration; MCSE-RD = Multicultural Self-Efficacy – Racial Diversity scale; MCCA = Multicultural Case Conceptualization Ability.*

Predicting multicultural case conceptualization ability. Hypothesis D1) stated: The interaction between multicultural awareness and integration will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural case conceptualization ability. In other words, DCC will have a moderating effect on the relationship between the predictors and multicultural counseling case conceptualization ability. A three-step hierarchical regression was conducted to assess the moderating relationship of DCC on the relationship between the predictors and multicultural case conceptualization ability. The model testing of multicultural case conceptualization ability was similar to the model testing conducted to predict multicultural counseling self-efficacy. In the first block of the regression equation, the three predictor variables were entered. In the second block, the two DCC indices were entered. Lastly, all of the product terms (MCAxDCCD, MCAxDCCI, MCKxDCCD, and MCKxDCCI) were entered to test the moderation effects. Multicultural case conceptualization ability was the outcome variable of the hierarchical model.

The first step in the equation of the direct cross-cultural contact hours, multicultural counseling awareness, and multicultural knowledge significantly predicted multicultural case conceptualization ability $R^2 = .120$, $\Delta F(3, 147) = 6.69$, $p < .001$. The first block accounted for approximately 12.0% of the variance in multicultural case conceptualization ability. The second step entered into the equation did not contribute to the model above and beyond the first step $R^2 = .130$, $\Delta F(2, 145) = .859$, $p > .05$. The last step of the regression equation containing the product terms of multicultural knowledge

and awareness with the DCC indices did not contribute significantly to the model R^2 = .140, $\Delta F(4, 141) = .378$, $p > .05$. Multicultural counseling awareness was a significant individual predictor of multicultural case conceptualization ability, $\beta = .218$, $sr^2 = .22$, $p < .05$. The remaining predictors (direct contact hours, multicultural counseling knowledge, and both cognitive complexity indices) did not emerge as significant individual predictors of multicultural counseling case conceptualization ability. Table 6 provides a summary of the second moderation analyses.

Table 6

Hierarchical Multiple Regression Analysis for the Interaction of Diversity Cognitive Complexity and Multicultural Knowledge and Awareness in Predicting Multicultural Case Conceptualization Ability (N = 151)

Variable	*B*	*SE B*	*β*
Step 1[a]			
Hours	0.033	0.029	0.094
MCA	0.672	0.259	0.215
MCK	0.398	0.213	0.159
Step 2[b]			
Hours	0.036	0.029	0.094
MCA	0.672	0.260	0.215
MCK	0.392	0.215	0.159
DCCD	6.262	5.182	0.099
DCCI	0.003	0.026	0.008
Step 3[c]			
Hours	0.035	0.029	0.098
MCA	0.682	0.264	0.218*
MCK	0.428	0.227	0.171
DCCD	6.553	5.243	0.104
DCCI	0.007	0.027	0.023
MCA X DCCD	3.853	9.087	0.036
MCA X DCCI	-0.041	0.045	-0.083
MCK X DCCD	-3.583	6.485	-0.060
MCK X DCCI	0.038	0.036	0.125

Notes: [a] $R^2 = .120$ (*ps* < *.001*), [b] $R^2 = .130$ (*ps* > *.01*), [c] $R^2 = .140$ (*ps* > *.01*)
[a]*Hours = direct contact hours with racially-different clients; MCA = Multicultural Knowledge and Awareness Scale – Awareness subscale; MCK = Multicultural Knowledge and Awareness Scale – Knowledge subscale; DCCD = Diversity Cognitive Complexity – Differentiation; DCCI = Diversity Cognitive Complexity – Integration; MCSE-RD = Multicultural Self-Efficacy – Racial Diversity scale; MCCA = Multicultural Case Conceptualization Ability.*

SUMMARY

Preliminarily analyses revealed significant, positive correlational relationships between direct cross-cultural contact hours, multicultural counseling awareness (MCA), multicultural counseling knowledge (MCK), and both dependent variables (i.e., multicultural counseling self-efficacy [MCSE] and multicultural case conceptualization ability [MCCA]). Multicultural counseling knowledge was also positively related to multicultural awareness and the dependent variables. Neither of the diversity cognitive complexity indices (i.e., DCCD and DCCI) was significantly related to the predictor variables (i.e., direct cross-cultural hours, MCA, MCK). In addition, the diversity cognitive complexity indices were not significantly related to the dependent variables.

When testing mediation hypotheses, primary assumptions of mediation must be met. Specifically, there must be a significant relationship between the potential mediating variable and both the predictor variables and the outcome variable. In the case of the research question A, does diversity cognitive complexity (i.e., integration and differentiation) mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy?, the basic assumptions were not met. Further analyses would have been conducted to test the following hypotheses related to the outcome variable of multicultural counseling self-efficacy: A1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy. A2) Diversity cognitive complexity will mediate the relationship between the predictor

variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy. However, since the assumptions were not met, hypotheses A1 and A2 were rejected and the null hypotheses were accepted.

The same mediation assumptions were required for the second mediation research question that explored the relationship between the predictors, diversity cognitive complexity, and multicultural case conceptualization ability. If the basic assumptions of mediation were met, further analyses would be conducted to test the following hypotheses: B1) There will be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. B2) Diversity cognitive complexity will mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. Since the basic assumptions were not met, hypotheses B1 and B2, were rejected and the null hypotheses were accepted for the second research question.

The third and fourth research questions asked whether there was a moderating relationship between diversity cognitive complexity and multicultural awareness and knowledge on the two dependent variables (MCSE and MCCA). The hierarchical regression was conducted to test the hypothesis C1) The interaction between multicultural awareness and DCC will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural self-efficacy. The first block (i.e., direct cross-cultural hours, MCA, MCK)

contributed significantly to the model. The second block (i.e., DCCD and DCCI) did not contribute significantly to the model. The third and final block of interaction terms did not contribute significantly to the model, therefore hypothesis C1 was rejected and the null hypothesis was accepted.

A second hierarchical regression analysis was conducted to test the hypothesis D1) The interaction between multicultural awareness and DCC will predict the relationship between the predictors (i.e., direct contact hours, multicultural knowledge and multicultural awareness) and multicultural case conceptualization ability. In other words, diversity cognitive complexity will have a moderating effect on the relationship between the predictors and multicultural counseling case conceptualization ability. The first block (i.e., direct cross-cultural hours, MCA, MCK) contributed significantly to the model. Similar to the third research question, the second block (i.e., DCCD and DCCI) as well as the third block (i.e., interaction terms) did not significantly contribute to the model predicting multicultural case conceptualization ability. Hypothesis D1 was rejected, and the null hypothesis was accepted as there was no moderation effect present in the model predicting multicultural case conceptualization ability.

Chapter 4

DISCUSSION

SUMMARY OF THE STUDY

Scholars and clinicians have long been searching for the critical ingredients required to provide culturally competent therapy (Arredondo & Toporek, 2004; Sue et al., 1982). The reigning training model for multicultural competency in counseling and clinical psychology programs has been the tripartite model of knowledge, awareness, and skills (Kitaoka, 2005; Sue et al., 1992). In an effort to establish empirical support for this model, several measures of multicultural counseling competence have been created (Hays, 2008). While all were developed with the tripartite model as a framework, only two of the three components of the model have been supported: multicultural knowledge and multicultural awareness (Hays, 2008). Training variables such as multicultural knowledge and awareness are positively related to obtaining clinical experience with culturally diverse populations (Ponterotto, Gretchen, Utsey, Rieger, & Austin, 2002). Therefore, although the skills component has not been empirically supported, multicultural knowledge and awareness appear to be two of the necessary ingredients in developing competent therapists.

In an effort to move beyond the tripartite model of multicultural counseling competence, examining the utility of additional training variables is warranted. An area that has yet to be explored is the manner in which information is learned (i.e., multicultural knowledge and awareness) and how it is translated into actual training outcomes. Although training programs are aware of *what* information they expect

students to obtain, perhaps, instead, the question should be asked *how* is that information ultimately used in a therapy context?

The construct of diversity cognitive complexity can account for the manner in which the factual information of multicultural knowledge and awareness translates into training outcomes (Adams-Webber, 2003). Cognitive complexity within the domain of diversity provides a window into how individuals organize information. In other words, diversity cognitive complexity (DCC) is a mental "map" by which clinicians translate what they have learned in the classroom or supervision into the therapy room.

While actual performance in-vivo may be the ultimate multicultural counseling outcome variable, it may not be the most practical variable for training programs, because unlike other outcome variables, it cannot be used to assess readiness for practicum. Two variables postulated to be important markers of therapeutic competence have been clinicians' self-efficacy in their ability to perform culturally appropriate behaviors (Sheu & Lent, 2007) and their ability to conceptualize clients' presenting concerns within a multicultural framework (Constantine, 2001). These two outcome variables provide more immediate measures that could potentially be assessed in the earliest stages of clinical training to establish benchmarks for determining whether trainees are ready for clinical practice.

Given the need for training counselors to be competent when working with diverse client populations, this study explored whether a new therapist construct, diversity cognitive complexity, influences multicultural counseling outcomes. Specifically, the present study was designed to assess whether diversity cognitive

complexity acted as a link between therapist multicultural knowledge and awareness and multicultural counseling self-efficacy and multicultural case conceptualization ability.

RESEARCH QUESTIONS AND IMPLICATIONS

Research question A stated: Does diversity cognitive complexity (i.e., integration and differentiation) mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy. Two hypotheses were posited for this research question. First, (A1) it was predicted that there would be a significant, positive relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural counseling self-efficacy. Secondly, (A2) it was hypothesized that diversity cognitive complexity (DCC) would mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural self-efficacy. The preliminary correlational analyses revealed that DCC was not significantly related to any predictor variable or the outcome variable. Since the basic mediation assumption was not met, further analyses were not warranted, therefore, the null hypotheses related to research question A were accepted.

Research question B stated: Does diversity cognitive complexity (i.e., integration and differentiation) mediate the relationship between the predictor variables (direct contact hours, MCK and MCA) and the outcome variable multicultural case conceptualization ability. Two hypotheses were postulated for research question B. First, (B1) it was hypothesized that there would be a significant, positive relationship

between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. Second, (B2) it was hypothesized that DCC would mediate the relationship between the predictor variables (i.e., direct contact hours, multicultural knowledge, and multicultural awareness) and multicultural case conceptualization ability. The correlational analysis demonstrated that DCC was not significantly related to any predictor variable or the outcome variable of multicultural case conceptualization ability. Thus, both hypotheses linked to this research question were rejected.

Research question C stated: Does diversity cognitive complexity (i.e., integration and differentiation) moderate the relationship between the predictor variables (direct contact hours, MCK and MCA) and multicultural counseling self-efficacy. A three-step hierarchical regression analysis was conducted to test the following hypothesis: C1. DCC will have a moderating effect on the relationship between the predictors and multicultural self-efficacy. Only the first step of the model (i.e., direct contact hours, MKA and MCA) significantly predicted multicultural counseling self-efficacy. The significant predictors were multicultural counseling knowledge and direct contact hours. The interaction terms comprised of the DCC indices (DCCD and DCCI) did not contribute significantly to the regression model, thus the null hypothesis was accepted.

Research question D stated: Does diversity cognitive complexity (i.e., integration and differentiation) moderate the relationship between the predictor variables (direct contact hours, MCK and MCA) and multicultural case conceptualization ability. A similar three-step hierarchical regression analysis was conducted to test the following

hypothesis: D1. DCC will have a moderating effect on the relationship between the predictors and multicultural counseling case conceptualization ability. The first step of the model (i.e., direct contact hours, MKA and MCA) was the only step that significantly predicted multicultural case conceptualization ability. Multicultural counseling awareness was the sole significant predictor within the regression analysis. The interaction terms created by the hypothesized moderating variable of DCC did not contribute significantly in predicting multicultural case conceptualization ability, thus the four hypotheses pertaining to the fourth research question were rejected.

The results of this study provide support for what many training programs are already emphasizing in their curriculum: building trainee self-awareness related to diversity, providing factual knowledge related to multicultural counseling, and encouraging trainees to obtain clinical experience with diverse populations. Trainee multicultural knowledge and awareness have been linked to multicultural counseling outcomes previously, including decreased implicit racism (Castillo et al., 2007). The results of the current study indicate that counselors must first learn the fundamentals of multicultural counseling in order to have confidence in their ability to provide culturally appropriate therapy. In addition, the link between past cross-cultural counseling experience and self-confidence in performing multicultural counseling skills is consistent with self-efficacy theory (Bandura, 1990) and research (Sheu, Rigali-Oiler, & Lent, 2012). Self-efficacy theory postulates that when an individual gains mastery experiences with a particular behavior, their confidence in their ability to perform successfully that behavior in the future will increase (Bandura, 1990). Sheu, Rigali-Oiler, and Lent's

(2012) study found support for this theory within the domain of multicultural counseling self-efficacy; trainee's prior experience in working with diverse clinical populations was linked to higher levels of multicultural counseling self-efficacy.

The results of the current study may provide insight into why previous research demonstrated little relation between self-reported multicultural knowledge (MCK) and awareness (MCA) and observer ratings of counselor behavior (Cartwright et al., 2008; Worthington et al., 2000). It is possible that in the current study, multicultural awareness and multicultural knowledge were significant predictors of the training outcomes because the dependent variables examined in this study were shorter-term multicultural outcome variables. In other words, the independent variables of MCA, MCK, and direct contact hours significantly predicted variables that precede actual behaviors. These findings support the call for a revised model for multicultural counseling competence (i.e., knowledge, awareness, and skills), since the model fits well for predicting important training variables such as multicultural counseling self-efficacy and multicultural case conceptualization ability, but not actual observed behaviors.

A counselor's ability to develop a multicultural case conceptualization and treatment plan has long been considered an essential skill for counselor trainees to develop (Ladany et al., 1997). Although multicultural knowledge and prior cross-cultural clinical experience were not significant predictors of multicultural case conceptualization ability, multicultural awareness significantly predicted this skill. Since the multicultural awareness scale assesses for participant acknowledgement of the Eurocentric bias within counseling (Ponterotto et al., 2002), training programs can continue to emphasize

developing trainee awareness about this bias in an effort to improve case conceptualization skills.

It was curious that multicultural knowledge and direct contact hours were not significant predictors of multicultural case conceptualization ability, given the importance of multicultural knowledge in conceptualizing client concerns within a cultural context. Due to the wide variation in the quality of training and supervision for trainees working with diverse clients, the assumption that quantity in hours equals quality in training should be considered cautiously. Also, it is possible that for some trainees, gaining additional clinical experience leads to a sense of complacency regarding the relevance of diversity factors in conceptualizing client concerns. In a recent review of literature examining the relationship between general clinical experience and competence, Tracey, Wampold, Lichtenberg, and Goodyear (2012) noted that contrary to logic, practice may not equate to "perfection." In fact, Tracey and colleagues (2012) pointed to several studies (Dawes, 1994; Walfish, McAlister, O'Donnell, & Lambert, 2012) that found that years of clinical experience led to clinician overestimation of competence rather than increased competence. It is possible that within the realm of multicultural counseling, with additional experience, a clinician is more likely to avoid looking for alternative explanations for client concerns, such as considering diversity factors. It is possible that a curvilinear relationship exists between clinical experience with diverse populations and multicultural competence.

Assuming that cultural factors are not relevant to a client's presenting concerns is akin to creating a "null environment" (Freeman, 1979) in which majority group values

are covertly promoted by ignoring the cultural context of the client's life experience. If cultural factors are not being discussed, the effect is not neutral; rather, it can be harmful, repeating the institutionalized oppression the client may experience outside of the counseling room (Freeman, 1979). If gaining additional clinical experience with diverse populations is not linked to multicultural case conceptualization skills, it would be important for training programs to emphasize multicultural counseling competence as something continually to strive for, rather than a state to achieve.

The regression model only accounted for 12% of the variance in multicultural case conceptualization ability, with multicultural awareness being the sole significant predictor. This outcome variable is of particular interest as previous research has indicated that multicultural case conceptualization ability does not predict self-reported competence (Ladany et al., 1997). In light of the results of the current study, the utility of multicultural case conceptualization ability as a proxy for competence should be examined further. One potential factor to consider is construct validity of the measure. The two indices for multicultural case conceptualization ability assess a counselor's ability to connect clinical interpretations within a cultural context (incorporation) and the ability to offer alternative and culturally relevant explanations for client etiology and treatment plans. Ratings were based on the inclusion of multicultural factors (e.g., mentioning the client's race) within the conceptualizations; however, the cultural sensitivity of the inclusion of such factors was not accounted for in the coding process. For example, in one of the case scenarios provided, "Joseph" (see Appendix C) was identified as a gay man and a racial ethnic minority (African American, Latino, or Native

American depending on the random assignment). A conceptualization response discussing the client being irrational regarding perceived racism in the workplace would be rated highly because of the mention of diversity factors even though such a conceptualization is not culturally sensitive. Since multicultural case conceptualization is supposed to capture a skill set related to competence, the coding instructions may not have accurately captured this construct.

It is possible that although participants are able to consider cultural factors, the manner in which diversity was discussed may have been from a "deficit model," which can be harmful to clients (Smith, 2006). Not only should a culturally sensitive counselor be able to understand how diversity factors contribute to an individual's distress, counselors should also consider how culture and identity can also be protective factors (Smith, 2006). The content of participant responses may provide insight into how trainees view the role of diversity; however, it would be important to consider a different method for coding responses to capture better the level of cultural sensitivity within conceptualizations.

In addition to possible validity concerns with the coding procedure, rater bias may have impacted the validity of the measure. The two raters for this study were both doctoral students in counseling programs; however, their clinical training experiences were vastly different. Although there was an acceptable agreement rate between the two raters, it is possible that differences in rater cultural identity, clinical experiences with diverse populations, and course work influenced the coding process. While many research studies examining multicultural case conceptualization ability have utilized

graduate trainees as raters (Constantine, 2001; Constantine & Gushue, 2003; Ladany et al., 1997), at least one study chose to use undergraduate students for coding purposes as they were less biased (Lee & Tracey, 2008). Recruiting and training a coding team from an undergraduate population may lead to less bias in ratings.

LIMITATIONS OF THE CURRENT STUDY

There are several limitations that are important to note. The first major limitation of this study is related to the limited pilot study that was used to develop the Diversity Grid. Since the participants in the pilot were advanced doctoral students from the same graduate program in Counseling Psychology, it is possible that the standardization cannot be generalized to the sample of the full study: graduate students from counseling and clinical programs across the United States. It is possible that a larger, more diverse sample used for standardizing the diversity grid would allow the measure to be used more accurately with a larger variety of trainees such as those sampled for this study.

Every effort was taken to utilize the most reliable and valid measures for this study; however, the instruments available to assess multicultural counseling variables are limited (Hays, 2008). One of the limitations is the specificity of instruments. For this study, to obtain the most accurate cross-cultural direct contact hours, participants were asked to estimate their hours with clients from various racial groups. They were not asked about experience with a range of cultural groups. In addition, the multicultural counseling self-efficacy instrument was limited to racial diversity and did not gauge confidence in counseling other populations (e.g., clients with varying sexual orientation). Self-efficacy measures are most valid when they are narrowly defined to specific

behaviors, thus Sheu and Lent (2007) developed the measure within the domain of race. At the time that the current study was designed, MCSE-RD was the only valid and reliable measure of self-efficacy for multicultural counseling. The other instruments (MKAS, multicultural case conceptualization ability) assess general competence within multiple domains of diversity.

The measure used to assess multicultural case conceptualization ability was also a potential limitation of this study. Although no other measure existed at the time of the development of this study, as previously mentioned, there are numerous psychometric concerns with the manner in which this construct was quantified. Another concern with the multicultural case conceptualization ability assessment is related to the case scenarios provided. Each client case highlighted multiple diversity dimensions (i.e., gender, SES, sexual orientation, race/ethnicity). Although this type of client scenario models reality - that all clients are multi-dimensional, it is possible that for the purposes of assessing case conceptualization ability within a limited space, participants prioritized discussing theoretical orientation first and with additional time and space would discuss diversity factors. Especially for beginning counselors, a better method of assessing multicultural case conceptualization ability would be to highlight a single diversity dimension to understand how trainees integrate that aspect into their work with the client.

There are numerous factors that could explain why diversity cognitive complexity did not contribute significantly to models predicting multicultural counseling self-efficacy or multicultural case conceptualization ability. Cognitive complexity as a construct explains how individuals organize information (Kelly, 1955), thus it captures

the more dynamic process that occurs as information is first encoded and then applied in the form of a behavior. First, it is possible that the Diversity Grid was not an accurate measure of diversity cognitive complexity. Although cognitive complexity has been theoretically discussed as contributing to how individuals negotiate cross-cultural interactions (Oliver & Schlutsmeyer, 2006), the Diversity Grid was the first measure developed to assess cognitive complexity within the domain of diversity. Although several authors have written about various methods for developing grids for the purpose of assessing cognitive complexity (i.e., Jankowicz, 2004), no grid existed within the domain of diversity. For this study, a pilot study was conducted to standardize the grid, and the full study was the first time the grid was utilized to measure diversity cognitive complexity. Thus, the grid may not have captured the constructs of interest accurately.

Another potential factor that may have contributed to the lack of significant findings related to the variable of diversity cognitive complexity is how the structure of the measure was perceived by participants. Despite having a sample grid provided (see Appendix E) and the instructions for the grid piloted with a small group of graduate students, it is likely the graduate students had not seen a measure structured in this manner before as compared to Likert scales or the case conceptualization format. In addition, the grid format does not yield itself to internal reliability or other measures of internal validity, thus it is difficult to draw conclusions about the measure's validity. Given that the pilot study was the first development of a measure for diversity cognitive complexity, future research is warranted to examine this construct and how it is linked to multicultural counseling competence.

While utilizing an electronic, online survey allowed for students from a wide variety of program types, geographic locations, and clinical experiences to be sampled, it is possible that there was a self-selection effect for this study. The title of the study and informed consent mentioned the topic of the study, multicultural counseling, which may have enticed students who had more interest or competence in the area of multicultural counseling to opt into the study. With the large number of online research requests received by training directors across the country, it is likely that students ended up choosing to participate in studies for which they had a special interest.

Another limitation of this study is the inability to assume cause and effect between the variables. Since the study was not a randomized, controlled study, it cannot be inferred that multicultural knowledge and awareness and experience with diverse client populations cause trainees to develop multicultural counseling self-efficacy or multicultural case conceptualization ability. The significant positive correlations and results of the regression analyses provide support for further exploration of the relationships of these variables, including determining whether there is a causal relationship between the training and outcome variables.

Last, this study utilized a single self-report measure to assess the constructs of multicultural knowledge and awareness. The decision to utilize only one measure was two-fold. First, currently there are limited options for MCC self-report measures that have demonstrated construct validity (Hays, 2008). In addition, given the time required to complete the diversity grid and case conceptualizations, a single measure (MCKAS) was chosen to reduce response burden. Due to the self-report nature of the measures, it is

possible that social desirability and/or respondent bias influenced the results (Heppner, Wampold, & Kivlinghan, 2008). Given the available measures and in an effort to be efficient in data collection, the decision to use MCKAS as the only knowledge and awareness measure was deemed the best decision for this study. Another possible issue with self-report is related to the cross-cultural direct contact hours. Although students often must track their hours for their degree programs, it is likely that some of the participants were unable to estimate accurately their cross-cultural client hours. A more reliable and valid way of assessing their contact hours would be to require participants to report their cross-cultural counseling hours based on logs kept for training.

FUTURE RESEARCH DIRECTIONS

Despite diversity cognitive complexity not being significantly related to any training variables in this study, previous research regarding the role of general cognitive complexity on clinician development supports the need for further research. Past research has demonstrated that cognitive complexity is linked to the ability to perform counseling behaviors such as microskills (Duys & Hedstrom, 2000; Little, Packman, Smaby, & Maddux, 2005). Since cognitive complexity as a construct captures the dynamic process by which counselors test hypotheses and readjust their knowledge about human behavior, it is an important concept to continue to explore. Future research should revisit the construct validity of the diversity grid.

Research on multicultural competence has focused both on training variables (i.e., multicultural knowledge and awareness) that can be emphasized through coursework and on supervision and exploring how to operationalize multicultural counseling behaviors.

While the independent variables in this study (multicultural knowledge, awareness, and experience with diverse client populations) show promise, they explained less than half of the variance in the outcome variables. The relationship between other training instruments such as the Multicultural Environment Inventory (*MEI;* Pope-Davis, Liu, Nevitt, & Toporek, 2000) is worth continued exploration in relation to the variables examined in this study. In addition, this study examined factors that contribute to immediate outcomes such as trainee confidence in multicultural counseling behaviors. Exploring short-term outcomes such as observed skills or long-term outcomes such as therapy outcomes will be important next steps in multicultural counseling research. This is of particular interest given previous research that has suggested that immediate outcomes (i.e., case conceptualization ability) do not predict long-term outcomes such as observed skills (e.g., Cartwright, Daniels, & Zhang, 2008; Worthington, Mobley, Franks, & Tan, 2000). The true utility of training and immediate outcome variables can only be assessed when there is sufficient support to link them with the longer-term outcomes of better therapy. Assessing the relationship between trainee multicultural counseling knowledge and awareness and client symptom reduction or client satisfaction would connect theory to practice.

In an effort to continue improving the theoretical basis for multicultural counseling competence, qualitative research may be a fruitful methodology. Multicultural counseling competence has always been defined by the clinician, researcher, or scholar (Sue et al., 1982). It may be beneficial to understand what multicultural competence looks like from a client's point of view. Understanding what a

client views as culturally appropriate may lead to more precise outcome measures (i.e., behavioral anchors to assess for, either through observation or through self-efficacy measures).

CONCLUSIONS

Due to the importance of training counselors to work effectively with diverse client populations and the decades of research that have demonstrated that the tripartite model of multicultural counseling competence is not sufficient, further research is needed. The results of this study indicate that multicultural knowledge, multicultural awareness, and clinical experience with diverse client populations are important for counselor development. In addition, the results of this study support further exploration of the utility of multicultural counseling self-efficacy as a training variable that graduate programs can emphasize in an effort to train culturally competent therapists. While the construct of diversity cognitive complexity was not shown to contribute significantly to trainee multicultural counseling outcomes, due to limitations of the measure used and the novelty of this construct, further research is required to understand how this cognitive variable is linked to the development of multicultural counseling competence.

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APPENDIX A

IRB APPROVAL FORMS

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Sharon Kurpius EDB
From:	for Mark Roosa, Chair Soc Beh IRB
Date:	06/10/2011
Committee Action:	**Exemption Granted**
IRB Action Date:	06/10/2011
IRB Protocol #:	1106006534
Study Title:	Multicutural Counseling Instrument Development

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Sharon Kurpius EDB
From:	Mark Roosa, Chair Soc Beh IRB
Date:	06/24/2011
Committee Action:	**Exemption Granted**
IRB Action Date:	06/24/2011
IRB Protocol #:	1106006567
Study Title:	Comprehensive Understanding of Multicultural Counseling Competence

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX B

DEMOGRAPHIC QUESTIONNAIRE

1. Sex: ⎕ Male ⎕ Female

2. Ethnic background:

⎕ African American/Black
⎕ Asian American/Pacific Islander
⎕ Latino/a American
⎕ Native American/Alaskan Native
⎕ White American
⎕ Multiethnic
⎕ International student
⎕ Other, specify: _____

3. Age: _____

4. Highest educational degree earned: ⎕ Bachelor's ⎕ Master's ⎕ Ph.D. ⎕ Other (specify): _____

5. Currently in the specialty area of (check one):

⎕ College Student Personnel
⎕ Community Counseling
⎕ School Counseling
⎕ Rehabilitation Counseling
⎕ Counselor Education
⎕ School Psychology
⎕ Counseling Psychology
⎕ Clinical Psychology
⎕ Other, specify: _____

6. Currently working toward which of the following degree: ⎕ Master's ⎕ Ph.D. ⎕ Other (specify): _____

7. Year in your current program: ⎕ 1st year ⎕ 2nd year ⎕ 3rd year ⎕ 4th year ⎕ beyond 4th year (including internship)

8. Number of multicultural counseling courses taken since undergraduate (include ones currently taking): _____

9. Number of multicultural counseling workshops attended since undergraduate (include ones currently attending): _____

10. Approximately how many supervision hours have you and your supervisor(s) spent on clients who are racially different from you: _____ hrs

11. Please indicate the number of direct contact hours that you have worked with clients from the following racial/ethnic groups in individual, couple/family, or group counseling by circling the appropriate numbers for each group:

	0-8 hours	9-16 hours	17-24 hours	25-32 hours	32 + hours
African American / Black:	1	2	3	4	5
Asian American/ Pacific Islanders:	1	2	3	4	5
Latino/a Americans:	1	2	3	4	5
Native Americans/Alaskan Natives:	1	2	3	4	5
White Americans:	1	2	3	4	5
Multiethnic clients:	1	2	3	4	5

APPENDIX C

MULTICULTURAL COUNSELING KNOWLEDGE AND AWARENESS SCALE

Instructions: Using the following scale, rate the truth of each item as it applies to you.

	Not True At All			Somewhat True			Totally True
	1	**2**	**3**	**4**	**5**	**6**	**7**
1. I believe all clients should maintain direct eye contact during counseling.	1	2	3	4	5	6	7
2. I check up on my minority/ cultural counseling skills by monitoring my functioning – via consultation, supervision, and continuing education.	1	2	3	4	5	6	7
3. I am aware some research indicates that minority clients receive “less preferred” forms of counseling treatment than majority clients.	1	2	3	4	5	6	7
4. I think that clients who do not discuss intimate aspects of their lives are being resistant and defensive.	1	2	3	4	5	6	7
5. I am aware of certain counseling skills, techniques, or approaches that are more likely to transcend culture and be effective with any clients.	1	2	3	4	5	6	7
6. I am familiar with the “culturally deficient” and “culturally deprived” depictions of minority mental health and understand how these labels serve to foster and perpetuate discrimination.	1	2	3	4	5	6	7
7. I feel all the recent attention directed toward multicultural issues in counseling is overdone and not really warranted.	1	2	3	4	5	6	7
8. I am aware of individual differences that exist among members within a particular ethnic group based on values, beliefs, and level of acculturation.	1	2	3	4	5	6	7
9. I am aware some research indicates that minority clients are more likely to be diagnosed with mental illness than are majority clients.	1	2	3	4	5	6	7
10. I think that clients should perceive the nuclear family as the ideal social unit.	1	2	3	4	5	6	7
11. I think that being highly competitive and achievement oriented are traits that all clients should work towards.	1	2	3	4	5	6	7
12. I am aware of differential interpretations of nonverbal communication (e.g., personal space, eye contact, handshakes) within various racial/ethnic groups.	1	2	3	4	5	6	7
13. I understand the impact and operations of oppression and the racist concepts that have permeated the mental health profession.	1	2	3	4	5	6	7

14. I realize that counselor-client incongruities in problem conceptualization and counseling goals may reduce counselor credibility.	1	2	3	4	5	6	7
15. I am aware that some racial/ ethnic minorities see the profession of psychology functioning to maintain and promote the status and power of the White Establishment.	1	2	3	4	5	6	7
16. I am knowledgeable of acculturation models for various ethnic minority groups.	1	2	3	4	5	6	7
17. I have an understanding of the role culture and racism play in the development of identity and world views among minority groups.	1	2	3	4	5	6	7
18. I believe that it is important to emphasize objective and rational thinking in minority clients.	1	2	3	4	5	6	7
19. I am aware of culture-specific, that is culturally indigenous , models of counseling for various racial/ ethnic groups.	1	2	3	4	5	6	7
20. I believe that my clients should view the patriarchal structure as ideal.	1	2	3	4	5	6	7
21. I am aware of both the initial barriers and benefits related to the cross-cultural counseling relationships.	1	2	3	4	5	6	7
22. I am comfortable with differences that exist between me and my clients in terms of race and beliefs.	1	2	3	4	5	6	7
23. I am aware of institutional barriers which may inhibit minorities from using mental health services.	1	2	3	4	5	6	7
24. I think that my clients should exhibit some degree of psychological mindedness and sophistication.	1	2	3	4	5	6	7
25. I believe that minority clients will benefit most from counseling with a majority counselor who endorses White middle class values and norms.	1	2	3	4	5	6	7
26. I am aware that being born a White person in this society carries with it certain advantages.	1	2	3	4	5	6	7
27. I am aware of the value assumptions inherent in major schools of counseling and understand how these assumptions may conflict with values of culturally diverse clients.	1	2	3	4	5	6	7
28. I am aware that some minorities see the counseling process as contrary to their own life experiences and inappropriate or insufficient to their needs.	1	2	3	4	5	6	7
29. I am aware that being born a minority in this society brings it certain challenges that White people do not have to face.	1	2	3	4	5	6	7

30. I believe that all clients must view themselves as their number one responsibility.	1	2	3	4	5	6	7
31. I am sensitive to circumstances (personal biases, language dominance, stage of ethnic identity development) which may dictate referral of the minority client to a member of his/her own racial/ ethnic group.	1	2	3	4	5	6	7
32. I am aware that some minorities believe counselors lead minority students into non-academic programs regardless of student potential.	1	2	3	4	5	6	7

APPENDIX D

MULTICULTURAL COUNSELING SELF-EFFICACY – RACIAL DIVERSITY FORM

Instructions: The following questionnaire consists of 40 items asking about your perceived ability to perform different counselor behaviors in individual counseling with clients who are **racially different** from you. Using the 0-9 scale, please indicate how much confidence you have in your ability to do each of these activities **at the present time**, rather than how you might perform in the future. Please circle the appropriate number that best reflects your response to each item.

	No Confidence at all					Some Confidence				Complete Confidence
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
When working with a client who is **racially different** from yourself, how confident are you that you could do the following tasks effectively over the next week?										
1. Openly discuss cultural differences and similarities between the client and yourself.	0	1	2	3	4	5	6	7	8	9
2. Address issues of cultural mistrust in ways that can improve the therapeutic relationship.	0	1	2	3	4	5	6	7	8	9
3. Help the client to articulate what she or he has learned from counseling during the termination process.	0	1	2	3	4	5	6	7	8	9
4. Where appropriate, help the client to explore racism or discrimination in relation to his or her presenting issues.	0	1	2	3	4	5	6	7	8	9
5. Keep sessions on track and focused with a client who is not familiar with the counseling process.	0	1	2	3	4	5	6	7	8	9
6. Respond effectively to the client's feelings related to termination (e.g., sadness, feeling of loss, pride, relief).	0	1	2	3	4	5	6	7	8	9
7. Encourage the client to take an active role in counseling.	0	1	2	3	4	5	6	7	8	9
8. Evaluate counseling progress in an on-going fashion.	0	1	2	3	4	5	6	7	8	9
9. Identify and integrate the client's culturally specific way of saying good-bye in the termination process.	0	1	2	3	4	5	6	7	8	9
10. Assess the client's readiness for termination.	0	1	2	3	4	5	6	7	8	9

11. Select culturally appropriate assessment tools according to the client's cultural background.	0	1	2	3	4	5	6	7	8	9
12. Interpret standardized tests (e.g., MMPI-2, Strong Interest Inventory) in ways sensitive to cultural differences.	0	1	2	3	4	5	6	7	8	9
13. Deal with power-related disparities (i.e., counselor power versus client powerlessness) with a client who has experienced racism or discrimination.	0	1	2	3	4	5	6	7	8	9
14. Use non-standardized methods or procedures (e.g., card sort, guided fantasy) to assess the client's concerns in a culturally sensitive way.	0	1	2	3	4	5	6	7	8	9
15. Take into account the impact that family may have on the client in case conceptualization.	0	1	2	3	4	5	6	7	8	9
16. Assess relevant cultural factors (e.g., the client's acculturation level, racial identity, cultural values and beliefs).	0	1	2	3	4	5	6	7	8	9
17. Take into account cultural explanations of the client's presenting issues in case conceptualization.	0	1	2	3	4	5	6	7	8	9
18. Repair cross-cultural impasses that arise due to problems in the use or timing of particular skills (e.g., introduce the topic of race into therapy when the client is not ready to discuss).	0	1	2	3	4	5	6	7	8	9
19. Conduct a mental status examination in a culturally sensitive way.	0	1	2	3	4	5	6	7	8	9
20. Help the client to develop culturally appropriate ways to deal with systems (e.g., school, community) that affect him or her.	0	1	2	3	4	5	6	7	8	9
21. Manage your own anxiety due to cross-cultural impasses that arise in the session.	0	1	2	3	4	5	6	7	8	9
22. Assess culture-bound syndromes	0	1	2	3	4	5	6	7	8	9

(DSM-IV) for racially diverse clients (e.g., brain fag, neurasthenia, nervios, ghost sickness).										
23. Help the client to set counseling goals that take into account expectations from her or his family.	0	1	2	3	4	5	6	7	8	9
24. Help the client to identify how cultural factors (e.g., racism, acculturation, racial identity) may relate to his or her maladaptive relational patterns.	0	1	2	3	4	5	6	7	8	9
25. Manage your own racially or culturally based countertransference toward the client (e.g., over-identification with the client because of his or her race).	0	1	2	3	4	5	6	7	8	9
26. Encourage the client to express his or her negative feelings resulting from cross-cultural misunderstanding or impasses.	0	1	2	3	4	5	6	7	8	9
27. Assess the salience and meaningfulness of culture/race in the client's life.	0	1	2	3	4	5	6	7	8	9
28. Take into account multicultural constructs (e.g., acculturation, racial identity) when conceptualizing the client's presenting problems.	0	1	2	3	4	5	6	7	8	9
29. Help the client to clarify how cultural factors (e.g., racism, acculturation, racial identity) may relate to her or his maladaptive beliefs and conflicted feelings.	0	1	2	3	4	5	6	7	8	9
30. Respond in a therapeutic way when the client challenges your multicultural counseling competency.	0	1	2	3	4	5	6	7	8	9
31. Admit and accept responsibility when you, as the counselor, have initiated the cross-cultural impasse.	0	1	2	3	4	5	6	7	8	9
32. Help the client to develop new and more adaptive behaviors that are consistent with his or her cultural background.	0	1	2	3	4	5	6	7	8	9

33. Resolve misunderstanding with the client that stems from differences in culturally based style of communication (e.g., acquiescence versus confrontation).	0	1	2	3	4	5	6	7	8	9
34. Remain flexible and accepting in resolving cross-cultural strains or impasses.	0	1	2	3	4	5	6	7	8	9
35. Treat culture-bound syndromes (DSM-IV) for racially diverse clients (e.g., brain fag, neurasthenia, nervios, ghost sickness).	0	1	2	3	4	5	6	7	8	9
36. Help the client to utilize family/community resources to reach her or his goals.	0	1	2	3	4	5	6	7	8	9
37. Deliver treatment to a client who prefers a different counseling style (i.e., directive versus non-directive).	0	1	2	3	4	5	6	7	8	9

APPENDIX E

DIVERSITY GRID

Instructions: This instrument consists of several grids that contain elements and constructs within the context of diversity. You will be rating elements of diversity on a spectrum of two contrasting poles of constructs. To understand how each grid should be completed, the following example using animals is provided. Each element of animal, (e.g., elephant), was rated on the spectrum of the construct provided (e.g., 1 = domesticated animal; 5 = wild animal).

Animal Example:

Domesticated animal: Animal depends on humans for food, shelter, and living needs; trained behavior of animals allows for closer living conditions between animals and humans.

Wild animal: Animal survives independent of human influence; behavior is untamed and does not allow for close living conditions between animals and humans.

Construct → / Element ↓	Domesticated				Wild
1. Elephant	1	2	3	4	(5)
2. Cat	1	(2)	3	4	5
3. Dolphin	1	2	3	(4)	5
4. Horse	1	(2)	3	4	5
5. Dog	(1)	2	3	4	5
6. Cow	(1)	2	3	4	5
7. Goldfish	1	(2)	3	4	5
8. Parrot	1	2	(3)	4	5

****

For each element of diversity, (e.g., race), please rate it on the spectrum of the construct provided (e.g., 1 = discrete categories for the element race; 5 = continuous categories for the element of race). Based on the example above, please rate all elements by the constructs provided by circling the number that best reflects your response to each item. The following items consist of 8 pairs of constructs (e.g., discrete categories and continuous categories) as well as 8 elements of diversity (race, sexual orientation, gender, socioeconomic status, immigration status, religion/spirituality, disability status, age). Brief definitions of each construct are provided for A through H.

A) **Discrete categories:** Element of diversity is distinct, or concretely measured.
Continuous categories: Element of diversity is fluid, fuzzy, or measured on a spectrum.

Construct → Element ↓	Discrete Categories				Continuous Categories
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

B) **Visible:** Element of diversity is transparent to the public or can be determined based on appearance.
Invisible: Element of diversity is hidden or cannot be determined based on physical appearance.

Construct → Element ↓	Visible				Invisible
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

C) **Genetically determined:** Element of diversity is inherited through genetics or biological factors.
Environmentally determined: Element of diversity is developed through environmental factors.

Construct → Element ↓	Genetically determined				Environmentally determined
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

D) **Identity is flexible throughout life:** The way in which one self-identifies is flexible or shifts throughout a person's life.
Identity if crystallized throughout life: The way in which one self-identifies is stable throughout a person's life.

Construct → / Element ↓	Identity is flexible throughout life				Identity is crystallized throughout life
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

E) **Identity is imposed by the self:** An individual chooses their label associated with a particular element of diversity.
Identity is imposed by society: Society assigns their label associated with a particular element of diversity.

Construct → / Element ↓	Identity is imposed by the self				Identity is imposed by society
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

F) **Simple construction of identity:** When considering the element of diversity, other elements are unrelated. Element of diversity is defined independent of other elements of diversity.
Complex construction of identity: When considering the element of diversity, other elements must be taken into account. The element of diversity is in-part defined by its relationship to other elements of diversity.

Construct → Element ↓	Simple construction of identity				Complex construction of identity
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

G) **Identity is associated with a community:** An identity is linked to belonging to a group or community.
Identity is associated with the individual: An identity is a sole entity unrelated to a group or community.

Construct → Element ↓	Identity is associated with a community				Identity is associated with the individual
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

H) **Identity is associated with institutionalized oppression:** Societal and/or cultural power structures oppress persons with a specific identity.
Identity is associated with individual discrimination: Individual acts of intolerance oppress persons with a specific identity.

Construct → Element ↓	Identity is associated with institutionalized oppression				Identity is associated with individual discrimination
1. Race	1	2	3	4	5
2. Sexual Orientation	1	2	3	4	5
3. Gender	1	2	3	4	5
4. Socioeconomic Status	1	2	3	4	5
5. Immigration Status	1	2	3	4	5
6. Religion/ Spirituality	1	2	3	4	5
7. Disability Status	1	2	3	4	5
8. Age	1	2	3	4	5

APPENDIX F

MULTICULTURAL CASE CONCEPTUALIZATION ABILITY SCENARIOS

Multicultural Case Conceptualization Scenario 1 Version 1 Latino Client

Intake Form

Client #: Joseph	Date:
Sex: ☐ Female ☒ Male Age: 32 Occupation: Stockbroker	Ethnicity: ☐ White ☐ Black ☒ Latino ☐ Asian American Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Widowed ☒ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☐ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☒ $60,000<
1. Presenting problem(s): Work stress, family issues	

Client response to the question "*What brings you in today?"*:

"Well, I just figured this couldn't hurt. I am really experiencing a lot of stress at work. I feel like I just don't get along with my co-workers. It isn't that we argue, I guess it is more that they don't get me. We have nothing in common. I think it adds to my feeling of emptiness, this disconnect I have. It isn't like they are too happy with me anyway; I've been making a few bad calls lately that have been high risk with the company. I have been trying to branch out more recently though to help with feeling…. I guess lost. There is this social advocacy for gay men's rights, we have been working to raise awareness about hate crimes that have been occurring in the area. I just feel really overwhelmed because not only do I have these work pressures going on, but James, my partner wants to move in together. I love him but I don't think I'm ready for that – I still haven't told my family that I'm gay and I'm afraid this will just make things worse.

Multicultural Case Conceptualization Scenario 1 Version 2 Black Client

Intake Form

Client #: Joseph	Date:
Sex: ☐ Female ☒ Male Age: 32 Occupation: Stockbroker	Ethnicity: ☐ White ☒ Black ☐ Latino ☐ Asian American Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Widowed ☒ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☐ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☒ $60,000<
1. Presenting problem(s): Work stress, family issues	

Client response to the question "*What brings you in today?"*:

"Well, I just figured this couldn't hurt. I am really experiencing a lot of stress at work. I feel like I just don't get along with my co-workers. It isn't that we argue, I guess it is more that they don't get me. We have nothing in common. I think it adds to my feeling of emptiness, this disconnect I have. It isn't like they are too happy with me anyway; I've been making a few bad calls lately that have been high risk with the company. I have been trying to branch out more recently though to help with feeling…. I guess lost. There is this social advocacy for gay men's rights, we have been working to raise awareness about hate crimes that have been occurring in the area. I just feel really overwhelmed because not only do I have these work pressures going on, but James, my partner wants to move in together. I love him but I don't think I'm ready for that – I still haven't told my family that I'm gay and I'm afraid this will just make things worse.

Multicultural Case Conceptualization Scenario 1 Version 3 Asian American Client

Intake Form

Client #: Joseph	Date:
Sex: ☐ Female ☒ Male Age: 32 Occupation: Stockbroker	Ethnicity: ☐ White ☐ Black ☐ Latino ☒ Asian American Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Widowed ☒ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☐ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☒ $60,000<
1. Presenting problem(s): Work stress, family issues	

Client response to the question "*What brings you in today?"*:

"Well, I just figured this couldn't hurt. I am really experiencing a lot of stress at work. I feel like I just don't get along with my co-workers. It isn't that we argue, I guess it is more that they don't get me. We have nothing in common. I think it adds to my feeling of emptiness, this disconnect I have. It isn't like they are too happy with me anyway; I've been making a few bad calls lately that have been high risk with the company. I have been trying to branch out more recently though to help with feeling…. I guess lost. There is this social advocacy for gay men's rights, we have been working to raise awareness about hate crimes that have been occurring in the area. I just feel really overwhelmed because not only do I have these work pressures going on, but James, my partner wants to move in together. I love him but I don't think I'm ready for that – I still haven't told my family that I'm gay and I'm afraid this will just make things worse.

Multicultural Case Conceptualization Scenario 2 Version 1 – Black Client

Intake Form

Client #: Rebecca	Date:
Sex: ☒ Female ☐ Male Age: 20 Occupation: Student	Ethnicity: ☐ White ☒ Black ☐ Latino ☐ Asian American Marital Status: ☒ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☒ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☐ $60,000<
1. Presenting problem(s): Relationship stress, academic concerns	

Client response to the question "*What brings you in today?"*:

"I've just been feeling really down lately. I haven't been doing very well in my classes and I have a specific scholarship GPA I have to keep for every semester. If I lose my scholarship I can't afford to be at school anymore. I'm taking classes for engineering and they are so hard. I was hoping to find a study group in my classes, but the only people I see – I don't know I just can't relate to them. In one of my classes I'm the only girl with a class of 25 guys. I thought school was going to be a lot easier – but I just don't fit in. The classes are harder than I thought and I have been feeling really alone. I miss my family a lot, I try to talk with them everyday but I feel like I can't tell them how I'm really feeling. I'm the first person to go to college in my family and I don't want to let them down… and even if I told them what I was feeling, they don't understand what it's like to be here. I don't know, maybe college isn't for me."

Multicultural Case Conceptualization Scenario 2 Version 2 – Latino Client

Intake Form

Client #: Rebecca	Date:
Sex: ☒ Female ☐ Male Age: 20 Occupation: Student	Ethnicity: ☐ White ☐ Black ☒ Latino ☐ Asian American Marital Status: ☒ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☒ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☐ $60,000<
1. Presenting problem(s): Relationship stress, academic concerns	

Client response to the question "*What brings you in today?"*:

"I've just been feeling really down lately. I haven't been doing very well in my classes and I have a specific scholarship GPA I have to keep for every semester. If I lose my scholarship I can't afford to be at school anymore. I'm taking classes for engineering and they are so hard. I was hoping to find a study group in my classes, but the only people I see – I don't know I just can't relate to them. In one of my classes I'm the only girl with a class of 25 guys. I thought school was going to be a lot easier – but I just don't fit in. The classes are harder than I thought and I have been feeling really alone. I miss my family a lot, I try to talk with them everyday but I feel like I can't tell them how I'm really feeling. I'm the first person to go to college in my family and I don't want to let them down… and even if I told them what I was feeling, they don't understand what it's like to be here. I don't know, maybe college isn't for me."

Multicultural Case Conceptualization Scenario 2 Version 3 – Asian American Client

Intake Form

Client #: Rebecca	Date:
Sex: ☒ Female ☐ Male Age: 20 Occupation: Student	Ethnicity: ☐ White ☐ Black ☐ Latino ☒ Asian American Marital Status: ☒ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Living w/ Significant Sexual Orientation: ☐ Straight ☒ Gay ☐ Lesbian ☐ Bisexual Annual Family Income: ☒ < $15,000 ☐ $15,000-$30,000 ☐ $30,000-$60,000 ☐ $60,000<
1. Presenting problem(s): Relationship stress, academic concerns	

Client response to the question "*What brings you in today?"*:

"I've just been feeling really down lately. I haven't been doing very well in my classes and I have a specific scholarship GPA I have to keep for every semester. If I lose my scholarship I can't afford to be at school anymore. I'm taking classes for engineering and they are so hard. I was hoping to find a study group in my classes, but the only people I see – I don't know I just can't relate to them. In one of my classes I'm the only girl with a class of 25 guys. I thought school was going to be a lot easier – but I just don't fit in. The classes are harder than I thought and I have been feeling really alone. I miss my family a lot, I try to talk with them everyday but I feel like I can't tell them how I'm really feeling. I'm the first person to go to college in my family and I don't want to let them down… and even if I told them what I was feeling, they don't understand what it's like to be here. I don't know, maybe college isn't for me."

APPENDIX G

MULTICULTURAL CASE CONCEPTUALIZATION ABILITY SCORING PROTOCOL

Multicultural Case Conceptualization
Coding Instructions

Constantine & Ladany, 2000; Constantine, 2001; and Lee & Tracey, 2008 can be utilized for review

Overview:

Multicultural Case Conceptualization Ability – measures one's ability to conceptualize clients within a multicultural context including 1) explaining clinical etiology and 2) developing relevant treatment interventions.

Each participant was presented with TWO different client scenarios. For each scenario, participants are asked to visualize themselves as a counselor about to see a client for the first time. Participants will be provided with a standard intake form with basic demographic information (i.e., age, gender, sexual orientation, marital status, race, etc.). In addition to the intake form a short vignette is provided as a response to the counselor question "*what brings you in today?*"

After each case, participants will be prompted to write two short essays:

1.) Write a conceptualization of at least three sentences describing what you believe to be the etiology of the Joseph's psychological difficulties (i.e. provide a conceptualization of the presenting concerns):

2.) Describe a treatment plan(s) you would develop for Joseph with at least three sentences:

Coders:

For each participant, coders will analyze two case scenario responses based on two constructions:

1. **Separation:** defined as the ability to develop different interpretations of a client's presenting issue as well as to provide alternative treatment options while referencing multicultural variables (e.g., culture, race, ethnicity, sex, age). Past literature uses the construct name "differentiation."
    a. In other words, separation captures the ability to *recognize* components of diversity. Coders will rate the overall separation of both the etiology and treatment plan responses using a 3-point Likert-like scale. (1 = no separation, 3 = high separation)
        i. 1 = no mention of cultural factors
        ii. 2 = 1-2 culturally based factors
        iii. 3 = 3-4+ culturally based factors
    b. Cultural factor guidelines: For the purpose of this project, culture should be considered within any of the following contexts: age, disability, race,

ethnicity, sexual orientation, socio-economic status, religion/spirituality, and gender.

2. **Incorporation:** defined as connecting those various interpretations and treatment options to form a coherent conceptualization. Past literature uses the construct name "integration."
    a. In other words, incorporation captures the *how* (how do cultural factors contribute to the presenting concerns and the *why* (why is it important to address cultural factors in treatment/etiology). Coders will rate the overall incorporation of both the etiology and treatment plan responses using a 3-point Likert-like scale. (1 = no incorporation, 3 = high incorporation)
        i. 1 = no attempt at connecting cultural factor to psychological issues/tx plan
        ii. 2 = 1-2 attempts at connecting cultural factors to psychological issues/tx plan
        iii. 3 = 3+ attempts at connecting cultural factors to psychological issues/tx plan

Each case scenario response will receive a score between 0-6 (sum of separation & incorporation). Each participant has two case scenarios.

Coders will complete practice cases independently and meet with P.I. again for further discussion and clarification. Once a minimum of 85% agreement is reached among the raters, the coders will be given the complete set of case responses (~120 participants x 2 case responses = 240 coding ratings).

Practice Ratings:

Practice #1 Separation: 1 2 3 Incorporation: 1 2 3	Practice #2 Separation: 1 2 3 Incorporation: 1 2 3
Practice #3 Separation: 1 2 3 Incorporation: 1 2 3	Practice #4 Separation: 1 2 3 Incorporation: 1 2 3
Practice #5 Separation: 1 2 3 Incorporation: 1 2 3	Practice #6 Separation: 1 2 3 Incorporation: 1 2 3
Practice #7 Separation: 1 2 3 Incorporation: 1 2 3	Practice #8 Separation: 1 2 3 Incorporation: 1 2 3

APPENDIX H

DIVERSITY COGNITIVE COMPLEXITY MATLAB PROGRAM

```
clear;
clc;
N = 151;
A = importdata('input_data.txt'); % text file with all the data - the
format
% is each person's data is in a different row; there are 66 columns
% specifically 2 columns of identifying info and 64 columns for the 8x8
% matrix data
B = A(:,1:2); % this array contains the person's non-identifiable info
dataNby64 = A(:,3:66); % this array contains the matrix data for every
person
size(dataNby64);
transpose_data=zeros(8);
output = zeros(N,4);
for h = 1:N
    data8by8 = zeros(8,8); % 8x8 matrix of all zeros - to be filled in
with data
    counter = 0;
    % this loop takes each person's 1x64 array of data and turns into
an
    % 8x8 array of data (grid)
    for i = 1:64
        j = 1+floor((i-1)/8);
        if counter < 8;
            counter = counter + 1;
        else counter = 1;
        end
        data8by8(j,counter) = dataNby64(h,i);
        i=i+1;
    end
    % now we have to transpose the 8x8 data array b/c Matlab does the
    % matrix math on the columns - whereas for this data we want row
    % manipulations
    transpose_data = transpose(data8by8);
    stdev = std(transpose_data); %calculates the standard deviation of
each row
    % of the data8by8 array or in other words, the stdev of each column
of the transposed array
    x = size(stdev);
    diff = mean(stdev)/x(1,2); %the diff is calculated by adding the
each column stdev (8 of them)
    % and dividing by the total number of ratings (64) which is the
same as
    % taking the mean of the stdev array and dividing by 8 as is done
here
    output(h,3) = diff;
    num = 0;
    for k =1:8
        if stdev(1,k) == 0
            num = num+1;
        end
    end
    cor = corrcoef(transpose_data); % calculates the correlation
coefficient
```

```
    % for the 8x8 matrix - cor is a 8x8 matrix of correlation coeffs
    cor_square = cor.^2; % square the corr coeffs to make them positive
    cor_square(isnan(cor_square)) = 0; % set the indeterminant coeff
'NaN' to 0
    str = fprintf('num = %d\n', num); % this tells us how many rows we
have that
    % have a standard deviation of 0
    if num == 0
        gridnum = 0;
    elseif num == 1
        gridnum = 15;
    elseif num == 2
        gridnum = 28;
    elseif num == 3
        gridnum = 39;
    elseif num == 4
        gridnum = 48;
    elseif num == 5
        gridnum = 55;
    elseif num == 6
        gridnum = 60;
    elseif num == 7
        gridnum = 63;
    elseif num == 8
        str1 = fprintf('Major Problem!!!');
    end
    int1 = sum(sum(cor_square))-(8-num); % adds all 64  squared corr
coeffs
    % together but subtract off the 1's on the diagonal
    int2 = 64-gridnum-(8-num); %int2 is how we are going to normalize
the int1 matrix due
    % to the fact that there may be indeterminant coefficients which we
set to 0
    integration = int1/int2;
    %     integration = mean([int1 int2 int3 int4 int5 int6 int7
int8]);
    output(h,4) = integration; % writes integration number into 4
column of output matrix
    output(h,1) = B(h,1); % these next two lines write participant info
into first two columns of output
    output(h,2) = B(h,2);
    h=h+1;
end
output;
% write the ouput matrix into a text file with columns separated by a
tab
% for easy reading/editing in excel
dlmwrite('MB_output_FINAL.txt',output,'delimiter','\t', 'precision',
7);
```