Attitudes toward Acculturative Behavior Scale: Development, Reliability, and Validity

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This dissertation titled
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ABSTRACT

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Numerous measures of acculturation have been developed for use in minority cultures. In this study the Attitudes Toward Acculturative Behavior Scale (AABS) has been developed to measure the attitudes of host culture members toward the acculturative behavior of minority cultures. Items from the East Asian Acculturation Measure (EAAM) were modified as well as new items written in line with the theoretical underpinnings of John Berry’s bidimensional model of acculturation. One-hundred and twenty six (n=126) host culture members who were counselor trainees in master’s-level CACREP accredited programs or in programs closely aligned with CACREP standards participated in this study. Confirmatory Factor Analysis was the principal method for establishing validity of the AABS. The AABS demonstrated acceptable reliability. Some evidence was found for construct validity. The AABS is an appropriate tool for approaching the development of multicultural counseling competencies based on acculturation psychology and is useful
in producing evidence of learning in an outcome based education framework. Recommendations for further development of the AABS are presented.

Approved:_________________________________________________

Thomas E. Davis

Professor of Counseling and Higher Education
To Yoshie, Keina and Torin

“Whenever a theory appears to you as the only possible one, take this as a sign that you have neither understood the theory nor the problem which it was intended to solve.”

(Karl Popper, 1972)
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# TABLE OF CONTENTS

ABSTRACT .................................................................................. 4
DEDICATION .................................................................................. 6
ACKNOWLEDGMENTS .................................................................... 7
LIST OF TABLES ............................................................................. 14
LIST OF FIGURES ........................................................................... 15
CHAPTER I ..................................................................................... 16
  Significance of the Study ......................................................... 16
  Research Questions and Hypothesis ........................................ 20
  Limitations and Delimitations of the Study ......................... 22
  Definition of Key Terms ......................................................... 24
    Acculturation ................................................................. 24
    Dominant/Mainstream/Host Culture ................................. 24
    Minority/Heritage/Culture of Origin ............................... 25
    Ethnic Identity ............................................................. 25
    Unidimensional Model of Acculturation ....................... 25
    Bidimensional/Multidimensional Model of Acculturation . 26
    Orthogonal/Orthogonality .............................................. 26
  The Problem in Perspective .................................................. 26
  Operational Definitions of Dimensions ............................. 28
  Summary .............................................................................. 29
CHAPTER II ................................................................................... 30
APPENDIX A: CORRESPONDENCE FROM THE INSTITUTIONAL REVIEW BOARD

APPENDIX B: PERMISSION TO MODIFY THE EAST ASIAN ACCULTURATION MEASURE AND RELATED CORRESPONDENCE

APPENDIX C: PRELIMINARY STUDY RESULTS

APPENDIX D: PILOT STUDY RESULTS

APPENDIX E: ASSESSMENT OF NORMALITY STATISTICS AND NORMAL Q-Q PLOT

APPENDIX F: MARLOWE-CROWNE SHORT FORM C AND SCORING ALGORITHM

APPENDIX G: CORRELATION MATRIX

APPENDIX H: DEPICTION OF THE ONLINE VERSION OF THE AABS
LIST OF TABLES

Table 1: Demographic Information of Respondents.......................... 62
Table 2: Demographic Information of Participants...........................64
Table 3: Correlations between the Marlowe-Crowne Short Form C and the Attitudes toward Acculturation Scale......................... 66
Table 4: Bi-dimensional Model of Acculturation.................................71
Table 5: Goodness of Fit Indeces Table...........................................73
Table 6: Respecified Bi-dimensional Model of Acculturation75
Table 7: Goodeness-of-fit Indices for the Original and
Respecified Models........................................................................... 76
LIST OF FIGURES

Figures

Figure 1: Bi-dimensional Model of Acculturation.................................71

Figure 2: Respecified Bi-dimensional Model of Acculturation...............................75
CHAPTER I

INTRODUCTION

The following introduction presents a rationale for the research, the statement of the problem, research hypothesis, significance of the study, limitations and delimitations, and a definition of terms.

The purpose of this study was to explore the development of a scale, based on grounded theory, which would measure attitudes toward acculturative behavior in members of a host/dominant culture. This study was chosen in an effort to develop a useful attitudes toward acculturative behavior assessment tool for counselor educators to employ in their efforts to educate counselor trainees. Furthermore, an objective tool with established reliability and validity would be useful for counselor educators in meeting the assessment requirements for Council of Accreditation of Counseling and Related Educational Programs (CACREP) outcome based education (Council For Accreditation Of Counseling And Related Educational Programs, 2007).

Significance of the Study

Results of the 2005 American Community Survey indicate that 67,487,559 persons living in the United States of America identify themselves as being non-white. Of these
people, the largest racial group in the U.S., being 41,870,703 persons, identify themselves as Latina/Latino (U.S. Census Bureau, 2005). Extrapolating from this it is understandable that professional counselors will at some time have to treat clients from diverse cultural backgrounds. The counseling profession has attempted to set standards to prepare counselors in dealing with culturally diverse clients in their professional practice.

In 1992 the American Counseling Association endorsed a set of multicultural competencies that counselors should be able to demonstrate in their professional practice (Sue, Arrendondo, & McDavis, 1992). The described competencies call for counselors to have an understanding of their own cultural values and bias, to have an awareness of their client’s worldview, and to be able demonstrate culturally appropriate therapeutic skills. The American Psychological Association endorses a similar set of competencies to be acquired in educational settings (American Psychological Association, 2002). The establishment of these standards has implications for counselor education.

Arrendondo and Arciniega (2001) suggest that training in multicultural counselor competencies in counselor education programs, be delivered in a curricula of
competency-based objectives. This is in line with the current efforts of the CACREP standards review committee to establish accreditation standards that facilitate Outcome Based Education (Council For Accreditation Of Counseling And Related Educational Programs, 2007). Outcome Based Education, or Competency Based Education, is the delivery of curricula in which students provide evidence of having learned or acquired a degree of competency from the learning activities provided through educational programming (Harris, Guthrie, Hobart, & Lundberg, 1995). The use of psychometric measurements, namely the Cross-Cultural Counseling Inventory-Revised (CCCI-R), in providing evidence of learning of multicultural competency in counselor education programs has been implemented with some success (Coleman, Morris, & Norton, 2006).

Several instruments have been designed to measure counselor’s multicultural competencies. Four (4) of the most widely used measures of multicultural competencies (Hays, 2008) are the Multicultural Counseling Inventory (MCI) by Sodowsky, Taffe, Gutkin, and Wise (1994), the Multicultural Awareness Scale: Form B (MCAS:B) by Ponterotto et al. (1996), the Cross-Cultural Counseling Inventory Revised (CCCI-R) by Lafromboise, Coleman, and Hernandez
(1991), and the Multicultural Awareness Knowledge Skills Scale (MAKSS) by D'Andrea, Daniels, and Heck (1991). Common downfalls with these measurement tools are the lack of evidence to support divergent validity and questionable usefulness of the constructs being measured (Dunn, Smith, & Montoya, 2006). These measurement tools are atheoretical in nature. Furthermore the phenomena of acculturation has not been included as a factor of measurement in these instruments. This is probably due to the study of acculturation having been limited to scholarly work in the socio-cultural context of minority groups (Rudmin, 2006).

Based on this deficit in the literature, the researcher proposes that acculturation is an important construct to be studied in dominant/host cultural groups.

There are two (2) areas a psychometric instrument which measure the attitudes toward acculturative behavior of minority groups are useful. The first area is in the educational programming and training of cross-culturally sensitive professional counselors. The use of psychometric instruments which measure multicultural counseling competency for the education of counselor trainees has been empirically demonstrated as effective (Coleman, Morris, & Norton, 2006). However, no psychometric instruments for
measuring mainstream culture members attitudes toward acculturation are available for use in educational settings.

As mentioned previously, Rudmin (2006) asserts that there is an absence of studies of acculturation of dominant culture members. Acculturation is a change in the cultural patterns of culturally distinct groups in continuous contact (Redfield, Linton, & Herskovits, 1936). This study seeks to address the absence of psychometric instruments, which measure attitudes toward acculturative behavior in the dominant culture. This research was based on the theory proposed by Berry, Kim, Young, and Bujaki (1989).

An effort to test acculturation theory and construct valid scales to measure acculturation is a necessary undertaking to better equip counselor educators in meeting the American Counseling Association’s (ACA) multicultural counseling competencies and standards (Sue, Arrendondo, & McDavis, 1992).

Research Questions and Hypothesis

This study addressed the following research question: Is the Attitudes Toward Acculturative Behavior Scale (AABS) a statistically valid instrument for measuring the attitudes of dominant/host culture members towards the acculturative behavior of members from ethnic minorities? The study
involved construction of the AABS based on Berry, Kim, Young, and Bujaki’s (1989) model of acculturation.

In addition to constructing the AABS the following research questions was addressed:

Question 1 (Q1): Is the AABS a reasonably orthogonal measure? Null hypothesis 1: The AABS is reasonably orthogonal.

Question 2 (Q2): Are the Assimilation and Integration positively correlated? Null hypothesis 2: There is no correlation between the subscales Assimilation and Integration.

Question 3 (Q3): Are the subscales Assimilation and Separation negatively correlated? Null hypothesis 3: There is no correlation between the subscales Assimilation and Separation.

Question 4 (Q4): Does the postulated model representing the constructs Assimilation, Integration, and Separation, best fit the observed data? Null hypothesis 4: The postulated model does fit the observed data.

The hypothesis addressed in this study was: Construct validity for the AABS can be established in counselor trainees who are members of a dominant/host culture. The research hypothesis is informed by Redfield, Linton, and
Herskovits’ (1936) definition of acculturation and Berry, Kim, Young, and Bujaki’s (1989) bi-dimensional model of acculturation. The null hypothesis for the study states that construct validity for the AABS cannot be established with counselor trainees belonging to a dominant/host culture.

Confirmatory Factor Analysis (CFA) can be used to assess the latent structure of a priori theoretically driven models (Hoyle & Panter, 1993). This approach has been used previously in scale development and other empirical studies proposing a construct of acculturation (Chung, Kim, & Abreu, 2004; Dinh, Roosa, Tein, and Lopez, 2001; Miller, 2007). For this study it was proposed that Berry’s bi-dimensional model of acculturation would fit the collected data based on goodness-of-fit statistical tests.

Limitations and Delimitations of the Study

The delimitations for this study included a focus on counselor trainees in master’s-level CACREP accredited master’s programs, and included some programs that are closely aligned with CACREP standards. The study was further delimited by focusing on establishing construct validity based on Berry’s bi-dimensional model of acculturation.

The limitations of this study included sampling and methodology. The population of interest was counselor
trainees enrolled in CACREP accredited Masters level courses. The ability to create a random list of counselor trainees in Ohio was limited by a lack of an accessible population list. Therefore, the researcher sampled counselor trainees from individual counseling programs located throughout Ohio. True random sampling was ideal, but for the nature and procedure of this study the non-probability purposive sampling approach was appropriate (Kerlinger, 1986).

Methodological issues further limit the study. Only two methods of establishing construct validity for the AABS were used; being confirmatory factor analysis and corelational approaches. The lack of valid scales used to measure the attitudes of dominant culture members limited the opportunity to compare the construct validity of the AABS with other established measures. The stability of scores has been proposed as relevant to construct validity (Cooper & Pervin, 1998). The present study is limited by engaging in no stability of scores over time.

Although factor analysis, especially confirmatory factor analysis can be used specifically to test hypotheses about constructs this may not be sufficient ‘proof’ as to
the existence of "real dimensions" in the minds of those under investigation (Cooper & Pervin, 1998).

Definition of Key Terms

Acculturation

Acculturation is the phenomena which results when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups (Redfield, Linton, & Herskovits, 1936). Acculturation is evident at the societal level and at the individual psychological level (Berry, 1980; Berry, 2003).

Dominant/Mainstream/Host Culture

Dominant, mainstream, and host culture are terms, which designate the predominant culture of a socio-political group with core values, beliefs, and social norms, as well as economic, political, and lifestyle patterns developed over time. The mainstream culture is the culture that the majority of people of a nation subscribe to and have learnt through the process of enculturation (Scott & Marshall, 2005; Harris, 1995; Kottak, 2006). These terms are used synonymously in this study.
Minority/Heritage/Culture of Origin

Minority culture, heritage culture, and culture of origin are terms which designate non-predominant cultural groups of a socio-political nature, with core values, beliefs, and social norms, as well as economic, and lifestyle patterns developed over time. Minority Cultures are the sociocultural groups, that the majority of people of a sub-community within a mainstream culture, subscribe to and have learnt through a process of enculturation. It includes the core values, beliefs, and behavioral patterns derived from the cultural heritage of these members, and is reflected in the political and public institutions of that people (Scott & Marshall, 2005). These terms are used synonymously in this study.

Ethnic Identity

Ethnic identity pertains to a particular identifiable cultural group to which a person subscribes to and is accepted as a social member on the basis of a presumed common genealogy or ancestry, or by common cultural, linguistic, or religious traits (Smith, 1987).

Unidimensional Model of Acculturation

A bipolar model, with assimilated at one end and unassimilated at the other end of the spectrum. The
acculturation process is conceptualized whereby contact with and assimilation to the dominant culture, results in a loss of distinct cultural patterns of the heritage culture (Gordon, 1964). This model posits that acculturation is unidirectional and results in inevitable assimilation over time.

**Bidimensional/Multidimesional Model of Acculturation**

Bi-dimensional models of acculturation, are models whereby cultural identity drawn from mainstream and or heritage cultural independently (Berry, Kim, Young, & Bujaki, 1989; Celano & Tyler, 1991; Laroche, Kim, Hui, & Joy, 1996). In other words, bi-dimensional models, acculturation is neither linear nor unidirectional and can involve several strategies and outcomes (Berry, 1996).

**Orthogonal/Orthogonality**

In statistics, a term used to describe independent or uncorrelated relationships. In factor analysis orthogonal refers to the assumption or evidence that factors are uncorrelated (Vogt, 2005).

**The Problem in Perspective**

In an empirical study of two-hundred and seven (207) licensed professional counselors, the majority of survey respondents identified that they had insufficient skills in
determining client acculturation, client culture in assessment interpretation, and a lack of competency in resolving multicultural ethical dilemmas (Fischer & Chambers, 2003). These problems can be improved with suitable education on acculturative strategies of clients of minority groups. However teaching about acculturation alone may not be the most efficient approach.

This is clear in a study of problems associated with acculturation in the supervision of international counseling students in the U.S., with low acculturation being associated with less supervisory working alliance (Nilsson & Anderson, 2004). Based on the results of their study, Nilsson and Anderson recommend that supervisors assess the level of acculturation, address cultural differences, and inquire about the student’s acceptance of U.S. culture and values. This is clearly an assimilationist approach, in which the supervisory relationship can be improved by having students from ethnically diverse backgrounds be more American.

A psychometric scale would be a useful tool for counselor educators to fulfill the need of identifying bias toward acculturative behavior in counselor trainees, and to
provide evidence of learning in outcome-based counselor education programs.

Operational Definitions of Dimensions

The operational definitions of dimensions in this study were defined as follows:

Assimilation—refers to the mode of acculturation where a person favors the dominant culture and disfavors their culture of origin. Furthermore, this person integrates into his or her socio-cultural worldview, values and beliefs of the dominant culture while abandoning the values and beliefs of the culture of origin (Berry, Kim, Young, & Bujaki, 1989; Rudmin & Ahmadzadeh, 2001; Rudmin, 2006).

Separation—refers to the mode of acculturation where a person favors their culture of origin and disfavors the dominant culture. Furthermore, this person rejects integrating into their socio-cultural worldview, the values and beliefs of the dominant culture, while retaining the values and beliefs of their culture of origin (Berry, Kim, Young, & Bujaki, 1989; Rudmin & Ahmadzadeh, 2001; Rudmin, 2006).

Integration—refers to the mode of acculturation in which an individual favors both the dominant culture and culture of origin. Furthermore, this person integrates into
his socio-cultural worldview, values and beliefs of both the dominant culture and culture of origin (Berry, Kim, Young, & Bujaki, 1989; Rudmin & Ahmadzadeh, 2001; Rudmin, 2006).

Marginalization- refers to a mode of acculturation where a person disfavors both their culture of origin and the dominant culture. Furthermore, this person rejects integrating or retaining in their socio-cultural worldview the values and beliefs of the dominant culture or their culture of origin (Berry, Kim, Young, & Bujaki, 1989; Rudmin & Ahmadzadeh, 2001; Rudmin, 2006).

Summary

This chapter provided an introduction to the area of investigation in this study. Research questions and null hypothesis were presented. The significance of the study was presented. The limitations and delimitations of the study have been addressed. The literature review in chapter 2 addressed the previous scholarly endeavors in the field of psychological acculturation.
CHAPTER II
LITERATURE REVIEW

This literature review presents an introduction and critical review of the relevant literature. This chapter covers four areas. A brief history of the study of acculturation is provided, followed by a review of existing measures of acculturation is discussed. Finally, theoretical models of acculturation are reviewed.

Review of the Relevant Literature

Brief History of the Study of Acculturation

In the following paragraphs, a brief history of the study of acculturation is described. Rudmin (2003a) identified sixty-eight (68) four-fold models of acculturation described in the literature between 1918 and 1984. Many of these models resemble Berry’s model of acculturation. The researcher has included some of the more important works in this literature review. It should be noted that between 1991 and 2000, of one-thousand three hundred and seventy six (1376) dissertations none were dedicated to measuring acculturation in host culture members (Rudmin, 2003c). This researcher searched the ProQuest (Proquest, 2008), The Social Science Citation Index (Social Science Citation Index, 2008), and Google (Google, 2008) and
found no dissertation work focused on using Berry’s model of acculturation as measured in the host culture.

John Wesley Powell, in his work of the late 1800s, is the first person accredited with using the term acculturation, as indicating a change in cultural patterns when differing cultural groups are in contact (Rudmin, 2003b). Redfield, Linton, and Herskovits (1936) have proposed the most widely used basic definition of acculturation:

Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups. (p. 149)

Redfield and his colleagues proposed that acculturative strategies involved either acceptance of the dominant culture’s traits and ultimately assimilation, or an aversive reaction to the dominant culture in an effort to compensate feelings of inferiority, or adaptation by synthesis of both the culture of origin and the host culture.

An enduring and conspicuous example of acculturation from the field of anthropology is the Cargo Cults of Papua
New Guinea, Melanesia and the islands of the south Pacific. In these religious movements, the indigenous people engage in religious ritual focusing on evoking traditional ancestors to supply them with ‘Cargo’ from the sky (Inglis, 1957). These cults emerged after contact with anthropologists conducting fieldwork with these indigenous people in the earlier part of the 1900s.

The earliest studies of sociological acculturation were undertaken in the early 1900s in an investigation of Polish immigrants (Persons, 1987). The researchers mentioned in Persons study identified three ‘personalities’ that are attributed to the immigrant’s attitude to their new cultural environment. The first personality is the ‘Bohemian’ who is highly adaptive and able to accommodate the new cultural environment. The second personality is the ‘Philisitine’ who is a conformist to there own culture. The third personality is ‘creative’ who is able to modify their attitudes to accommodate their own and the new cultural environment.

In the work of Redfield, Linton, and Herskovits (1936), three (3) outcomes of acculturation are identified: acceptance and assimilation into the dominant culture, a negative reaction to the dominant culture in the light of presumed or imposed inferiority, and adaptation by fusing
the two (2) cultures into a meaningful whole. An interesting point that Redfield and his colleagues emphasize is whether or not dominant cultural traits are accepted or rejected depends on the attitudes of the dominant culture toward the minority group.

Psychologist Irvin Child’s published work of 1943 focused on second generation Italian-Americans. He described four (4) types of acculturation as reactions to psychological conflict as a result of contact between American and Italian culture. The ‘rebel reaction’ entailed the abandonment of culture of origin and assimilation into the dominant culture. The ‘in-group’ reaction involved diminishing cultural contact with the dominant culture to preserve loyalty to the culture of origin. The “double-response” involves alternation between both cultures depending on the social context. Finally, the ‘apathetic reaction’ is a diminishing of attachment to the symbols relating to nationality (Child, 1943).

Canadian John Berry and Australian Ronald Taft, have been credited as having a considerable and prolific contribution to the psychological study of acculturation (Rudmin, 2006). Both these researchers have contributed to
the development of multidimensional models of acculturation, with Berry having the most impact.

John Berry’s initial work in the study of acculturation began with an investigation of the cultural attitudes of Australian Aborigines (Sommerlad & Berry, 1970). Assimilation was described as identification of the minority group with membership in the dominant culture. Integration involved the maintenance of minority cultural values but at the same time contributing to the host culture. Over a ten year period, Berry continued to modify his model of acculturation to the current and widely employed four-fold model of acculturation, which includes the constructs Assimilation, Integration, Separation, and marginalization (Berry, 1974; Berry, 1976; Berry, 1980; Berry, 1983; Berry, Kim, Young, & Bujaki, 1989).

Models of acculturation

As mentioned in chapter one, there are two general conceptualized models of acculturation: unidimensional and bidimensional (Gordon, 1964; (Berry, Kim, Young, & Bujaki, 1989; Berry, 2003; Celano & Tyler, 1991; Laroche, Kim, Hui, & Joy, 1996; Ryder, Alden, & Paulhus, 2000).

Unidimensional models of acculturation are based on the assumptions that the adoption of cultural traits and
patterns from the dominant culture subsequently involve a diminishing of heritage cultural traits over time and familial generation (Laroche, Kim, Hui, & Tomiuk, 1998; Abe-Kim, Okazaki, & Goto, 2001). Concurrent validity for measures based on this model have been established in Asian populations (Suinn, Ahuna, & Khoo, 1992). Studies conducted based on a unidimensional model with Francophone, Anglophone, Italian and Greek Canadians, found support for the hypothesis that as second language proficiency increases there is a decrease in ethnic identification. However, the results of this regression study indicated a curvilinear relationship between second-language proficiency and ethnic identification, offering inconclusive evidence for a bidimensional model of acculturation over a unidimensional model (Laroche, Kim, Hui, & Tomiuk, 1998).

Subsequently, more rigorous empirical comparisons of unidimensional and multidimensional models of acculturation have been undertaken. Abe-Kim, Okazaki, and Goto (2001) found that in a comparison of unidimensional and multidimensional measures of acculturation, the unidimensional measure masked the more complex relationships between cultural indicator variables, resulting in counterintuitive findings. Ryder, Alden, and Paulhus (2000)
concluded from three comparative studies, that the bi-dimensional model of acculturation constituted a broader and more valid framework for explaining acculturation. This is further supported by Chung, Kim, and Abreu’s (2004) rigorous empirical development of the Asian American Multidimensional Acculturation Scale (AAMAS).

**Criticism of Acculturation Models**

As previously mentioned, unidimensional models of acculturation have been criticized for their lack of explanatory power of acculturation phenomena. Multidimensional models have also received criticism. In comparison to the ‘hard’ sciences, less explanatory power can be found in the major theories and models of psychology and the behavioral sciences. Critics of Berry’s model of acculturation have recommended that a greater focus on subcultures, dominant group attitudes, and the acquisition of cultural skills be included in multidimensional models of acculturation (Berry, 2003). Since 1996 there has been some progress with an increasing number of studies of minority ethnic groups. The focus of this study is an attempt to address the issue of dominant group attitudes.

An important criticism of the multidimensional model of acculturation is that most acculturation studies have
indicated that all minorities in the investigations report bicultural attitudes indicative of integration, if only in a small degree (Rudmin, 2006). These results are an indication that some agreement to items that are toward the altitudinal object of acculturation, regardless of which of the four factors these items purport to measure, are evidence that respondents to multidimensional measures of acculturation will score favorably toward acculturation. This is true even if they score highest on the factor of Separation or Marginalization. For practical reasons, perhaps respondent agreement with all four acculturative types based on multidimensional models of acculturation should be treated as profiles similar to the Myers-Briggs Type Indicator (McCaulley, 2000).

Furthermore, Rudmin (2003) has identified that the construct of Marginalization has been confounded in pilot studies and contrary to common sense. In describing the construct of Marginalization, Berry (1983) states that the construct is difficult to define and is confusing and anxiety provoking. If it is confusing and confounded in measuring acculturation of minority groups, then it stands to reason that it will be just as or more confusing to mainstream culture members responding to instrument items.
for the purpose of measuring their attitudes of the acculturative behavior of minority culture members.

**Extrapolation of Multidimensional Models of Acculturation to Larger Society**

Berry (2003) has extrapolated his psychological model of acculturation to include an explanation of the attitudes of larger society. Berry proposes a four-fold model of dominant group attitudes towards acculturation. This includes *multiculturalism*, which parallels the construct of *integration*, *melting pot*, which parallels the construct of *assimilation*, *segregation*, which parallels the construct of *separation*, and *exclusion*, which parallels the construct of *marginalization*.

In a study of Somalis in Norway, some participants were endorsing more than one type of acculturation in the model which was defined as being orthogonal (or mutually exclusive), at the construct level, with acquiescence issues being the central problem (Rudmin, 2003a). In a study to further investigate these issues, it was concluded that *marginalization* as is currently defined is not useful in describing acculturative behavior as it encompasses notions of not only rejection of two (2) cultures, but also
indecisiveness between which culture to choose (Rudmin & Ahmadzadeh, 2001).

Berry and Sam (2003) responded to the criticism of the assumption of orthogonality in that acculturation involves complexity, uncertainty, ambivalence, and other psychological qualities. It is important to consider that ‘perfect’ statistical results will be uncommon in the study of intra-psychological phenomena such as attitudes and beliefs, and that measurement error will be evident in many studies of acculturation.

The researcher of this study proposes that a ramification of the four-fold model not being orthogonal has serious consequences. The two (2) dimensions of the Berry model are said to be at ninety (90) degrees with Integration-Marginalization on one (1) continuum and Separation-Assimilation on the other. Inter-correlation would be expected between the factors of Assimilation and Integration as they are both toward the attitudinal object of acculturation. We would expect some obliqueness to emerge from this inter-correlation. There is a possibility that respondents who strongly endorse integration and assimilation items would cause the rotation of these two (2)
axis to ‘collapse’ upon one another resulting in a single unidimension.

The Study of Host Culture Attitudes Toward Acculturation

As mentioned previously in this study little scholarly investigation of host cultural majority attitudes has been undertaken. However, some progress has been made in the acculturation orientations of the dominant host majority members toward specified immigrant minorities. Bourhis, Moise, Perreault, and Senecal (1997), have proposed an interactive model of acculturation based on Berry’s model and consideration of governmental policy. These authors propose that acculturation outcomes are the result of the interaction of attitudes of both the dominant culture and minority culture groups. In their study of Francophones and Anglophones in Quebec, Canada, they found that host culture members endorsed five (5) acculturation orientations being, integrationism, assimilationism, segregationism, exclusionism, and individualism. The Host Community Acculturation Scale (HCAS) was developed for this purpose. The HCAS has also been piloted in the Italian context, convergent and discriminant validity of the scale was reported (Barrete, Bourhis, Capozza, & Hichy, 2005). The
HCAS was not available for use in this researcher's study as the instruments were available only in French and Italian.

**Review of Psychometric Measures of Acculturation**

A selection of psychometric measures of acculturation have been reviewed to represent both the unidimensional and bidimensional models of acculturation. In total, six scales have been reviewed.

The East Asian Acculturation Measure (EAAM) (Barry, 2001), and the Male Arab Acculturation Scale (MAAS) (Barry, 2005), are acculturation scales with items specifically created to represent the four factors in Berry's model. The EAAM had subscale Cronbach alphas of .77, .76, .74, and .85 for Assimilation, Separation, Integration, and Marginalization respectively. The MAAS contained items related to two (2) subscales of Separation-Assimilation and Integration-Marginalization. Cronbach alphas for these subscales were .71 and .73 respectively.

Berry, Kim, Young, and Bujaki (1989) developed culture specific measures for French Canadians, Portuguese, Hungarian, and Korean immigrants in Canada. The instruments contained four (4) subscales for Assimilation, Separation, Integration, and Marginalization, with Cronbach alphas between .68 and .87 depending on the sample.
The Puerto Rican Biculturality Scale (PRBS) is a scale based on a unidimensional conceptualization of acculturation, and used in the study of Puerto Rican illicit drug users in New York (Cortes et al. 2003). There are two (2) subscales, for affiliation with American culture, and Puerto Rican culture respectively. The authors reported a Cronbach alpha of .78 for the American subscale and .73 for the Puerto Rican subscale.

The Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) is a revision of the original scale based on a unidimensional model of acculturation, and includes the dimensions of the Berry model of acculturation (Cuellar, Arnold, & Maldonado, 1995). It should be noted that the authors report that the subscale for Marginality is considered experimental and optional when administering the scale. Six (6) subscales are described as the Anglo Orientation Scale (alpha=.83), Mexican Orientation Scale (alpha=.88), Marginality Scale (alpha=.87), Anglo Marginality subscale (alpha=.90), Mexican Marginality subscale (alpha=.68), and the Mexican American Marginality subscale (alpha=.81).

The African American Acculturation Scale (AAAS) is a scale based on a unidimensional model of acculturation
(Landrine & Klonoff, 1994). Overall instrument scores are indicative of either ‘more’ traditional or ‘less’ traditional in their cultural orientation. The split-half reliability for this scale was $r=0.93$. Cronbach’s alpha for AAAS ranged from $\alpha=0.71$ to $\alpha=0.90$ across eight (8) subscales.

Summary

In this chapter, unidimensional and bidimensional models of acculturation have been described. A critical review of these models was addressed. The study of measuring attitudes of the host dominant culture majority has been referenced.
CHAPTER III
METHODOLOGY

This chapter describes the process and design. A discussion of the research design, scale preparation, population, sampling procedure, model building, and data collection and analysis are included in this chapter.

Research Design

The purpose of this study was to construct a psychometric instrument that would measure the attitudes of dominant culture members toward the acculturative modes of minority groups, and to test theoretical assumptions of Berry’s model of acculturation. The process of developing the Attitudes toward Acculturative Behavior Scale (AABS) included scale item construction and establishment of indicators of validity and reliability.

Scale Preparation

The AABBS was developed based on the definition of acculturation of Redfield, Linton, and Herskovits (1936), and on Berry, Kim, Young, and Bujaki’s (1989) bi-dimensional model of acculturation. The development of the initial instrument items was also based on a modification from the sub-scales of East Asian Acculturation Measure (EAAM) a measure purely based on Berry’s model (Barry, 2001). The
EAAM was also selected for modification based on acceptable sub-scale reliability coefficients, being $\alpha = .77$, $\alpha = .76$, $\alpha = .74$, $\alpha = .85$ for the subscales assimilation, separation, integration, and marginalization respectively. This scale was also used based on the availability of the scale for modification with permission from the original author. A pool of twenty-four (24) items was originally proposed to capture the complexity of each subscale in the acculturation model.

However, as discussed in Chapter 2, the construct of Marginalization is confounded and items constructed in line with the conceptual framework are contrary to common sense. Therefore, items for Marginalization was not be included in the scale. Therefore twenty-four (24) items, eight per subscale were created for the scale.

Sampling Procedure

The researcher conducted a purposeful sampling procedure to gather participants from students enrolled in CACREP accredited master’s level counseling and programs closely aligned with CACREP standards. Due to practical reasons, randomized representation of the population was not pursued. Potential participants were solicited through negotiations with counselor educators in CACREP accredited programs.
Institutions from across the U.S.A participated in the study. The researcher initially contacted faculty in counseling programs to approach students to participate in the study and then received referrals to faculty at other institutions with counseling programs.

Measurement of Attitudes toward Acculturation and Choice of Likert Scale Format

Items were created in line with the theoretical understanding of the constructs *Assimilation*, *Integration*, and *Separation* respectively. Items were created by either modifying the perspective of items from the EAAM or by the researcher creating new items based on the theoretical conceptualization.

A seven (7) point Likert scale was chosen to increase the response variance and increase reliability as suggested by Mueller (1986). Scale reliability and validity can be improved if each numerical point on the scale for each item is labeled with words (Krosnick, 1999). Therefore, Likert points were labeled for each item as very strongly agree, strongly agree, agree, neutral, disagree, strongly disagree, and very strongly disagree respectively. Masters (1974) suggests that a seven-point-Likert-scale not only increases the chance of increased variability and reliability, but
also allows the attempt to measure a greater dimensionality of affect in response to scale items. Furthermore, the more response items on a scale item reduce the inflation of Chi-Square goodness of fit indexes (Green, Akey, Fleming, Hershberger, & Marquis, 1997).

Issues of Social Desirability

Social desirability is a condition where respondents consciously desire to create a particular impression indicating that in some circumstances opinion based instrument items do not elicit honest opinions (Tuckman, 1999). For this study, it was proposed that the Marlowe-Crown Short Form C (MCSF-C) is a suitable measure of social desirability to be administered along with the proposed scale. The MCSF-C would add thirteen (13) items to the overall scale (Reynolds, 1982).

Description of Items Proposed as Relating to Subscales

Subscale One (Dimension 1): Assimilation

Items for subscale one were proposed to measure the construct of Assimilation. An example of this item was “I think members of minority groups should be able to write English better than their native language.”
Subscale Two (Dimension 1): Separation

Items for subscale two were proposed to measure the construct of Separation. An example of this item was “I think members of minority cultures should only go to social gatherings where most of the people are from their own culture.”

Subscale Three (Dimension 2): Integration

Items for subscale three were proposed to measure the construct of Integration. An example of this item was “Members of minority cultures should feel comfortable around people of both their own culture and members of the dominant culture.”

Demographic information was collected which included information pertaining to the following: Age, Gender, Do you speak a language other than English? Do you currently live in your country of origin? Respondents were also asked to provide information on Ethnic Identity.

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is deductive in which a top-down approach is used to test hypothesized relationships between factors of a model or theory. The main objective of CFA is to determine if the relationships in the
variables in the hypothesized model resemble the relationships in the observed data (Meyers, Gamst, & Guarino, 2006).

Three models were tested in how well the observed data fit. These models were, the null model, the postulated model, and the saturated model. The postulated model specifies the relationship of the observed measures to their posited constructs and the relationship between the latent variables or factors. The postulated model represented the hypothesized relationships between factors in this study. The postulated model was compared to the null model where the constructs are allowed to inter-correlate freely (Anderson & Gerbing, 1988). In the saturated model all possible relationships among variables are calculated. Both absolute fit indexes and descriptive fit indices was considered in assessing how well these models fit the observed data in this study.

The software AMOS, an add-on to the SPSS package, and SPSS were used to analyze data. This package was selected based on ease of use, and the availability of a large range of model fit indices generated by this software.
Sample Size

The necessary sample size for this study was based on considerations of the number of indicators per factor and the number of factors per model. In Confirmatory Factor Analysis, Anderson and Gerbing (1984) propose that a sample size of at least one-hundred and fifty (N=150) was sufficient to obtain convergent and proper solutions for models with three or more indicators per factor. Other authors have recommended sample sizes of between one-hundred (N=100) and two-hundred (N=200) are sufficient for models with two to four factors (Loehlin, 1992).

Use of Double-Barreled Instrument Items

In survey construction, the use of double-barreled questions is usually discouraged (Mueller, 1986). In fact many survey instruments based on the multidimensional model of acculturation contain double-barreled question items, which has attracted criticism (Rudmin, 2006). Several reasons have been proposed for why double-barreled questions are problematic. These include an increase in ambiguity, response to only one part of the statement, and issues with non-monotonic scale responses (Thurstone, 1928; Mauldin & Marks, 1950; Coombs, 1953). For example, “I like rock and roll and music from my own culture”. In Berry’s model of
acculturation, double-barreled survey items would only be suitable for the Integration-Marginalization dimension as this dimension is inherently monotonic. Therefore, questions with an attitudinal object containing two elements, that are not ambiguous, were worded so that both parts of the question item must be responded to, and have underlying theoretically based dimensionality, were constructed for the Assimilation-Marginalization dimension of the AABS.

Scoring of Scale Items

The practice of negatively keying items that reflect attitudes that disfavor acculturation have been lacking in instrument use for measuring acculturation (Rudmin, under review). Therefore Instrument items that are toward the attitudinal object of acculturative behavior were scored positively, and those scored away from the acculturative behavior were scored negatively.

Model Building

In the postulated model, the factors of Integration and Separation are hypothesized to be negatively correlated, as well as for Assimilation and separation. Integration and Assimilation are hypothesized to be positively correlated.

A test of orthogonality was possible by interpreting the results of the null model. The examination of null
model’s fit to the observed data addresses research question one (1) of this study.

In the saturated model all possible relationships between factors were considered. A comparison of the saturated model, especially indices of parsimonious fit, allowed the researcher to consider the construct validity of the independence and postulated models.

In the postulated model, the researcher stated that there should be a correlational relationship between the dimensions of Assimilation/Separation and Integration, as they both contained items toward the attitudinal object of acculturation. Conversely there should be a negative correlational association within the dimension Assimilation/Separation as the subscales in this dimension contain items both toward and away from the attitudinal object of acculturation. The analysis of the postulated model addresses research question two (2) and a Pearson’s correlation was calculated to address question three (3).

The factor of Integration was split into ‘high’ and ‘low’ sub-factors. The ‘low’ integration was considered as respondent endorsing minimal biculturalism. Models based on theory to include high & low integration factors was addressed in the model respecification phase of this study.
Model Respecification

Based of the results of the analysis, factor relationships were respecified, if they were theoretically justifiable (Meyers, Gamst, & Guarino, 2006).

Pilot Study

A pilot study was conducted to gather information and statistically assess the proposed instrument items. Twenty-one (n=21) counselor trainees at Ohio University participated in the study.

Overall internal reliability as indicated by Cronbach’s alpha was $\alpha=0.764$. for the entire scale. For the subscales of Assimilation, Separation, and Integration, Cronbach’s alpha was, $\alpha=.843$, $\alpha=.657$, and $\alpha=.877$ respectively.

Respondents to the majority of items across the subscales included responses at the extreme ends of the Likert scale, indicating that a seven (7) point Scale captured a range of responses.

Parallel analysis is an approach for determine the number of factors to retain in exploratory factor analysis and is one of the most accurate approaches of its kind, superior to the extraction methods in SPSS (Hayton, Allen, & Scarpello, 2004)
Parallel analysis using statistical software by Kaufman and Dunlap (2000) was used to assess the number of components (factors) that account for the most variance. Two (2) out of the twenty-four (24) of the extracted components explain approximately fifty-two percent (52%) of the total variance. Based on these results the researcher concluded that a unidimensional conceptualization of respondents’ attitudes towards acculturative behavior of minority groups does not accommodate the differences in their responses. The results of the parallel analysis are provided in Appendix D.

Inspection of the correlation matrix indicated a uniform negative correlation between the Assimilation and Separation subscales. Uniform positive correlation was observed between Assimilation and Integration items. A weak negative or no correlation was observed between the items for Integration and Separation.

Respondents’ total scores for each subscale were calculated and correlations between the total scores for each subscale were calculated. The results indicated a statistically significant negative correlation between the Assimilation subscale and Separation subscale (r = -.621, p < .05). A positive correlation was evident between the Integration Subscale and Assimilation Subscale (r = .793,
p<.01). There was no statistically significant correlation between the Integration and Separation subscale. These results suggest that relationship between Integration and Separation may be orthogonal.

**Suggestions for Scale Improvement Based on Pilot Study**

Based on the results of the pilot study, and in an attempt to improve internal reliability, the researcher decided to remove item nine (9) from the scale. Doing so improved the internal reliability of the Separation subscale from $\alpha=.657$ to $\alpha=.720$.

**Reliability Issues**

Internal reliability is the extent to which items in a scale or subscale produce similar results (Vogt, 2005). As a seven-point-likert type scale was used, Cronbach’s alpha was used to measure and assess internal reliability. Furthermore, the Spearman-Brown Prophecy Formula was calculated on split-halves of the instrument if necessary when the overall instrument is shortened. This approach is useful for assessing internal consistency when initial instruments have been shortened as in the case of the split-half approach (Mueller, 1986). If this had been necessary, attention would have been given to ensure that an equal
number of the three subscale items would have been represented in each of the split-halves.

Validity Issues

Construct validity was assessed by analysis of the results of Confirmatory Factor Analysis. This approach was recommended as useful for theory development and testing in psychology and the social sciences (Anderson & Gerbing, 1988). Correlations between subscale scores were used to assess discriminant and convergent validity and were based on the theoretical suppositions that guide the scale construction. Cambell and Fiske (1959) recommend that discriminant and convergent validation techniques are used for analysis of newly constructed scales.

Normality assumptions

The normality of distribution assumption was tested by considering kurtosis, histograms, and normal Q-Q plots.

Goodness of Fit, Power, and Effect Size

The Goodness of Fit of all models, in fitting the observed data, was assessed by interpreting the absolute fit measures of $\chi^2$ and the Root Mean Square Error of Approximation (RMSEA). The RMSEA was included as the $\chi^2$ test is sensitive to sample size and therefore increases the probability of Type I and Type II error (Joreskog, 1969).
Recommendations from Byrne (1998) suggest that the comparative fit index (CFI) be used in all structural equation model research. This is a relative fit measure, and was also examined in this study. The researcher accepted Meyers, Gamst, and Guarino’s (2006) recommendation to report $\chi^2$, normed fit index (NFI), CFI, RMSEA. In addition to this, the parsimonious fit measures, parsimonious adjusted goodness of fit (AGFI) and the parsimonious goodness of fit (PGFI) were reported in the results to cover all fit measure domains being absolute fit, relative fit, and parsimonious fit.

Procedures for Collecting Data

The procedure for collecting data involved the researcher, gaining approval from counselor educators in CACREP accredited master’s-level counseling programs, and programs closely aligned to CACREP standards, to administer the instrument to counseling student in their respective programs. Informed consent to participate in the study was obtained electronically before administering the instrument electronically (see Appendix D).

Web-based Delivery of the Instrument

The survey instrument for this study was delivered in HTML via the World Wide Web. This method of delivery was
chosen due to cost and convenience issues, including survey administration time and ease of data handling (Porter, 2004; Umbach, 2004). Survey Monkey, an HTML Web-based delivery system of surveys was employed to administer the survey (Survey Monkey, 2007)

Data Analysis Procedures

To test the research questions, Confirmatory Factor Analysis was used to test the postulated models. As previously mentioned in this chapter, the null model, postulated model, and saturated model was tested using ‘fit’ indices to the observed data.

DiStefano and Hess (2005) recommend that fit indices be reported a priori to data collection and analysis. In this study, $\chi^2$ Goodness-of-Fit was set at $p > .05$. The comparative fit index was considered good fit at $>.95$ and the NFI at $>.90$ respectively. For the AGFI and PGFI, values of $>.90$ were considered ideal, although $>.50$ is considered acceptable by some researchers (Meyers, Gamst, & Guarino, 2006).

Summary

In this chapter, attention was given to the research design, with considerations for scale preparation based on the pilot study. A description of model building and
respecification as they relate to the use of confirmatory factor analysis has been addressed. Issues relating to reliability and validity issues have also been described in the context of this study.
CHAPTER IV

RESULTS

The purpose of this study was to develop a scale based on Berry’s model of acculturation, one that would measure the attitudes of dominant culture member’s attitudes toward the acculturative behavior of minority peoples. Scale items were written based on modifications of the East Asian Acculturation Measure with additional items written in accordance with the theoretical underpinnings of Berry’s model of acculturation.

This chapter presents an analysis of the procedures outlined in chapter 3. A description of the participants, reliability analysis, descriptive data, and the analysis of tested models are presented. Model testing using confirmatory factor analysis and correlations were conducted to test the null hypothesis and address the proposed research questions. Results of null hypothesis testing are presented.

The participants in this study were trainee-counseling students enrolled in CACREP accredited master’s level counseling courses in the United States of America. Participants completed a demographic questionnaire the experimental scale and the Marlowe-Crowne Social
Description of Respondents

A total of 164 counselor trainees participated in this study. On original inspection of the responses to test instruments, two (2) participants completed less than ten percent of the items and subsequently were eliminated from the data set. Data was solicited from fourteen (14) CACREP accredited masters level courses and eight (8) master’s level courses closely aligned with CACREP standards including: the University of West Georgia, Kent State University, Youngstown State University, University of Toledo, University of Wisconsin Oshkosh, Bowling Green State University, University of Dayton, St Cloud State University, Heidelberg College, University of North Carolina-Greensboro, Central Florida University, Adams State University, Marshall University, University of Florida, Idaho State University, Oakland University, Seattle University, University of Georgia, University of Maryland, University of Missouri-St Louis, University of Washington, University of Michigan, George Mason University, Louisiana State University, Stetson University, and the University of North Florida. Of the
participants (n=162), thirty-six were members of minority cultures and were not included in the main statistical analysis.

The demographic questionnaire consisted of questions regarding gender, age group, country of origin, ethnic identity, and second language ability. Information gathered from the demographic data is summarized in Table 1.

Table 1

Demographic Information of Respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Female</td>
<td>136</td>
<td>84%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>20</td>
<td>12.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Age Group</td>
<td>162</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20 to 25 - 61+</td>
</tr>
<tr>
<td>Ethnic ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority Culture</td>
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<td>77.8%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Minority Culture</td>
<td>32</td>
<td>19.8%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2nd Language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speakers</td>
<td>162</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>120</td>
<td>74.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>23.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
Demographic Characteristics

The age of participants ranged from between 20 to 25 years and over 61 years, with the 20 to 25 year age bracket representing the largest group in the sample being fifty participants (30.9%). The next largest group was the 26 to 30 years age group with twenty-seven participants (16.7%). There were thirty-seven participants who did not respond to the age question. Ninety-six percent of participants responded to the question regarding gender. Of the respondents, 136 (84%) were female, and 20 (12.3%) were male. Six people did not respond to the gender question. One hundred and fifty-seven participants responded to the ethnic identity question. Of the respondents one hundred and twenty-six (77.7%) belong to the dominant culture and, as mentioned above, thirty-six (33.3%) belong to minority cultures.

As people from the dominant culture are the focus of this study, the thirty-six respondents identified as minority culture members were removed from the data set. The remaining one hundred and twenty-six (n=126) respondents formed the participants for subsequent analysis. Demographic information relating to these participants is displayed in Table 2.
Table 2

Demographic Information of Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>SD</th>
<th>M</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>108</td>
<td>86.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17</td>
<td>13.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Group</td>
<td>126</td>
<td>100%</td>
<td></td>
<td></td>
<td>20 to 25 ~ 61+</td>
</tr>
<tr>
<td>Ethnic ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority Culture</td>
<td>126</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minority Culture</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speakers</td>
<td>126</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>101</td>
<td>74.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>23.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exploration of Responses to Scales

Participants responded to items on the Marlowe-Crowne Short Form C (MCSF-C) and the Attitudes toward Acculturative Behavior Scale. Ninety-eight (77.7%) participants responded to the MCSF-C. Twenty-eight (22.2%) were not delivered the MCSF-C due to technical issues related to the delivery of the instrument via the World Wide Web.
The MCSF-C has a total of thirteen true-or-false items (5 positive, 8 negative), and in this study with an internal consistency score of $\alpha=0.76$. A score of 0.0 corresponds to the absence of social desirability whereas a score of 1.0 represents answers strongly influenced by social desirability. In general, respondents displayed low levels of social desirability $M=0.46$. The degree of association between the MCSF-C and the three sub-scales was evaluated using Pearson’s correlation coefficient (Aron, Aron, & Coups, 2005). No statistically significant correlation was found between any of the subscales and the social desirability scale as indicated in Table 3.
Table 3

Correlations between the Marlowe-Crowne Short Form C and the Attitudes toward Acculturation Scale

<table>
<thead>
<tr>
<th></th>
<th>Assimilation</th>
<th>Separation</th>
<th>Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCSF-C</td>
<td>Pearson r</td>
<td>-.059</td>
<td>.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.517</td>
<td>.583</td>
<td>.998</td>
</tr>
<tr>
<td>N</td>
<td>123</td>
<td>122</td>
<td>122</td>
</tr>
</tbody>
</table>

Statistical Analyses to Test Null Hypothesis

Statistical analyses were conducted using SPSS for Windows, version 16.0 and AMOS 6.0. Descriptive statistics were produced to test for assumptions. Statistics used in confirmatory factor analysis were produced to test the theoretical assumptions of the models proposed in this study.

Assumption Testing for Confirmatory Factor Analysis

There are two critical assumptions associated with structural equation modeling, being that the data is of a continuous scale and have a multivariate normal distribution
(Byrne, 2001). The first assumption has been met in that the AABS items are a seven-point Likert scale. The normality assumption was tested by examining kurtosis and skew scores, and the normal Q-Q plots.

Skewness values ranged from SK=-0.747 to SK=0.331, SK=-0.967 to SK=0.920, and SK=-0.661 to SK=1.00 respectively for each subscale. Kurtosis scores ranged from KU=-0.829 to KU=1.071, KU=-0.270 to KU=1.215, and KU=-0.158 to KU=1.69 respectively for each subscale respectively. Both skewness and kurtosis being close to zero indicate that the normality assumption has not been violated (see Appendix E)

Normal Q-Q plots were also observed and indicated that there were no exceptional departures from normality. These figures are provided in Appendix E.

**Instrument Response Time**

The time it took respondents to complete the items on the AABS were calculated and compared to the time it took a panel of six (6) native English speakers to read the items. The mean time to read the items by the panel was two (2) minutes, with a range between one minute and seven (7) seconds and two (2) minutes and forty-eight seconds (Range=1m 7sec to 2m 48sec). Response times ranged from between two and one-hundred and fifty-three minutes. After respondents
with response times greater than twenty-five minutes (Response time > 152 minutes) were removed (n=8), the mean response time was 8 minutes (M=8 minutes). This indicated that the majority of respondents spent enough time to optimize on their responses. As the participants did not respond to the instrument under controlled conditions, the extreme times taken by some respondents to complete the instrument is possibly due to an unobserved deviation from the prescribed task.

Internal Reliability of the AABS

Internal reliability statistics were calculated for the AABS total scale and the three subscales. Calculations for the total internal consistency of the AABS produced a Cronbach’s Alpha of $\alpha=.79$. Cronbach’s Alpha scores for the subscales Assimilation, Separation, and Integration were $\alpha=.87$, $\alpha=.69$, and $\alpha=.86$ respectively. No significant gains in reliability were observed if items were deleted from any of the subscales respectively.

Correlation of Dimensions and Subscales

Observation of the postulated model indicated that there was a positive correlation of .64 between the dimensions. Pearson’s correlation was calculated on the scores of the Assimilation and Separation subscales grouped
and correlated with the *Integration* subscale. The Pearson’s correlation was statistically significant with a moderate association of $r=.528$, $p<0.001$. R-squared ($r^2=.28$) was calculated and indicated that a shared variance of 28% exists between the *Assimilation/Separation* dimension and the *integration* dimension.

A Pearson’s correlation was calculated between the *Separation* and *Assimilation* subscales. The Pearson’s correlation was statistically significant with a moderate association of $r=-.479$.

**Confirmatory Factor Analysis**

*Postulated Bi-dimensional Model*

In accordance with Berry’s theory of acculturation (Berry, 1980, Berry 2003), model 1 was constructed with *Assimilation* and *Separation* representing a continuum on one dimension and *separation* representing the other dimension. This is in line with Berry’s theory of acculturation, which postulates that acculturation is bi-dimensional. The model is provided below in Figure 1. Items from the *Assimilation and Separation* subscales were loaded on the latent variable *Assimilation/Separation* as indicated by the single headed arrows. The double-headed arrow
indicates the relationship proposed between the latent variables.
Figure 1

Bi-dimensional Model of Acculturation
Goodness of Fit Indices

The fit indices of Chi-Square ($\chi^2$), NFI, CFI, RMSEA, AGFI, and PGFI statistics were calculated to assess the goodness of fit for the postulated model. The Chi-Square Goodness of fit statistic was $\chi^2=609.034$ and was significant at the $p<0.001$ level, thereby suggesting that the fit is not adequate.

The adjusted goodness of fit index was AGFI=.582 indicating that the observed data somewhat fits the postulated model when the cut-off level is accepted as >.05. This indicates that the postulated model fit better than no model at all.

The parsimonious goodness of fit index takes into consideration the complexity of model parameters (Byrne, 2001), and was PGFI=.542 indicating moderately good fit of the postulated model when the cut-off level is accepted as >.05.

The normed fit and the comparative fit indices were NFI=.619 and CFI=0.718 respectively. These indices are derived from a comparison of the postulated model with the independence model. Both these indices indicated the data
fit the postulated model better than the independence model, but fail to reach the >.90 level indicative of good fit.

The root mean squared error of approximation was RMSEA = .115 indicated poor fit being >1.0 (Maccullum, Browne, & Sugawara, 1996). The RMSEA and the above mentioned indices are presented in Table 4.

Table 4

<table>
<thead>
<tr>
<th>Model</th>
<th>CMIN (χ²)</th>
<th>df</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>AGFI</th>
<th>PGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postulated</td>
<td>609.034</td>
<td>229</td>
<td>0.619</td>
<td>0.718</td>
<td>0.115</td>
<td>0.582</td>
<td>0.542</td>
</tr>
<tr>
<td>Saturated</td>
<td>0.000</td>
<td>0</td>
<td>1.000</td>
<td>1.000</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Independence</td>
<td>1600.283</td>
<td>253</td>
<td>0.000</td>
<td>0.000</td>
<td>0.206</td>
<td>0.213</td>
<td>0.255</td>
</tr>
</tbody>
</table>

Model Respecification

Since the originally proposed model did not demonstrate uniformly acceptable fit, theoretically justified model respecification was employed (Meyers, Gamst, & Guarino, 2006). According to Berry’s model, the Assimilation and Integration, both involve a positive attitude toward the acculturative experiences, i.e., they are attitudes favoring contact with the dominant culture (Berry, 2003). Therefore,
scale items in the Assimilation and Integration subscales are toward the attitudinal object of acculturation. In theory, assimilation items should not only load on the Assimilation/Separation dimension but also load onto the Integration dimension. The converse is true for the Integration items loading onto the Assimilation/Separation subscale. A respecified model was constructed and analyzed by confirmatory factor analysis.
Figure 2

Respecified Bi-dimensional Model of Acculturation
Table 5 is a comparison of the fit indices for the respecified model and originally postulated model. There was some improvement in the NFI, CFI, AGFI and PGFI indices and a decrease in the RMSEA.

_Goodness-of-fit Indices for the Original and Respecified Models_

<table>
<thead>
<tr>
<th>Original Model</th>
<th>CMIN (χ²)</th>
<th>df</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>AGFI</th>
<th>PGFI</th>
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</thead>
<tbody>
<tr>
<td>Postulated</td>
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<td>229</td>
<td>0.619</td>
<td>0.718</td>
<td>0.115</td>
<td>0.582</td>
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</tr>
<tr>
<td>Independence</td>
<td>1600.283</td>
<td>253</td>
<td>0.000</td>
<td>0.000</td>
<td>0.206</td>
<td>0.213</td>
<td>0.255</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Respecified Model</th>
<th>CMIN (χ²)</th>
<th>df</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>AGFI</th>
<th>PGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postulated</td>
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<td>0.679</td>
<td>0.781</td>
<td>0.104</td>
<td>0.660</td>
<td>0.578</td>
</tr>
<tr>
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<td>1.000</td>
<td>1.000</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Independence</td>
<td>1600.283</td>
<td>253</td>
<td>0.000</td>
<td>0.000</td>
<td>0.216</td>
<td>0.213</td>
<td>0.255</td>
</tr>
</tbody>
</table>

Testing of the Null Hypotheses

In order to answer the research question: “Is the AABS a reasonably orthogonal measure?”, the following null hypothesis was tested: the AABS is not reasonably orthogonal. The findings from the correlation between the
Assimilation/Separation and Integration dimensions indicated that there is a statistically significant yet week positive correlation between the two dimensions postulated in the model. Given that the correlation was weak and indicates only minimal shared variance between the dimensions, the null hypothesis was rejected.

In order to answer the research question: “Are the subscales Assimilation and Integration positively correlated?”, the following null hypothesis was tested: there is no correlation between the subscales Assimilation and Integration. Examination of the postulated model indicated that there was a correlation between the subscales assimilation and separation and therefore the null hypothesis was not rejected.

In order to answer the question: “Are the subscales Assimilation and Separation negatively correlated?”, the following null hypothesis was tested: there is no correlation between the subscales Assimilation and Separation. Based on the Pearson’s correlation, there was evidence of a statistically significant negative correlation between the above-mentioned subscale and therefore the null hypothesis was rejected.
In order to answer the research question: “Does the postulated model items representing the constructs Assimilation, Integration, and Separation, best fit the observed data?”, the following null hypothesis was tested: the postulated model does fit the observed data. Although the findings from the confirmatory factor analysis of the original and respecified models indicated some degree of fit, there was not sufficient evidence, based on a range of fit indices, to support a position where the null hypothesis can be accepted.

Construct Validity of the AABS

A major purpose of this study was to test the construct validity of the AABS. Factor analysis of the a priori models only revealed limited support for construct validity. Postulations about how the dimensions and subscale should behave in a bi-dimensional model of acculturation where supported by calculated correlations.

Summary

This chapter described the results for the study. The results indicated a rejection of the null hypotheses for research questions one, two, and three respectively. That is, the AABS is a bi-dimensional measure of attitudes toward
acculturative behavior. The results of the confirmatory factor analysis indicated that rejection of the null hypothesis associated with research question four was not supported and that the data did not fit the postulated model. The following chapter provides a discussion about the sample, null hypotheses, limitations, and directions for future research.
CHAPTER V
DISCUSSION

The purpose of this study was to develop and assess the reliability and construct validity of a theory based scale to measure the attitudes of dominant culture member’s attitudes towards the acculturative behavior of minority cultures. In this chapter, a discussion of the sample is presented. The results of the null hypotheses testing are discussed and implications presented. Limitations of the study and directions for future research are discussed.

Sample Characteristics

The sample characteristics including response rate, gender, age, ethnic identity, second language ability, and country of origin is discussed. The response rate to the study was unknown. No participants contacted the researcher to indicate that they objected participation in the study. This may be due to the recruiting process, whereby counselor educators in the respective institutions solicited participation from their students.

Those who opted to participate in the study included 87.2% female and 12.8% male master’s level students. There were only a small number of male participants in the study (n=20). This is comparative to another study of students in
CACREP accredited programs where males constituted 18% of the sample (Busacca & Kelly, 2006). Of those in the majority culture who participated in this study, 85.7% were female and 13.5% male. There is no significant departure from the demographics presented above.

Among the participants in this study, 79.7% were deemed as belonging to the majority culture (n=126). It was not possible to make a comparison of the ethnic identification characteristics with other studies. This is because demographics in many studies in the current body of literature dealing with counselor trainees focus on having participants identify themselves in racial rather than in ethnic terms, or racial and ethnic identifiers in survey instruments are confounded by an enmeshment of racial and ethnic identification items. As the main statistical analysis of participants in this study relates to members of the majority culture, the sample characteristics of those participants is discussed in the following paragraphs.

Of those who participated from the majority culture most were aged from 20 to 30 years, which was 57.9% of majority culture participants. This was expected and comparable to other studies of counselor trainees (Barrett & McWhirter, 2002).
Of the participants from the majority culture, 19.8% indicated that they spoke a second language. This language ability could be due to time spent abroad, contact with non-English speaking groups in their social environment, or formal second language training. Although beyond the focus of this study, language ability may have had an influence on attitudes toward acculturative behavior in that interest in or proficiency in a second language may be an indicator of positive attitudes toward acculturative experiences.

Of the majority culture participants 99.2% lived in their country of origin. This is an important issue as participants living abroad are most likely to be experiencing acculturative stress, and therefore may have had a bias influence on attitudes toward acculturative behavior. Furthermore, participants living in a foreign country would deem them members of a minority culture and would be best suited to a separate study.

Confirmatory Factor Analysis of the Acculturation Construct

A bidimensional model based on Berry’s theory of acculturation was postulated in an attempt to measure the construct of acculturation in majority culture members. The CFA in this study found that the postulated model did not reach the threshold for good model fit. However, given there
were some improvements in AGFI and PGFI fit indices of the respecified model in spite of the additional parameters, suggests that the AABS, in this aspect, has some merit. It is now commonly accepted by structural equation researchers that originally hypothesized models rarely demonstrate good fit without some degree of respecification (Herting & Costner, 2000; Byrne, 2001).

Theoretical and Methodological Issues Contributing to Poor Fit

It has been noted that there is much variation in the content areas that acculturation scales measure (Zane & Mak, 2003). The AABS contains items relating to language use, social affiliation, communication style, and cultural values. By comparing the AABS items to Zane and Mak’s (2003) review of twenty-two acculturation measures, the AABS lacks items in the areas of daily living habits, cultural traditions, cultural identity, perceived prejudice, generational status, and family socialization. The lack of the above mentioned content domains in the AABS may be restricting the ability to ascertain construct validity. Furthermore no items for the construct of Marginalization were represented in the AABS, which may have affected the performance of the AABS under the scrutiny of CFA.
A low sample size may also contribute to a better model fit. It has been suggested, that in sample sizes under two hundred, with more than ten variables parameter, estimates tend to be somewhat unstable and lack some power (Meyers, Gamst, & Guarino, 2006).

Another possible methodological explanation for the poor fit of the postulated model is that ultimately the AABS has poor construct validity. In this study the researcher attempted to test Berry’s concept of acculturation in majority culture members, as well as how well the AABS measured factors within the model. The implication of these dual purposes is that if the AABS is a poor measure of the overall unobserved construct of acculturation, the entire model may have poor fit. This, along with the above-mentioned issues, poses some difficulty in determining whether poor fit was due to problems in the theoretical model or the data used to fit the model.

Validity of the AABS

In this study, acculturation was treated as a theoretical construct based on Redfield, Linton, and Herskovits’ (1936) definition. This was then operationalized based on the acculturative model proposed by Berry (Berry, 1970; Berry, 1974; Berry, 1976; Berry, 1980; Berry, 1983;
Berry, 1996; Berry, 2003; Berry, Kim, Young, and Bujaki, 1989). The items of the EAAM (Barry, 2001), which is a scale used to measure acculturation in eastern Asian groups and is also based on Berry’s model of acculturation, was modified for use in majority cultural groups. Along with the modified items of the EAAM, several new items were created and incorporated into the AABS. An initial pool of 24 items were used the pilot study and one item was removed.

The items of the AABS were carefully modified and designed to reflect the theoretical construct presented in the literature. An inspection of the items of the AABS indicates that they concern the adopting and/or retaining cultural behaviors.

The AABS measures attitudes toward acculturative behavior on the content of domains of language, social affiliation, communication style, and cultural values. These are the most probable areas that a person from the majority culture would be exposed to in a variety of socio-cultural environments. Although there are other content domains in the “universe” of acculturative experiences, domains such as generational status and cultural identity, or “pride”, warrant deeper levels of interpersonal relationships with minority culture members before these phenomena are
experienced by majority culture members. Furthermore, the associations between the dimensions in the AABS behave as expected, thus, in relation to content validity there appears to be acceptable evidence. This is indirectly supported by the high reliability of the AABS.

The process for establishing construct validity of a behavioral measure is a gradual process realized through sound theoretical foundation, rigorous instrument design, and then the accumulation of sufficient evidence (Dawis, 2000; Mueller, 1986). The dimensions and subscales in the AABS behaved as expected based on the theoretical underpinnings of Berry’s model of acculturation. Although experimental treatment and correlations with similar measures of attitudes toward acculturation are ideal, the behavior of the subscales in this study contributes evidence to support construct validity.

Discussion of the Null Hypotheses

The results of the correlations between subscales and dimensions supported a position to reject the null hypotheses for the first three (3) research questions presented in this study. These results indicate that there is an orthogonal relationship between the dimensions of the AABS and that constructs of Assimilation, Separation, and
Integration are behaving in a way that reflects the underlying theory of acculturation used in this study; specifically that the Assimilation and Integration constructs represent attitudes favoring acculturation and the Separation contract representing attitudes disfavoring acculturation.

The results of the confirmatory factor analysis did not support a position whereby the null hypothesis relating to research question three (3) could be rejected. Furthermore the respecified model, even though indicating an improvement in model fit indicated a greater increase in correlation between the dimensions, which therefore threatens the researcher’s claims that the AABS is reasonably orthogonal. Implications of this are discussed in the following section.

Implications of the Findings

The results of the findings have several implications for the development of the AABS and the measurement of attitudes toward acculturation in the majority culture. The findings in this study suggest that the construct of acculturation can be operationalized in studies of attitudes toward acculturation in majority culture populations. This is in line with Bourhis, Moise, Perreault, and Senecal’s (1997) Canadian study into a social psychological approach
to acculturation, based on Berry’s model of acculturation in both the majority and minority groups. Apart from Bourhis’ work, there is little research in majority culture attitudes toward acculturative behavior, especially from a purely individual and intra-psychological perspective.

The result of this study also indicates that the AABS can be used in educational settings of counselor trainees. This would be useful in ascertaining trainees’ attitudes toward the acculturative behavior of future clients who differ culturally. Counselor trainees can be assessed to determine if they are ‘Assimilationist’, ‘Separatist’, or Integrationalist in their attitudes toward the culturally different.

However caution must be taken not to ‘pigeon hole’ respondents when using the scale for practical applications. Based on this study alone, there is not sufficient evidence of construct validity for the AABS to suggest that respondents are, for example, purely Assimilationist. Furthermore, the respecified model in this study supports an oblique dimensional structure. This closely resembles the results found in Berry’s earlier works (Berry, Kim, & Boski, 1987; Berry, 1988). The implications of this oblique structure imply that respondents can endorse more than one
of the categories in the model. For example, a respondent could score highly on the *Assimilation* subscale to strongly endorse the *Assimilationist* attitude, and also score somewhat on the *Separation* subscale. For a particular respondent, this information would be best presented as a profile. An example of such a scale is the MMPI-II in which interpretation of respondent’s results are scored across a series of subscales (Craig, 1999).

**Implications for Counselor Trainees**

In an educational setting, the counselor trainees’ results of the AABS can be used to inform curricula design for the class as a whole and on an individual level. In a didactic approach, the range of acculturative strategies of minority cultural groups can be presented though lectures and activities in the classroom. In an outcome-based educational approach, individual educational tasks can be designed depending on which acculturative strategy a counselor trainee most strongly endorses. For example, a counselor trainee who strongly endorses an *Assimilationist* attitude toward acculturative behavior can engage in personal learning experiences with minority culture members who are engaging in a *Separation* strategy of acculturation.
This could include for example student fieldwork within a community where *Separation* strategies are widely employed.

**Implications for Professional Development**

As well as with trainee counselors, the AABS should also be a useful tool in the professional development of practicing clinicians across the helping professions. The importance of clinician understanding of acculturative forces in the life of the client have been previously addressed in the literature (Dixon & Barletta, 2003; Barletta & Kobayashi, 2007). Psychiatry has, before World War II, had a tradition of working with the culturally different (Bains, 2005). Psychology has dedicated intensive training to nurture the culturally competent practice of professional psychology (Kersting, 2004). The counseling profession has dedicated training standards in multicultural competencies for the counselors (Sue, Arrendondo, & McDavis, 1992; Council For Accreditation Of Counseling And Related Educational Programs, 2007). A search of the World Wide Web reveals the extent of the availability of multicultural professional development programs in these professions (Association For Multicultural Counseling And Development, 2008; International Association For Cross-Cultural
Limitation of the Study

The testing and gathering of statistical evidence for construct validity for a psychometric scale is a task undertaken over time with several subsequent studies with differing research designs (Dawis, 2000). This study provides only the beginning stages in establishing construct validity. Retest studies as well as the comparison of the AABS to other established scales are ideal. However, there were no scales suitable to compare to the AABS.

Sample size was another limitation to the current study. Although initially there were one-hundred and sixty-four (n=164) respondents to the scale, subsequent screening of the suitability of the respondents to be included in the main analysis resulted in a participant sample of one-hundred and twenty six. As mentioned previously in this study, this may have affected parameter estimates and statistical power.

Another important limitation to consider is that of the procedure employed to identify minority culture members from the participants. A range of responses elicited to the open question of “How do you identify yourself ethnically?” was
diverse. Some responses referred to race such as “White” or “Black”, others responded with statements such as “American-Polish and Western European ancestry”. Some responses using ethnic terms were quite lengthy, some as long as forty-five words or more. The variety of differing responses implies that there is confusion in how to respond to questions of ethnic identity, in that terms related to race were frequent responses. This warrants cueing the participant with how to respond in language corresponding to ethnicity. For example, “Ethnicity differs from race. Ethnicity refers to your cultural and/or ancestral background. An example of this would be Irish-American, Italian, or Japanese etc. How do you identify yourself ethnically?” More lengthy cues could be constructed in line with Smith’s (1987) definition of ethnic identity, which would include a statement to the respondent incorporating the ideas of common genealogy, common linguistic, and religious traits.

Furthermore, information on generational status was not uniformly elicited. For example although one respondent identified themselves as “Italian American – 1st generation American – white”, others identified themselves as “Italian American”. In these examples the researcher deemed the above-mentioned respondents as being minority culture
members, there is the possibility that the person identifying themselves as Italian American does in fact meet some criteria to be considered as a member of the majority culture. Other responses such as, “African-Latino-Nepalese trapped in a Northern European's body. Really, Caucasian, but I don't like white people in general”, implies some sense of ethnic identity confusion. Therefore, the item relating to Ethnic identity needed to be refined by adding qualifying items to elicit non-racial terminology and items to indicate how strongly a bi-cultural person identifies with the majority culture.

Finally, in this study the participants were mostly female and were in the 20 to 25 year old age range. While this may reflect the population demographics for counselor trainees in counseling programs in the U.S., this does not represent the demographics of other populations.

Directions for Furthering Scale Development

In furthering the development of the AABS new items to cover a more comprehensive domain content, including daily living habits, cultural traditions, and cultural identity/“pride”, may improve validity aspects of the scale. A broader content based on current empirical research may better represent the construct validity of the AABS. Further
research is needed for construct validation of the AABS, possibly through a comparative study with the Host Community Acculturation Scale (HCAS), would be an aspect of future research (Bourhis, Moise, Perreault, & Senecal, 1997). This will be dependent on the availability of an English version and the availability of normed data in comparable populations.

Theoretical revision of the construct of Marginalization is necessary for any advancement of Berry’s model of acculturation. As it stands, the construct is confounded when attempting to create scale items that are not contrary to common sense. Rudmin has compared the concept of Marginalization, which is deculturalization, to “weatherlessness” and just as the day must have weather, people must have culture (F. Rudmin, personal communication, July 26, 2007). The idea that marginalization should include a ‘third’ culture (Rudmin, 2003) is in line with the cultural Anthropological idea of cultural deviation (Harris, 1995). In other words, rejection of all the socio-cultural norms of the established cultural groups a person might belong to forces the establishment of new cultural norms among marginalized group members. With this in mind, items
could be developed to reflect this understanding of the culturally marginalized.

Conclusions

This study was designed to develop and test the reliability and validity of a scale to measure majority culture members' attitudes toward acculturative behavior of minority groups. The findings of the study provide additional literature that the construct of acculturation can be measured in members of the majority culture. Furthermore, evidence was found to support the reliability and validity of the AABS. The AABS demonstrated adequate internal reliability and this study provided evidence of scale validity. The internal structure of the AABS reflects current theoretical understanding of acculturation. These findings contribute to the literature supporting a bi-dimensional model of acculturation.
References


Social Science Citation Index. (n.d.). Retrieved May 4, 2008, from Thomson Rueters Web Site: http://scientific.thomson.com/products/ssci/


APPENDIX A: Correspondence from the Institutional Review Board
A determination has been made that the following research study is exempt from IRB review because it involves:

Category 2 - research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior

Project Title: Attitudes Toward Acculturative Behavior Scale: Development, Validity, and Reliability

Project Director: Jason Dixon

Department: Counseling & Higher Education

Advisor: Thomas Davis

Robin Stack, C.I.P., Human Subjects Research Coordinator
Office of Research Compliance

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved by the IRB (as an amendment) prior to implementation.
APPENDIX B: Permission to Modify the East Asian Acculturation Measure and Related Correspondence
July 22, 2007

                      Doctoral Student
                      Department of Counseling and
                      Higher Education
Ohio University
Athens, Ohio
USA
(740) 707-1233
E-mail: jd counselling@mac.com

RE: Permission to use and modify the East Asian Acculturation Measure (EAAM)

Dear Mr. Dixon:

Thank you for your message regarding your dissertation proposal. Please feel free to modify the EAAM to assess dominant culture attitudes toward acculturative behavior. I request that you acknowledge the role of the EAAM in developing your measure and that you appropriately cite the EAAM in your dissertation and in any associated publications. Good luck with your research; it sounds very exciting and worthwhile. Please keep me updated on your progress.

If you have any questions, please feel free to contact me (tel. 203/781-4650 x 268; fax 203/781-4681; e-mail: declan. barry@yale.edu)

Respectfully Yours,

Declan T. Barry, PhD
Associate Research Scientist
Department of Psychiatry
Yale University School of Medicine
220S CMHC-SAC
34 Park St.
New Haven, CT 06519
(203) 781-4650x268
Fax: (203) 781-4681
dclan. barry@yale.edu
APPENDIX C: Preliminary Study Results
A preliminary study was conducted to measure the attitudes of mainstream culture members’ attitudes toward the acculturative behavior of immigrants. There were twenty items based on Berry’s bidimensional model of acculturation, and were modifications of items used in the East Asian Acculturation Measure (Barry, 2001). Thirty-six people (n=36) participated in the study.

The overall Cronbach alpha for the scale was .698 if one item was removed. The subscale Cronbach alpha for Assimilation was .607 for Assimilation, if the item mentioned above was removed. For Separation and Integration the subscale Cronbach alphas were .644 and .712 respectively. Items for a subscale to measure Marginalization were included in this study.
APPENDIX D: Pilot Study Results
Cronbach’s Alpha for Total Scale

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<th></th>
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<tr>
<td>Total</td>
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<td>100.0</td>
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a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

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<td>24</td>
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Cronbach’s Alpha for Assimilation Subscale

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<td>8</td>
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</table>

Item-Total Statistics

| A_1       | 19.2381 | 36.490 | .487 | .835 |
| A_2       | 21.8095 | 33.462 | .703 | .812 |
| A_3       | 19.7619 | 29.990 | .778 | .796 |
| A_4       | 20.9524 | 30.348 | .854 | .789 |
| A_5       | 19.7143 | 33.014 | .304 | .884 |
| A_6       | 21.7619 | 34.890 | .633 | .821 |
| A_7       | 21.4286 | 29.457 | .695 | .808 |
| A_8       | 22.3333 | 37.433 | .472 | .838 |

Cronbach’s Alpha for Separation Subscale

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Cronbach’s Alpha for Integration Subscale

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<th>Scale Variance if Item Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach’s Alpha if Item Deleted</th>
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</thead>
<tbody>
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<td>.042</td>
<td>.720</td>
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<td>S_10</td>
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<td>22.133</td>
<td>.374</td>
<td>.621</td>
</tr>
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<td>.130</td>
<td>.686</td>
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*Extraction Method: Principal Component Analysis.*
Eigenvalues from Randomized Matrix

Run MATRIX procedure:

PARALLEL ANALYSIS:

Principal Components

Specifications for this Run:
Ncases  21  
Nvars   24  
Ndatsets 10
Percent  95

Random Data Eigenvalues

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**. Correlation is significant at the 0.01 level (2-tailed).
Pilot Study Instrument

You have been selected to participate in an important study conducted at Ohio University about your attitudes toward the behavior of people from minority cultures living in the U.S. The term “minority culture”, refers to those people who you see are culturally and ethnically different from your own (e.g. Japanese, Somali, Chinese, African American etc). Your responses to this survey will be confidential. By responding to this survey you acknowledge that you have voluntarily agreed to participation in this study.

Any questions you may have concerning this study can be directed to Jason Dixon, Department of Counseling and Higher Education, Ohio University, jd275005@ohio.edu.

Your time and cooperation in participating in this study is highly appreciated.

Thank you,

Jason Dixon

Consider the following statements and place a check “√” mark beside your response.

1. I think people from minority cultures should be able to write English well.

   Very Strongly Agree  ___
   Strongly Agree ___
   Agree ___
   Neutral ___
   Disagree ___
   Strongly Disagree ___
   Very Strongly Disagree ___

2. I think people from minority cultures should speak English exclusively when they are at home.

   Very Strongly Agree  ___
   Strongly Agree ___
   Agree ___
   Neutral ___
   Disagree ___
3. It is good practice that people from minority cultures have excellent relations with people from the mainstream culture.

   Very Strongly Agree  ___
   Strongly Agree  ___
   Agree  ___
   Neutral  ___
   Disagree  ___
   Strongly Disagree  ___
   Very Strongly Disagree  ___

4. In social situations, people from minority cultures should always act in a way that is understandable by people from the mainstream culture.

   Very Strongly Agree  ___
   Strongly Agree  ___
   Agree  ___
   Neutral  ___
   Disagree  ___
   Strongly Disagree  ___
   Very Strongly Disagree  ___

5. People from minority cultures should feel perfectly at ease communicating with people of the mainstream culture.

   Very Strongly Agree  ___
   Strongly Agree  ___
   Agree  ___
   Neutral  ___
   Disagree  ___
   Strongly Disagree  ___
   Very Strongly Disagree  ___

6. It is best that almost all of the friends a person from a minority culture has should be from the mainstream culture.

   Very Strongly Agree  ___
   Strongly Agree  ___
   Agree  ___
   Neutral  ___
   Disagree  ___
7. People from the minority cultures should favor almost all the aspects of the mainstream culture.

Strongly Disagree ___
Very Strongly Disagree___

8. People from minority cultures should reject almost all the values of their own culture.

Very Strongly Agree ___
Strongly Agree ___
Agree ___
Neutral ___
Disagree ___
Strongly Disagree ___
Very Strongly Disagree___

9. I think people from minority cultures should almost always listen to music from their own culture.

Very Strongly Agree ___
Strongly Agree ___
Agree ___
Neutral ___
Disagree ___
Strongly Disagree ___
Very Strongly Disagree___

10. I think people from minority cultures should only go to social gatherings where almost all of the people are from their own culture.

Very Strongly Agree ___
Strongly Agree ___
Agree ___
Neutral ___
Disagree ___
Strongly Disagree ___
Very Strongly Disagree___
11. It is a good thing that people from minority cultures are treated more readily as equals among people of their own culture.

Very Strongly Agree  
Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree  
Very Strongly Disagree

12. I think people from minority cultures should exclusively have romantic relationships with people of their own culture.

Very Strongly Agree  
Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree  
Very Strongly Disagree

13. I think people from minority cultures will ultimately only feel relaxed with people of their own culture.

Very Strongly Agree  
Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree  
Very Strongly Disagree

14. I think people from minority cultures should never date people from the mainstream culture.

Very Strongly Agree  
Strongly Agree  
Agree  
Neutral  
Disagree  
Strongly Disagree  
Very Strongly Disagree
15. People from minority cultures should favor almost all aspects of their own culture.

Very Strongly Agree ___
Strongly Agree ____
Agree ____
Neutral ____
Disagree ____
Strongly Disagree ____
Very Strongly Disagree ____

16. People from minority cultures should almost always avoid interactions with people from the mainstream culture.

Very Strongly Agree ___
Strongly Agree ____
Agree ____
Neutral ____
Disagree ____
Strongly Disagree ____
Very Strongly Disagree ____

17. People from minority cultures should almost always avoid adopting the values of the mainstream culture.

Very Strongly Agree ___
Strongly Agree ____
Agree ____
Neutral ____
Disagree ____
Strongly Disagree ____
Very Strongly Disagree ____

18. People from minority cultures should be able to understand the humor of both their own culture, and that of the mainstream culture.

Very Strongly Agree ___
Strongly Agree ____
Agree ____
Neutral ____
Disagree ____
Strongly Disagree ____
Very Strongly Disagree ____

19. People from minority cultures should be able to think just as well in English as than they can in their native language.
20. People from minority cultures should have almost the same number of friends from both their own culture and the mainstream culture.

21. People from minority cultures should equally value the norms and cultural values of both their own culture and the mainstream culture.

22. People from minority cultures should feel just as comfortable around people from their own culture as well as people from the mainstream culture.
23. People from minority cultures should equally understand the social rules of both their own culture, and those of the mainstream culture.

    Very Strongly Agree  ___
    Strongly Agree  ___
    Agree  ___
    Neutral  ___
    Disagree  ___
    Strongly Disagree  ___
    Very Strongly Disagree  ___

24. People from minority cultures should equally accept all the cultural values of their own culture as well as all the values of the mainstream culture.

    Very Strongly Agree  ___
    Strongly Agree  ___
    Agree  ___
    Neutral  ___
    Disagree  ___
    Strongly Disagree  ___
    Very Strongly Disagree  ___

Proposed Scale Items Grouped by Construct

Assimilation/Melting Pot

1. I think people from minority cultures should be able to write English well.

2. I think people from minority cultures should speak English exclusively when they are at home.

3. It is good practice that people from minority cultures have excellent relations with people from the mainstream culture.
4. In social situations, people from minority cultures should always act in a way that is understandable by people from the mainstream culture.

5. People from minority cultures should feel perfectly at ease communicating with people of the mainstream culture.

6. It is best that, that almost all of the friends a person from a minority culture has, should be from the mainstream culture.

7. People from the minority cultures should favor almost all the aspects of the mainstream culture.

8. People from minority cultures should reject almost all the values of their own culture.

Separation/Segregation

9. I think people from minority cultures should almost always listen to music from their own culture.

10. I think people from minority cultures should only go to social gatherings where almost all of the people are from their own culture.

11. It is a good thing that people from minority cultures are treated more readily as equals among people of their own culture.

12. I think people from minority cultures should exclusively have romantic relationships with people of their own
culture.

13. I think people from minority cultures will ultimately only feel relaxed with people of their own culture.

14. I think people from minority cultures should never date people from the mainstream culture.

15. People from minority cultures should favor almost all aspects of their own culture.

16. People from minority cultures should almost always avoid interactions with people from the mainstream culture.

17. People from minority cultures should almost always avoid adopting the values of the mainstream culture.

Integration/Multiculturalism

18. People from minority cultures should be able to understand the humor of both their own culture, and that of the mainstream culture.

19. People from minority cultures should be able to think just as well in English than they can in their native language.

20. People from minority cultures should have almost the same number of friends from both their own culture and the mainstream culture.
21. People from minority cultures should equally value the norms and cultural values of both their own culture and the mainstream culture.

22. People from minority cultures should feel just as comfortable around people from their own culture as well as people from the mainstream culture.

23. People from minority cultures should equally understand the social rules of both their own culture, and those of the mainstream culture.

24. People from minority cultures should equally accept all the cultural values of their own culture as well as all the values of the mainstream culture.
APPENDIX E: Assessment of Normality Statistics and Normal Q-Q Plot
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<td>7.000</td>
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<td>2.874</td>
<td>1.262</td>
<td>2.891</td>
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<td>Q3_1</td>
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<td>7.000</td>
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<td>0.042</td>
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<td>3.882</td>
<td>1.619</td>
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<td>7.000</td>
<td>-0.661</td>
<td>-3.028</td>
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<td></td>
<td>21.723</td>
<td>3.595</td>
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</table>
Normal Q-Q Plot for Assimilation Subscale
Normal Q-Q Plot for Separation
Normal Q-Q Plot for Integration
APPENDIX F: Marlowe-Crowne Short Form C and Scoring

Algorithm
1. It is sometimes hard for me to go on with my work if I am not encouraged.

2. I sometimes feel resentful when I don't get my way.

3. On a few occasions, I have given up doing something because I thought too little of my ability.

4. There have been times when I felt like rebelling against people in authority even though I knew they were right.

5. No matter who I'm talking to, I'm always a good listener.

6. There have been occasions when I took advantage of someone.

7. I'm always willing to admit it when I make a mistake.

8. I sometimes try to get even rather than forgive and forget.

9. I am always courteous, even to people who are disagreeable.

10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.

12. I am sometimes irritated by people who ask favors of me.

13. I have never deliberately said something that hurt someone's feelings.

Scoring Algorithm

\[ F = T = 1 \quad \text{if} \quad T = F = 0 \]

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<tr>
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<td>F</td>
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<td>3</td>
<td>F</td>
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<td>F</td>
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<td>11</td>
<td>F</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
</tr>
<tr>
<td>13</td>
<td>T</td>
</tr>
</tbody>
</table>
APPENDIX G: CORRELATION MATRIX
APPENDIX H: DEPICTION OF THE ONLINE VERSION OF THE AABS
You have been selected to participate in an important study conducted through Ohio University about your attitudes toward the behavior of people from minority cultures living in the U.S. The term "minority culture", refers to those people who you see are culturally and ethnically different from your own (e.g. Japanese, Somali, Chinese, African American etc.). Your responses to this survey will be confidential. By responding to this survey you acknowledge that you have voluntarily agreed to participation in this study.

This survey should take about 12–15 minutes to complete.

Any questions you may have concerning this study can be directed to Jason Dixon, Department of Counseling and Higher Education, Ohio University, j275605@ohio.edu.

Your time and cooperation in participating in this study is highly valued.

Thank you,
Jason Dixon
Doctoral Candidate
Department of Counseling & Higher Education
Ohio University

Tom Davis PhD PCC
Professor, Counselor Education
Dissertation Director
Secretary to the Board of Trustees
Ohio University

1. I think people from minority cultures should be able to write English well.
   - Very Strongly Agree
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree
   - Very Strongly Disagree

2. I think people from minority cultures should speak English exclusively when they are at home.
   - Very Strongly Agree
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree
   - Very Strongly Disagree
3. It is good practice that people from minority cultures have excellent relations with people from the mainstream culture.

4. In social situations, people from minority cultures should always act in a way that is understandable by people from the mainstream culture.

5. People from minority cultures should feel perfectly at ease communicating with people of the mainstream culture.
Attitudes Toward Acculturative Behavior Scale

6. It is best that almost all of the friends a person from a minority culture has should be from the mainstream culture.
   - Very Strongly Disagree
   - Strongly Disagree
   - Neutral
   - Agree
   - Strongly Agree
   - Very Strongly Agree

7. People from the minority cultures should favor almost all the aspects of the mainstream culture.
   - Very Strongly Disagree
   - Strongly Disagree
   - Neutral
   - Agree
   - Strongly Agree
   - Very Strongly Agree

8. People from minority cultures should reject almost all the values of their own culture.
   - Very Strongly Disagree
   - Strongly Disagree
   - Neutral
   - Agree
   - Strongly Agree
   - Very Strongly Agree

9. I think people from minority cultures should only go to social gatherings where almost all of the people are from their own culture.
   - Very Strongly Disagree
   - Strongly Disagree
   - Neutral
   - Agree
   - Strongly Agree
   - Very Strongly Agree
### Attitudes Toward Acculturative Behavior Scale

**Question 10:** It is a good thing that people from minority cultures are treated more readily as equals among people of their own culture.

- **Responses:**
  - Very Strongly Disagree
  - Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
  - Very Strongly Agree

- **Percentage:** 41%

**Question 11:** I think people from minority cultures should exclusively have romantic relationships with people of their own culture.

- **Responses:**
  - Very Strongly Disagree
  - Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
  - Very Strongly Agree

- **Percentage:** 44%

**Question 12:** I think people from minority cultures will ultimately only feel relaxed with people of their own culture.

- **Responses:**
  - Very Strongly Disagree
  - Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
  - Very Strongly Agree

- **Percentage:** 48%

**Question 13:** I think people from minority cultures should never date people from the mainstream culture.

- **Responses:**
  - Very Strongly Disagree
  - Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
  - Very Strongly Agree

- **Percentage:** 52%

**Question 14:** People from minority cultures should favor almost all aspects of their own culture.

- **Responses:**
  - Very Strongly Disagree
  - Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
  - Very Strongly Agree

- **Percentage:** 56%
### Attitudes Toward Acculturative Behavior Scale

<table>
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<tr>
<th>Question</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>15. People from minority cultures should almost always avoid interactions with people from the mainstream culture.</td>
<td>59%</td>
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<tr>
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</tr>
<tr>
<td>16. People from minority cultures should almost always avoid adopting the values of the mainstream culture.</td>
<td>63%</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>17. People from minority cultures should be able to understand the humor of both their own culture, and that of the mainstream culture.</td>
<td>67%</td>
</tr>
<tr>
<td>Very Strongly Agree, Strongly Agree, Neutral, Agree, Strongly Agree, Very Strongly Agree</td>
<td></td>
</tr>
<tr>
<td>18. People from minority cultures should be able to think just as well in English than they can in their native language.</td>
<td>70%</td>
</tr>
<tr>
<td>Very Strongly Agree, Strongly Agree, Neutral, Agree, Strongly Agree, Very Strongly Agree</td>
<td></td>
</tr>
</tbody>
</table>
19. People from minority cultures should have almost the same number of friends from both their own culture and the mainstream culture.

20. People from minority cultures should equally value the norms and cultural values of both their own culture and the mainstream culture.

21. People from minority cultures should feel just as comfortable around people from their own culture as well as people from the mainstream culture.

22. People from minority cultures should equally understand the social rules of both their own culture, and those of the mainstream culture.
23. People from minority cultures should equally accept all the cultural values of their own culture as well as all the values of the mainstream culture.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree
- Very Strongly Agree

24. It is sometimes hard for me to go on with my work if I am not encouraged.
- True
- False

25. I sometimes feel resentful when I don't get my way.
- True
- False

26. On a few occasions, I have given up doing something because I thought too little of my ability.
- True
- False

27. There have been times when I felt like rebelling against people in authority even though I knew they were right.
- True
- False

28. No matter who I'm talking to, I'm always a good listener.
29. There have been occasions when I took advantage of someone.

- True
- False

30. I’m always willing to admit it when I make a mistake.

- True
- False

31. I sometimes try to get even rather than forgive and forget.

- True
- False

32. I am always courteous, even to people who are disagreeable.

- True
- False

33. I have never been irked when people expressed ideas very different from my own.

- True
- False

34. There have been times when I was quite jealous of the good fortune of others

- True
- False

35. I am sometimes irritated by people who ask favors of me.

- True
- False

36. I have never deliberately said something that hurt someone’s feelings.

- True
- False
37. What is your gender?  
- Male  
- Female

38. Please indicate what age bracket you are in.  
- 20-25  
- 26-30  
- 31-35  
- 36-40  
- 41-45  
- 46-50  
- 51-55  
- 56-60  
- 61+

39. Do you currently live in your country of origin?  
- Yes  
- No

40. How do you identify yourself ethnically?  

41. Do you speak a language other than English?  
- Yes  
- No

Again thank you for your participation.

Jason Dixon M.Soc.Sc. MACA (CLINICAL)