

AN INVESTIGATION OF COGNITIVE GAINS DURING STUDY ABROAD

Approved: Dominic Barraclough, Ph.D.  
Committee Chair

Date: September 7, 2012

Approved: Kimberly Tuescher, Ph.D.  
Committee Member

Date: September 7, 2012

Approved: Edina Haslauer, Ph.D.  
Committee Member

Date: September 7, 2012

AN INVESTIGATION OF COGNITIVE GAINS DURING STUDY ABROAD

A Thesis

Presented to

The Graduate Faculty

University of Wisconsin-Platteville

In Partial Fulfillment

Of the Requirement for the Degree

Master of Science in Counselor Education

By

Molly Mroch

2011

## ACKNOWLEDGEMENTS

I would like thank my thesis adviser, Dr. Dominic Barraclough, for guiding me through the thesis process and analyzing data. Additionally, I would like to thank the UW-Platteville Education Abroad office for their advice and for allowing me access to their database of study abroad participants. A special thanks to Dr. Sue Curtis, Dr. Corinne Enright, Dr. Richard Garrett, Dr. Melissa Gormley, Dr. Rebecca Gottlieb, Dr. Susan Hansen, Dr. Bernard Harris, Dr. Rea Kirk, Dr. Pamela Peters, Dr. Joan Riedle, Dr. Tammy Salmon-Stephens, Dr. Sean Shiverick and Dr. Richard Waugh, who set aside valuable class time for me to visit their classes and recruit volunteer participants. Thank you to Dr. William Moore, Dr. James W. Neuliep and Dr. James C. McCroskey for their generosity in allowing me to utilize their instruments for my thesis research without payment. I would also like to thank the Canisius College in Buffalo, NY for their kindness in allowing me access to their psychology laboratory in order to analyze my thesis data. Lastly, I would like to thank my sister, Anna Mroch, for her guidance and support.

## ABSTRACT

### AN INVESTIGATION OF COGNITIVE GAINS DURING STUDY ABROAD

Molly Mroch

Under the Supervision of Dominic Barraclough, Ph.D.

#### **A Statement of the Problem**

Despite a stated commitment to student cognitive and intercultural skill development, there had not been a thorough, purposeful evaluation of the developmental outcomes of study abroad experiences on the University of Wisconsin-Platteville (UW-Platteville) campus.

#### **Methods and Procedures**

At the beginning and end of the fall 2010 and spring 2011 semester, students who were currently studying abroad and students studying domestically were recruited via email to participate in this study. Respondents completed a demographic questionnaire, the Revised Generalized Ethnocentrism Scale (GENE) and the Learning Environment Preferences (LEP) instrument, which measures cognitive complexity. Using paired t-tests, the data was analyzed to see if a semester abroad would result in increases in cognitive complexity and decreases in ethnocentrism. Additionally, a univariate analysis of variance was utilized to investigate if students who had studied abroad would show higher levels of cognitive development and lower levels of ethnocentrism at the end of the semester than students who had studied domestically. Lastly, analysis with a Pearson's correlation test was computed to see if there was a negative relationship between ethnocentrism and cognitive complexity.

#### **Summary of Results**

The data collected did not support the hypothesis that there was a relationship between studying abroad and increased cognitive development or studying abroad and decreased levels of ethnocentrism. There was evidence that there could be a negative relationship between ethnocentrism and cognitive complexity. However, a small sample size

and low response rates would require strong caution be used when drawing conclusions from this data.

## TABLE OF CONTENTS

APPROVAL PAGE	1
TITLE PAGE	2
ACKNOWLEDGEMENTS	3
ABSTRACT	4
TABLE OF CONTENTS	6
LIST OF TABLES	8
CHAPTER	
I. INTRODUCTION	9
Introduction	
Statement of the Problem	
Purpose of the Study	
Significance or Implications of the Study	
Assumptions Necessary to Undertake the Study	
Delimitation of the Study	
Methodology	
II. REVIEW OF LITERATURE	15
Cognitive Complexity	
Ethnocentrism	
Cognitive Complexity's Effect on Responses to Cross-Cultural & Multicultural Issues	
Bi-Cultural, Cross-Cultural & Multicultural Experiences' Effects on Cognition	
Cross-Cultural and Multicultural Experiences' Effects on Identity & Ethnocentrism	
III. SURVEY METHODOLOGY	27
Participants	
Procedures	
Instrumentation	
Hypotheses	
IV. ANALYSIS OF THE SURVEY DATA	44
Demographics	
Comparison of Students Studying Abroad & Students Studying Domestically	
Relationship between Cognitive Complexity & Ethnocentrism	
Exploratory Findings	
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	53
Summary	
Conclusions	
Limitations	
Recommendations	

REFERENCES	61
APPENDIX A: Subject Consent Form	65
APPENDIX B: (Pre-Semester) Demographic Questionnaire	66
APPENDIX C: (Post-Semester) Demographic Questionnaire	68
APPENDIX D: Generalized Ethnocentrism Scale (GENE)	70
APPENDIX E: Learning Environment Preferences (LEP)	71
APPENDIX F: Learning Environment Preferences (LEP) Score Sheet	77
APPENDIX G: Demographic Information	78
APPENDIX H: Participation in Multicultural/Cross-Cultural Experiences	79
APPENDIX I: Treatment Group Pre-Semester Cognitive Complexity Index Scores vs. Treatment Group Post-Semester Cognitive Complexity Index Scores	80
APPENDIX J: Treatment Group Pre-Semester Ethnocentrism Scores vs. Treatment Group Post-Semester Ethnocentrism Scores	81
APPENDIX K: Treatment Group Post-Semester Cognitive Complexity Index Scores vs. Control Group Post-Semester Cognitive Complexity Index Scores	82
APPENDIX L: Treatment Group Post-Semester Position Preference vs. Control Group Post-Semester Position Preference	83
APPENDIX M: Control Group Post-Semester Ethnocentrism Scores vs. Treatment Group Post-Semester Ethnocentrism Scores	84
APPENDIX N: Revised Generalized Ethnocentrism Scale vs. Learning Environment Preferences	85

## LIST OF TABLES

TABLE 1G:	Demographic Information	78
TABLE 2H:	Participation in Multicultural/Cross-Cultural Experiences	79
TABLE 3I:	Treatment Group Pre-Semester Cognitive Complexity Index Scores vs. Treatment Group Post-Semester Cognitive Complexity Index Scores	80
TABLE 4J:	Treatment Group Pre-Semester Ethnocentrism Scores vs. Treatment Group Post-Semester Ethnocentrism Scores	81
TABLE 5K:	Treatment Group Post-Semester Cognitive Complexity Index Scores vs. Control Group Post-Semester Cognitive Complexity Index Scores	82
TABLE 6L:	Treatment Group Post-Semester Position Preference vs. Control Group Post-Semester Position Preference	83
TABLE 7M:	Control Group Post-Semester Ethnocentrism Scores vs. Treatment Group Post-Semester Ethnocentrism Scores	84
TABLE 8N:	Revised Generalized Ethnocentrism Scale vs. Learning Environment Preferences	85

## CHAPTER I: INTRODUCTION

### **An Introduction**

As part of its mission statement, the University of Wisconsin-Platteville (UW-Platteville, 2011) commits itself to “Enabl[ing] each student to become broader in perspective, more literate, intellectually more astute, ethically more sensitive and to participate wisely in society as a competent professional and knowledgeable citizen.” UW-Platteville is not alone in its commitment to the intellectual, ethical and civic development of students. Many institutions of higher education aspire to promote civic responsibility and diversity (Hopkins, 1999; Morphew, 2006). The University of Wisconsin-Platteville International Education office commits itself to these goals, listing “promot[ing] international study experiences that are consistent with the mission of UW-Platteville and that are designed to result in a student’s academic, personal, and professional development” as part of its own mission (International Programs, 2008). Many study abroad offices have promoted a semester abroad as an effective way to foster students’ intellectual and personal maturity in preparation for an increasingly diverse society and interconnected world.

### **A Statement of the Problem**

Despite a stated commitment to and promises of student development, there had not been a purposeful, thorough, objective evaluation of the developmental outcomes of study abroad experiences on the UW-Platteville campus. Until recently, the evaluations that have been conducted were based on self-report and were not standardized measures. Furthermore, there has yet to be any comparison of the developmental outcomes between students studying domestically at UW-Platteville versus those who spend a semester abroad. Therefore, there has yet to be an investigation into whether there are unique developmental contributions attributable to studying abroad rather than general maturation, and many of the purported

student outcomes claimed by the UW-Platteville Education Abroad office have been based on research of other programs on other campuses.

It should be noted that in a troubled economy, universities will be called upon to show tangible evidence of developmental outcomes. As the University of Wisconsin System (UWS) in 2009 cut \$174 million from its budget over the biennium (Giroux, 2009), offices which provided student services, such as study abroad programs, were especially in need of evidence showing their contribution to the achievement of the institution's mission. Also, without evidence of the benefits of studying abroad, it could make it difficult to gain the financial support necessary to expand the accessibility of education abroad to students who do not traditionally participate in education abroad programs.

### **Purpose of the study**

This study investigated if there were any developmental gains in cognitive complexity and reductions in ethnocentrism for students who had studied abroad. It also explored whether spending a semester abroad contributed to higher levels of intellectual development and lower levels of ethnocentrism than a semester spent studying domestically. Additionally, it investigated whether there was a relationship between ethnocentrism and cognitive complexity.

### **Significance or Implications of the Study**

If it was shown that a reduction of ethnocentrism was correlated with increased levels of cognitive complexity, it could provide further support to higher education's focus on diversity and internationalism. Additionally, if it was shown that increased cognitive development was correlated with the development of ethno-relativism, it could create new ideas for researchers to explore more effective, developmentally appropriate methods to develop intercultural skills and ethno-relativism. Since the developmental processes which affect one may affect the other, pursuing multicultural or cross-cultural experiences for

students could become a purposeful developmental practice in pursuit of the university's mission of intellectual development, and pursuing cognitive development opportunities could contribute to the university's mission of producing citizens who contribute positively to society in a tolerant, "ethically more sensitive" way. In addition to these benefits, if studying abroad was found to positively contribute to greater student intellectual development and ethno-relativism, it might help gain financial, academic and administrative support for increasing the accessibility of studying abroad to the larger student body.

### **Assumptions Necessary to Undertake the Study**

First, this study assumed that students could and would accurately report their levels of ethnocentrism and learning environment preferences. It also assumed that the instruments used could accurately assess cognitive development gains and changes in ethnocentrism which occurred over the course of a semester. Thirdly, it assumed that the sample of study abroad participants was comparable to the sample of participants who were studying domestically. Lastly, even without the ability to perform a true experiment and control for other environmental factors, there was the assumption that variations that did occur were mainly due to the difference in location of study - locally or abroad.

### **Delimitations of the Study**

Firstly, while this study used explicit, objective measures of ethnocentrism and of cognitive development, both instruments asked the participant to self-report his/her agreement with statements about culture or preferences for learning environments. These types of measures were dependent on participant honesty and accurate self-awareness; they did not assess actual behavior or performance. Mines (1982) stated that a person could prefer a higher level of cognitive complexity than he/she comprehended and could comprehend a higher level than he/she actually produced. This meant that the level of cognitive complexity which the participant reported to prefer might not have been precisely how he/she behaved or

thought. It could also lead us to question whether participants' explicit attitudes about culture were the same as their implicit beliefs. Furthermore, the LEP asked the participant's to self-report his/her preference for learning environment as a recognition style measure of his/her cognitive complexity. Mines (1982) suggested that further research would need to be done to ensure that learning style preferences were not being confused with cognitive development.

Secondly, there were limits to which these results could be generalized to other populations, other programs or other campuses. The immense variety in study abroad program models around the country limited one's ability to generalize the results and conclusions found within this study. Additionally, since populations with other backgrounds might be affected differently by the experience of studying abroad, the homogeneity of the largely Caucasian, undergraduate population of the UW-Platteville sample further limited one's ability to generalize findings to other populations,

Another limitation with the sample was its lack of random assignment. Due to obvious financial and logistical constraints, it was not possible to randomly assign participants to spend a semester abroad. Though correlational studies allow us to explore whether relationships exist, randomization would be necessary to provide evidence of causality. Without randomization, we could not prove whether studying abroad caused greater development or if those students with greater development trajectories were choosing to study abroad.

Lastly, the small sample size, low response rate and high drop-out rate of participants would not allow results to be reliable. UW-Platteville stated that it had enrolled about seven thousand forty-eight undergraduate students (College Portrait), but there were only one-hundred eight students who completed a survey for this study. Therefore, less than two percent of the UW-Platteville's population was sampled. One could not assume that this

study had a representative sample of the student population. Furthermore, extremely few participants responded to both the pre-semester and post-semester survey. This meant that if we had compared the mean scores of the group scores, we would have been comparing one group's pre-semester scores with another group's post-semester scores. Consequently, there would be no way to tell if the differences in scores were attributable to development over the course of a semester abroad or if the differences were simply attributable to developmental differences of the respective groups' participants. In the end, we analyzed the data of only those few participants who had completed both measures, but these lower numbers meant that the data was not a representative sample or large enough to give trustworthy data.

### **Methodology**

During the first week of each respective fall and spring semester program, all study abroad participants received a prompting email asking them to participate in the study. In order to find participants who were studying domestically, the author visited several on-campus classes and asked interested volunteers to sign-up by listing his/her email address on a sign-up sheet. Those who signed-up later received a prompting email asking them to participate in the study. The week prior to the start of each student's respective final exam period, participants were again prompted by a second email to once more complete the survey. The second survey contained the same instruments and a slightly altered demographic questionnaire. Each email contained a unique link to the online survey with a unique IP address; this allowed for the anonymous comparison of pre-semester and post-semester measures of participants.

In order to investigate if studying abroad resulted in cognitive development and decreases in ethnocentrism, pre-semester and post-semester scores were analyzed using paired t-tests. To analyze if there was any significant relationship between studying abroad and higher scores of cognitive complexity and lower ethnocentrism scores, the author used a

univariate analysis of variance. To analyze the relationships between cognitive complexity scores of the LEP and the ethnocentrism score of the GENE, a one-tailed bivariate correlation test was computed.

## CHAPTER II. REVIEW OF LITERATURE

### **Cognitive Complexity**

In 1981, William Perry developed a scheme for the intellectual development of young adults, which is now commonly referred to as Perry's Scheme. This model of cognitive development operationalized how students viewed the nature of knowledge. It included nine positions of cognitive development: Dualism (positions 1-2), Multiplicity (positions 3-4), Relativism (positions 5-6) and Commitment in Relativism (positions 7-9); (Love, Guthrie, 1999; Pascarella, Terenzini, 2005).

- Dualism (positions 1-2): This position is characterized by dualistic thinking. Truth is universal and absolute. Knowledge is viewed as something transferred from the authority figure to the learner. Dualistic thinkers believe that all truths can be known and all problems can be solved. By position 2, dualistic thinkers have moved from believing in only one Absolute Truth to beginning to have an awareness of the existence of alternate opinions. This awareness causes them discomfort.
- Multiplicity (positions 3-4): Multiplistic thinkers believe that there are some truths which are not yet known. However, this is only temporary, as someday the authorities will find the answer. Uncertainty still causes discomfort. When the truth is not yet known or ambiguous, all opinions are considered equally correct. This is due to the thinkers' lack of sophistication in ability to evaluate the validity of sources and opinions.
- Relativism (positions 5-6): This position is characterized by the acceptance of multiple viewpoints. There is also the development of the idea that truths are contextual and relative. Since relativistic thinkers have developed analytical skills, they are able to evaluate the validity of arguments. They no longer believe that authorities are omniscient and without reproach. They now agree that the opinions

and views of authority figures should also be evaluated. They are also able to self-reflect about their own opinions and values.

- Commitment in Relativism (positions 7-9): In this position, people have evaluated varying opinions and make a commitment to their own values and opinions. It should be noted that many people argue that this stage reflects moral development, not intellectual development. Often this stage is not included in instruments which measure cognitive development using Perry's scheme.

(Love, Guthrie, 1999; Pascarella, Terenzini, 2005)

Participating in higher education was found to increase cognitive development (Pascarella, Terenzini, 2005). In their review of the literature, Pascarella and Terenzini (2005) found that exposure to post-secondary school did have a significant positive relationship with intellectual development. They found that freshmen typically were utilizing dualistic thinking found in position 2 and position 3. During senior year, students had typically moved in between position 3 and position 4, the Multiplicity position (Pascarella, Terenzini, 2005, p. 163).

Also in the review, Pascarella and Terenzini (2005) explored if there were differences in cognitive development which vary with the gender or academic major of the college student. It was found that after three years of attendance at a four-year university, women made statistically significant greater gains in critical thinking (Pascarella, Terenzini, 2005, p.199). However, Pascarella and Terenzini (2005, p. 174-176) found inconsistent results about the effect one's academic major had on cognitive development. They reported that most studies found no significant relationship between these two. Pascarella and Terenzini believed that of those studies which did find a difference in scores on critical thinking instruments, most differences disappeared when controlled for by other factors (Pascarella, Terenzini 2005, p. 174-176). In his study on cognitive complexity among practicing

counselors, Granello (2010) found that age, gender and race did not have a significant affect on the cognitive complexity of practicing counselors. It was found that years of education and years of “engagement in the profession” rather than age was related to higher levels of cognitive development (Granello, 2010). For this study, it was important to investigate the affect of age, gender, major and year in school, in order to ensure that the effect of studying abroad was not confused for the effect of differences in population demographics.

Pascarella & Terenzini stated that cognitive development allows students to “process and utilize new information; communicate effectively; reason objectively and draw objective conclusions from various types of data; evaluate new ideas and techniques efficiently; become more objective about beliefs, attitudes and values; evaluate arguments and claims critically; and make reasonable decisions in the face of imperfect information... [which is] a particularly important resource for the individual in a society and world where factual knowledge is becoming obsolete at an accelerated rate” (as cited in Pascarella, Terenzini, 2005, p. 155).

It was these skills which spoke directly to the accomplishment of UW-Platteville’s mission. Not only would the development of these skills achieve the obvious goals of an “intellectually more astute” student, but would also allow students to “participate wisely in society” as the mission states. On its face, the descriptions of the nine cognitive development positions would suggest that cognitive development could be influential in many life contexts including cross-cultural and multicultural exchanges. For instance, a person in the Dualistic position could be uncomfortable with the different value systems and beliefs of other cultures, since he/she would believe that there should only be one Absolute Truth. A Relativistic thinker could be able to adjust to different situations and act in a more culturally appropriate way, since they believed that truth was contextual. Thus a strong understanding of cognitive development outcomes would be important to provide evidence of international education’s

contribution to the achievement of UW-Platteville's mission of student development.

### **Ethnocentrism**

Many authors attributed William Sumner as the first person to define the concept of ethnocentrism. In his book, "Folkways," Sumner (1906) defined ethnocentrism as "the technical name for the view of things in which one's own group is the center of everything, and all others are scaled and rated with reference to it" (Sumner, 1906, p. 13). Furthermore, he felt that beliefs of in-group superiority and out-group inferiority, were a way to "nourish pride and vanity" (Sumner, 1906, p. 13). In a review of the literature, Bizumic, Duckitt, Popadic, Dru and Krauss (2009) found several definitions of ethnocentrism ranging from social distance, centrality of ethnicity, preference for one's own ethnic group, negative attitudes towards out-groups, or both positive evaluations of one's ethnic group and negative attitudes towards out-groups. One author, Raden, argued that the sheer number of different definitions and conceptualizations of ethnocentrism would raise concerns about the validity of conclusions which were drawn from a review of the literature (as cited in Bizumic, Duckitt, Popadic, Dru, Krauss, 2009).

In addition to various definitions of ethnocentrism, there were also several sociological theories which were used to describe the concept of ethnocentrism. Bizumic, et al. (2009) mentioned the following theories in their review: Authoritarian Personality, Belief Congruence Theory, Realistic Conflict Theory and Social Identity Theory.

Baars and Scheepers (1993) stated that the Authoritarian Personality Theory was developed in 1950 with the purpose of measuring general prejudice instead of prejudice against a specific group. The development of the theory was influenced by historical concerns such as why the "exploited" classes did not rise up during the economic crises of the 1920's and later why they submitted to authoritarian rulers, such as Hitler, in the 1930's. It was also

influenced by the works of Nietzsche, Freud, Maslow, and Erikson, among others. Adorno, Frenkel-Brunswik, Levinson and Sanford published “The Authoritarian Personality“ in which they defined ethnocentrism as “pervasive and rigid in-group-out-group distinction;...[involving] stereotyped negative imagery and hostile attitudes regarding out-groups, stereotyped positive imagery and submissive attitudes regarding in-groups, and a hierarchical authoritarian view of group interaction in which in-groups are rightly dominant, out-groups subordinate (As cited in Baars and Scheepers, 1993).” They also stated that the Authoritarian Personality would show nine sub-syndromes: “conventionalism, authoritarian submission, authoritarian aggression, anti-intraception, superstition and stereotypy, power and toughness, destructiveness and cynicism, projectivity and concern with sex (As cited in Baars and Scheepers, 1993).”

Social Identity Theory (SIT) stated that ethnocentrism was the product of the process whereby people tried to preserve a positive social identity, and thus positive self-esteem, through favorable comparisons between their in-group and other out-groups (Brown, 2000). In a review of literature, Brown (2000) suggested that SIT was able to explain in-group bias, variance in reactions to inequality and changing attitudes with exposure to out-groups. The author also found that SIT was more successful in explaining variations in perceptions of heterogeneity or homogeneity of in-group and out-group based on preserving self-esteem. For example, the heterogeneity of one’s in-group would be emphasized if one was considering negative comparisons (Brown, 2000). However, Brown (2000) found that SIT had difficulty explaining the lack of evidence of a connection between levels of self-esteem and bias and difficulty explaining why in-group bias would disappear if considering distribution of negative consequences or punishment. Another criticism of SIT was that it clashed with definitions of Multicultural Development theory. Negy, Shreve, Jensen and Uddin (2003) felt that Social Identity Theory, which stated ethnic self-esteem should correlate with derogation

of out-groups, was at odds with the Multicultural Development theory, which posited that ethnic self-esteem should correlate with increased tolerance. In their study, they found that SIT was applicable to Hispanic and White study participants, but not African-American study participants (Negy, et.al., 2003); this may indicate that the model may not be generalizable to all populations or all situations.

Bizumic, et.al. (2009) were dissatisfied with these theories and definitions as they felt they did not accurately capture the concept. They argued that positive feelings towards one's ethnic group did not necessitate believing that the in-group's needs were more important than other groups' needs, nor did it necessitate the negative evaluations of out-groups. In order to create a more accurate conception of ethnocentrism, Bizumic, et.al. (2009) redefined ethnocentrism as ethnic self-centeredness with two distinct but related domains of expression: intra-group ethnocentrism and inter-group ethnocentrism. These domains would include expressions of group cohesion, devotion to in-group, preference for in-group, in-group superiority, desire for in-group purity and exploitativeness towards out-groups. Bizumic, et.al.'s (2009) research of this conceptualization showed that the concept was valid. Intergroup ethnocentrism was related to "[Social Dominance Orientation] SDO, pro-war attitudes, being male, and out-group negativity." Intragroup ethnocentrism was related to "ethnic identification, group threat perception, lower group status perception, religiosity, and mere in-group positivity" (Bizumic, et.al., 2009).

Clearly, there were many varying definitions and theories for the concept of ethnocentrism. However, for this study, the author conceived of ethnocentrism as a preference for one's own ethnicity and own culture over other groups and the evaluation of other groups based on one's own cultural values. This definition and the Authoritarian Personality theory were aligned with the conceptualizations utilized by the creators of the Revised Generalized Ethnocentrism Scale (GENE), which was used for this study.

Plant (1958) investigated the changes in students' levels of ethnocentrism after four years of college education. Similar to findings about cognitive complexity, he found that both male and female students made statistically significant reductions in ethnocentrism, yet females made larger gains. It should be noted that the instrument used, the E-scale (1950), has become incredibly outdated. New studies would need to be done to investigate what, if any, changes occur in students' levels of ethnocentrism.

The importance of ethnocentrism to intergroup interactions has been the subject of many studies. Sue (2004) proposed that the invisible privileges of ethnocentric monoculturalism for Euro-Americans was a major force in oppression and that "making the 'invisible' [ethnocentrism] visible is the major challenge to liberating individuals and society from the continued oppression of others." Sue (2004) illustrated several detrimental effects ethnocentrism can have on intergroup interactions. The belief in one's cultural superiority and the inferiority of others can lead to the "inflexible assumption of possessing the absolute truth..." and the devaluation or pathologizing of other cultures. Ethnocentrism combined with societal privileges can lead to the ability to "define reality" in a way that was beneficial to one's own cultural group and possibly detrimental to others; for example, a teacher teaching that Columbus discovered America as a fact could have a particularly negative effect on Native American students. Also, invisible ethnocentrism could manifest itself in the structuring of institutions, to the benefit of European-Americans. As an illustration of this point, Sue (2004) discussed the biased promotion practices of a company which led to the dissatisfaction and demoralization of the Asian-American staff. Lastly, he discussed the "invisible veil" as being the invisible cultural assumptions which benefit only one culture. An example of this was the belief that America was a perfect meritocracy and interpreting the success of certain groups as proof of their superiority. Sue (2004) argued that "on a personal level, people are conditioned and rewarded for remaining unaware and oblivious of how their

beliefs and actions may unfairly oppress people of color, women and other groups in society.”

In addition to the impact of ethnocentric teachers, de Oliveira, Braun, de Oliveira and Carlson (2009) studied how ethnocentrism would affect students’ attitudes towards instructors. They found that students in a university with “negligible diversity” showed an ethnocentric preference to study under domestic instructors rather than foreign-born instructors. Interestingly, increased interest in studying abroad was positively correlated with positive attitudes towards foreign instructors and a motivation to study under them (de Oliveira, et.al., 2009).

Most seriously, Pratto and Glasford’s (2008) study found that when two cultural groups were in competition, ethnocentrism could lead to a devaluation of human life within the out-group. In order to combat ethnocentrism, work must be done to learn the pluralism of “truth,” and the integration of multicultural perspectives. If UW-Platteville wishes to enable students to broaden their perspectives, become more ethically sensitive and “participate wisely in society,” attention to multicultural issues and ethnocentrism would seem to be an important part of this process (About Platteville, 2011).

If students utilize an ethnocentric lens to perceive their world, their perception of in-groups and out-groups as well as intergroup interactions would be biased. This could reproduce inequality and oppression in everyday life. For example, an ethnocentric teacher may simultaneously transmit a biased world-view to his/her students and inadvertently oppress the minority students. An ethnocentric monoculturalist approach to international business negotiations may lead to the devaluation of the needs of the less-powerful cultural group and a subsequent imbalanced solution or break-down in dialog. One could argue that it would be impossible for someone to be truly “ethically sensitive” to a situation, if he/she refused to explore any other perspective other than his/her own biased viewpoint, much less

if he/she was unable to imagine that alternate perspectives on the situation could even exist.

### **Cognitive Complexity's Effect on Responses to Cross-Cultural and Multicultural Issues**

One's ability to take multiple perspectives and think complexly should have an effect on one's reactions to diversity and cross-cultural situations. On its face, the descriptions of the Perry's Scheme positions seemed to relate to a cognitive style that could lend itself to describing ethnocentric or ethno-relativistic thought. For instance, the position of Dualism was defined as exhibiting dichotomous thinking, a belief in only one Truth, being uncomfortable with ambiguity and difference, as well as a focus on an omniscient authority that transfers knowledge to the learner. One might expect that someone exhibiting these characteristics would have difficulty adjusting to cross-cultural situations or accepting the validity of beliefs and values of other cultures. A person in the position of Relativism should exhibit the ability to accept multiple viewpoints, tolerate ambiguity, and see truth as contextual and relative. He/she also would show self-reflection and the belief that authority was not without reproach. Again, one could imagine that someone exhibiting these characteristics would be more likely to be open to the idea that one should accept that what was defined as 'right' was a product of the cultural context, be open to the idea that the authority of one's cultural beliefs was not without reproach and be more able to tolerate the ambiguity and dissonance caused by cross-cultural interactions.

There have been studies which utilized cognitive complexity models to describe students thinking about diversity. DeLoach, Saliba, Smith and Tiemann (2003) drew comparisons between the Nelson-Perry scheme of cognitive development and the Global Mindset model of Kedia, Harveston and Bhagat (2001). Kedia, et. al. (2001) developed a model of global-mindedness of business managers to be used in global business (As cited in DeLoach, et.al., 2003). This model involves four positions: Defender, Explorer, Controller

and Integrator. In this model, managerial styles move from being uncomfortable with alternative viewpoints and international business to being able to tolerate and adjust to international contexts.

- Defender: At this stage, there is some beginning awareness of cultural difference, but differences are evaluated using their native culture. There is not any willingness to learn about different cultures or expand into foreign markets. This position is compared to Perry's Dualism position.
- Explorer: At this stage, there is tolerance of other cultures and an understanding that adjustments must be made in foreign markets. They may expand into foreign markets which are similar to their domestic culture. However, those in the Explorer stage lack skills to adequately adjust to other markets and do not "analyze differences in any systemic way." This stage is compared to Perry's Multiplicity position.
- Controller: Managers in the Controller stage tolerate cultural differences and begin to make a few adjustments to their cultural norms in order to work better in foreign markets. At this stage, they have the sophistication to develop explicit and implicit theories of culture. This stage is matched with Perry's Relativism position.
- Integrator: At this stage, the manager is committed to existing in an international context. They not only believe that there is something to be learned from other cultures, but are also able to take the perspective of other cultures. They integrate diverse knowledge and generate "general theories of culture." This stage is compared to Perry's Commitment position.

Using this model of cognitive complexity, DeLoach et.al. (2003) used questioning strategies to increase the level of complexity with which students who were studying abroad

interpreted other cultures. To move the students from Dualism to Multiplicity, they first asked students to notice differences between the home and host country, and then work towards getting students to value these differences. Then, they would ask students to explore such differences within the cultural and environmental context, i.e. “Why do you think they do it that way here?” Lastly, they would ask students to integrate their observations and knowledge and notice greater systems or patterns, i.e. “Where would you say is the border dividing Central and Eastern Europe?” While the authors did not expect students to quickly move through each stage of development, they thought the questioning strategies would be an effective way to expose students to higher critical thinking. They argued that “teaching students to integrate experience with lecture, generalize with good support, and make decisions based on a system of values will make them better critical thinkers and, therefore, [better] global managers” (DeLoach et al, 2003).

In their study of student’s attitudes towards foreign-born and domestic-born teachers, de Oliveira, et.al. (2009) used Perry’s scheme to interpret their bi-polar findings on instructor ratings. In the findings, instead of a gradual increase of the valuation of both in-group and out-groups, they found that the more students preferred one group, the more they disliked the other. They argued that this was due to the students’ dichotomous, Dualistic thinking (de Oliveira, et.al., 2009). This would be an important point for research for those who wish to promote ethno-relativism, since there may be a risk that if one does not also address cognitive complexity issues, some students would simply switch prejudicial views to in-groups instead of developing an ethno-relative perspective. DeLoach, Saliba, Smith and Tiemann (2003) also argued that the “divorcing” of intercultural competencies and cognitive development was hindering the process of developing effective curriculum and learning strategies for international education programs.

King and Shuford (1996) also utilized a model of cognitive complexity to explore

students' reactions to multiculturalism and diversity. Using the King and Kitchener's Reflective Judgment Model, King and Shuford (1996) felt that different responses to diversity reveal different levels of cognitive complexity. Moving from the pre-reflective, to the quasi-reflective to the reflective levels of cognitive development, students were slowly able to tolerate, evaluate and integrate multiple viewpoints into their own understanding of multicultural issues. They moved from dualistic thinking style to the ability to view issues contextually and with greater complexity.

King and Shuford (1996) suggested several implications for teaching methods. They recommended teachers expose students to multiple viewpoints on controversial issues, thereby creating an awareness of different opinions and attempting to develop a comfort with a diversity of perspectives. They also suggested asking students to begin to articulate their opinions while also teaching them the skills necessary to begin to evaluate different viewpoints. As an example of this process, one teacher provided a variety of materials about the Vietnam War, such as newspaper articles, film footage and interviews. Then, the teacher asked the students to view and interpret this historical data from the perspective of the Vietnamese. The teacher then required students to evaluate the information and develop their own viewpoints.

The skills that King and Shuford (1996) listed as being important in student development were: the ability to distinguish facts and cultural assumptions about facts, the ability to shift perspectives, and the ability to distinguish between their personal discomfort with a viewpoint and actual intellectual disagreement with that viewpoint. They concluded that these skills were important to both cognitive development as well as the students' understanding of multiculturalism.

Both the King and Shuford and the DeLoach, et.al. studies utilized theories about cognitive complexity to not only understand students' responses to cross-cultural issues, but

to also develop educational strategies and interventions. DeLoach, Saliba, Smith and Tiemann (2003) used questioning strategies to increase the level of complexity with which students who were studying abroad interpreted other cultures. King and Shuford attempted to increase student's levels of cognitive complexity in order to alter their responses to cross-cultural situations and multicultural issues. More specifically, they tried to develop students' ability to produce a more ethno-relative, less biased reaction. A few of the authors also seem to indicate that attempting to develop intercultural competencies without also addressing cognitive development could be less effective.

### **Bi-Cultural, Cross-Cultural and Multicultural Experiences' Effect on Cognition**

There have been many studies which have explored the relationship between bi-cultural, cross-cultural and multicultural experiences' effects on development and cognition. There does seem to be growing evidence that certain aspects of cross-cultural interactions have an effect on creativity and cognition. Based on some of this research and Social Categorization Theory, Crisp and Turner (2011) developed a model to describe the process by which multi-cultural and cross-cultural experiences would have a positive effect on cognition.

Using self-report instruments, several studies measured the developmental gains of international education. Sandell (2007) surveyed students about the effect studying abroad had on their professional role, international perspective, personal development and intellectual development. In all four areas, the majority of students reported that studying abroad had a big (rank of 5), large (rank of 6) or high (rank of 7) effect. Over 80% felt that their overall intellectual development was positively affected by international education (Sandell 2007). Using the Cross Cultural Adaptability Inventory, Black and Duhon (2006) measured student developmental gains over the course of a semester. Participants improved

in all areas of the measurement: flexibility and openness ( $\Delta\%$  12.0,  $p = .05$ ), perceptual acuity ( $\Delta\%$  17.3,  $p = .01$ ), emotional resilience ( $\Delta\%$  13.1,  $p = .05$ ), and personal autonomy ( $\Delta\%$  7.7,  $p = .05$ ); (Black, Duhon, 2006). Instead of relying on self-reported gains, other studies have used experimental design and performance tests to measure the effect of cross-cultural experiences and establish causality.

Leung, Maddux, Galinsky and Chiu (2008) reviewed several studies to investigate the connection between multicultural experiences and creative thinking. They proposed five different ways in which multicultural experiences could increase creativity: by exposure to new ideas, by creating the ability to interpret old ideas in new ways, by destabilizing old knowledge structures which allowed the emergence of atypical knowledge, by increasing willingness to explore other sources for information and by the process of integrating typically incongruent ideas. In past research studies, they found that more multicultural experiences was positively correlated with an increased willingness to sample ideas from foreign sources and increased retrieval of unconventional ideas. Additionally, they discussed Leung and Chiu's study where students were randomly assigned to view a slide-show which featured information about American culture only, Chinese culture only, a juxtaposition slide-show of both American and Chinese culture, a slide-show discussing the fusion of American and Chinese culture, and a non-slide-show control. They found that students who viewed the juxtaposition and fusion slide-shows performed more creatively on subsequent tasks. Thus, they found that it was not merely exposure to a foreign culture, but rather the juxtaposition of contrasting cultures which produced increased creativity. (Leung, Maddux, Galinsky, Chiu, 2008)

Leung, Maddux, Galinsky, Chiu, (2008) did find dispositional and situational factors that could hinder the effects of multicultural experiences. First of all, they argued that "superficial" cross-cultural experiences, such as traveling abroad as a tourist, would not lead

to cognitive change or increased creativity, since there would be little opportunity or need for adaptation to a new culture. Secondly, higher ratings of openness to experiences subscale of the NEO-Five Factor Inventory and multicultural experiences were associated with increased creative performances, but close-mindedness and multicultural experiences were associated with poorer performance on the creative tasks. Additionally, time pressures increased the need for closure, which Leung, et.al. described as the “desire for firm answers” without the consideration of alternatives. Time pressures were also associated with decreased likelihood to sample foreign sources for information. They proposed that these dispositions and situations would hinder multicultural experiences’ effect on creativity, since they would amplify the need for quick familiar answers (Leung, Maddux, Galinsky, Chiu, 2008).

Through four studies, Maddux and Galinsky (2009) also proposed that living abroad would be associated with increased levels of creative thinking. In their first study, they asked individuals to perform the Duncker candle problem, in which they had to use materials in a creative fashion to attach a candle to a wall. Maddux and Galinsky (2009) found that living abroad, but not traveling abroad, was a significantly positive predictor of creativity. In the second study, they investigated the effect living abroad had on levels of creativity while controlling for the Big Five personality traits. While openness and extroversion were significantly correlated to creative solutions, living abroad was found to have a significant effect beyond that of any personality traits. They hypothesized that the process of adapting to new cultural norms allowed people to be more aware of multiple perspectives and see things in less fixed, more creative ways. In the fourth study, individuals who had lived abroad were primed with one of three different conditions: primed to think about adapting to a foreign culture, primed to think about observing a foreign culture or primed to think about learning a new sport. Then participants were asked to draw an alien. Individuals who had been primed with the adaptation condition created drawings which were more creative, thus illustrating the

causal role of adapting to a foreign culture. All four of the Maddux and Galinsky studies showed that living and adapting abroad lead to an increase in creative thinking. Once again mere exposure, such as traveling in a foreign country, was not found to increase creativity. Since multicultural courses taught domestically might not require adaptation to the extent living abroad would, these results could also be interpreted to indicate that studying abroad should have a larger effect on creative cognition than studying domestically.

Maddux and Galinsky (2010) explored the aspect of functional multicultural learning and its affect on creativity in three separate studies. In the first study, participants were either asked to remember a time they learned something new about a foreign culture or their own culture. Those primed with the condition of learning about a foreign culture performed significantly better on a word-stem creativity task ( $F(1,42) = 4.45, p = .04, d=.91$ ). In the second experiment, participants were primed with one of four conditions: learning the underlying reason for a behavior in a foreign culture, learning the underlying reason for a behavior for their own culture, learning a new sport or remembering a trip to the supermarket. Learning the underlying reason for a behavior of a foreign culture increased creativity more than priming for domestic culture learning experience ( $p = .01$ ), learning a new sport ( $p < .001$ ) or the control ( $p = .01$ ). In the last experiment, participants were asked to find a solution to the previously mentioned Dunker Candle Problem. They were asked to recall one of two situations: a time they had learned something new about a foreign culture and learned the underlying reason why, or a time they had learned something new about a foreign culture but had not been able to learn the underlying reason why. In this experiment, researchers were comparing both those with previous experience living abroad and those who did not have previous experience abroad. Maddux and Galinsky (2009) found that for those without previous experience living abroad, there was no significant effect for the priming conditions on creativity. However, of the participants who had previously lived abroad, 75% of those

primed with the functional learning situation were able to solve the problem, but only 46% of those who were asked to recall learning about a behavior without learning the reason why were able to solve the problem. These results would suggest that the process of “learning the underlying meaning or function of behaviors in context” increased creativity for those who have previously lived abroad. These results once again not only show that passive exposure to a foreign culture is not sufficient to produce growth, but also that multicultural learning while living abroad may affect cognition differently than learning in the context of one’s home country (Maddux, Galinsky, 2009).

Benet-Martinez, et. al. (2006) hypothesized that bicultural individuals would be more cognitively complex than monoculturals. They felt that the process of Cultural Frame Switching (CFS) between American and Chinese cultural frames would lead to a greater awareness of the multidimensionality and contextual nature of cultural norms. They also hypothesized that there would be an increase in cognitive complexity due to the mental conflict caused by low Bicultural Identity Integration (BII). Bicultural Identity Integration (BII) was defined as the extent to which a person believed their cultural identities were compatible and easy to integrate (high BII) or incompatible and difficult to integrate (low BII). Indeed, Benet-Martinez, Lee and Leu (2006) did find that people with bi-cultural heritage and low BII showed higher levels of cognitive complexity in cultural descriptions of America and China.

Similar to Benet-Martinez, et. al.’s findings that level of a bicultural’s BII could affect his/her level of cognitive complexity, Tadmor, Tetlock, Peng (2009) proposed that different acculturation styles would lead to different levels of integrative complexity. Integrative complexity was the ability to accept clashing viewpoints by either integrating them together or understanding the impact of context on development of viewpoints. There were four types of acculturation styles: Assimilation (wholly assuming the values of the new culture),

separation (isolating self into native culture), marginalization (identifying with neither the new culture nor one's native culture) and integration or biculturalism (integrating both new culture and native culture into a new identity). Tadmor et. al. (2009) hypothesized that those who chose the integration acculturation style would experience greater acculturation pressures, which would increase the cognitive strain to resolve dissonance. The greater cognitive strain would then lead to higher levels of integrative complexity. Tadmor, Tetlock, Peng (2009) found that bicultural individuals had higher levels of integrative complexity than other acculturation strategies and that it was stress from acculturation which was the cause of the increased integrative complexity. Furthermore, all the participants could be considered bicultural using looser definitions, but they stated that "not all biculturals are equally complex." One must consider that exposure and knowledge of a foreign culture alone were not sufficient to create higher levels of complexity. Additionally, this complexity did appear in other domains other than culture, such as work domains. However, it should be noted that the less the domain was related to culture the less acculturation strategy would affect integrative complexity. Therefore, the integrative complexity one gained through acculturation pressures can affect other areas of one's life, though to a lesser extent.

Crisp and Turner (2011) reviewed literature to develop a model of how multicultural or social diversity experiences would affect cognition. They argued that over time multicultural experiences would cause a person to develop greater cognitive complexity with the ability to automatically suppress stereotypical knowledge and perform generative thought. This was dependent on the conditions that the social diversity or multicultural experience consistently challenged a stereotype and that the person was consistently able and willing to process this dissonance. Overtime the person would no longer need to use mental energy to suppress stereotypical knowledge, but would do so automatically. This would allow more mental energy to be used for generative thought. "The most provocative conclusion from

[Crisp and Turner's] analysis is that the experience of stereotypically challenging diversity yields benefits that extend beyond greater tolerance and more positive intergroup attitudes to enhanced self-efficacy and buffering of self-esteem, creativity and innovation in problem solving, and tendencies to question illegitimate authority and promote social change (Crisp, Turner, 2011)."

The common theme among this body of research seemed to be that cross-cultural experiences could have a positive effect on cognition, but that mere exposure would not be sufficient to produce change. The processes of being exposed to competing viewpoints, adapting to a new culture, integrating different viewpoints and resolving "counter-stereotypical exemplars" appeared to be an important part of cognitive development. It could be argued that studying abroad programs would be in a better position than domestic classrooms to provide an environment as enriched with challenge, dissonance and opportunities for adaptation. Additionally, level of immersion, acculturation strategies, and individual differences would also impact how much a person gained from his/her experience. This should be a very important point for curriculum and program development of education abroad programs.

### **Bi-Cultural, Cross-Cultural and Multicultural Experiences' Effect on Ethnocentrism**

In addition to affecting cognition, there was also growing evidence that cross-cultural experiences and education about multiculturalism would have an effect on openness to diversity, levels of ethnocentrism and increased interest in serving others. Ismail, Morgan and Hayes (2006) found that after a three-week short-term study aboard program in China, students showed a significant increase in openness to diversity ( $P = 0.007$ ). The three most significant changes were agreement to the following three statements: "I enjoy talking to people who have values different from mine, because it helps me understand myself and my values," "The courses I enjoy the most are those that make me think about things from a

different perspective,” and “Contact with individuals whose background (for example race, national origin, sexual orientation) is different from my own is an essential part of my college education.” Students seemed to be expressing an increasing interest in and value of diversity.

Hill and Thomas (2005) found that after a four-week study abroad program to Bali, Australian participants were more critical of the Australian media’s biased depictions of Indonesians. Shortly after the group’s return to Australia, there was a terrorist attack on a night-club in Bali; many Australians were injured and killed. In subsequent interviews, Hill and Thomas (2005) found that students had a less stereotyped impression of Indonesians, were critical of media depictions surrounding the bombing and that some actively challenged these stereotypes. The authors felt this study provided some preliminary evidence that studying abroad could give students a more nuanced view of the host culture and possibly affect levels of ethnocentrism. The authors argued that while the analysis of the news coverage at times lacked sophistication, it showed a growing dissatisfaction with the stereotyped imagery of Indonesians and the Australia-centric focus of the stories, and for some also showed a “...growing, if articulate, awareness of possible resentment of aspects of globalization and the global inequalities of wealth...” (Hill, Thomas, 2005).

Borden (2007) explored whether students in an intercultural communication course with a cross-cultural service-learning component would have reductions in ethnocentrism. Students in the class were required to perform a service-learning project with a group that was culturally different than themselves. There was a statistically significant decrease in mean scores on the Generalized Ethnocentrism Scale (GENE) over the course of the semester ( $p < .05$ ). Borden (2007) did suggest using caution when interpreting the results due to its lack of control group and lack of randomization. While this study did have certain limitations, it provided evidence that cross-cultural contact might have an effect on ethnocentrism.

Pettijohn II and Naples (2009) investigated whether taking a cross-cultural

psychology course would produce greater reductions in ethnocentrism than those taking introductory psychology courses. There were no statistically significant decreases in ethnocentrism for students taking the introductory psychology class. Though the average reduction was less than half a point on a 5 point scale, taking a cross-cultural psychology course had statistically significant reductions in ethnocentrism. Since the students in the cross-cultural psychology course had low to moderate ethnocentrism scores in the beginning, the authors recommended investigating whether there would be larger decreases in ethnocentrism scores for students who were more ethnocentric. Another important finding of the study was that self-reported engagement, not the final grade, was related to greater reductions in ethnocentrism. This provides further evidence which emphasized the importance of engagement in cross-cultural experiences over simple exposure to cross-cultural experiences.

Multicultural experience appeared to not only increase openness to others, but to also have an effect on moral development and commitment to serving others. Miller-Perrin and Thompson (2010) found that from freshmen year to senior year, students who studied abroad had an increased sense of life purpose and an increased desire to serve others. However, students who did not study abroad actually were found to have a decreased sense of life purpose and a decreased desire to serve others (Miller-Perrin, Thompson, 2010). The authors proposed that exposure to a “larger world” and that a stress-induced search for mentors were a possible explanation for the increased interest in students who studied abroad. This study could suggest that not only were students who study abroad more open to diversity and lower ethnocentrism, but that they could also possibly have an increased commitment to social justice.

These studies provide some evidence that cross-cultural experiences and education about multiculturalism could have an effect on openness to diversity and levels of

ethnocentrism. They also reaffirmed the importance of active engagement in the cross-cultural experience to developmental outcomes and seemed to suggest that the enriched environment of living abroad could offer greater opportunities for development.

### **Conclusions**

These studies have found that relationships may exist between cross-cultural experiences and student development (Sandell, 2007; Black, Duhon, 2006), creativity (Leung, Maddux, Galinsky, Chiu, 2008; Maddux, Galinsky, 2009; Maddux, Adam, Galinsky, 2010) cognitive complexity (Benet-Martinez, Lee, Leu, 2006; Tadmor, Tetlock, Peng, 2009), openness to diversity (Ismail, Morgan, Hayes, 2006; Hill, Thomas, 2005) and levels of ethnocentrism (Borden, 2007; Pettijohn II, Naples 2009). In this study, we explore whether the cross-cultural experience of studying abroad is related to increased cognitive complexity and decreased levels of ethnocentrism.

Cognitive complexity has been used to understand responses to multicultural issues and develop teaching interventions (DeLoach, Saliba, Smith, Tiemann, 2003; King, Shuford, 1996). In this present study, we explore if cognitive complexity had a relationship with ethnocentrism, which extended further than simply categorizing responses to multicultural experiences within the levels of cognitive complexity. The author wanted to investigate whether there was a negative correlation between levels of cognitive complexity and levels of ethnocentrism.

## CHAPTER III. SURVEY METHODOLOGY

### **Hypotheses**

This study had several hypotheses. The first hypothesis was that spending a semester studying abroad would both increase levels of cognitive complexity and also decrease levels of ethnocentrism.

The second hypothesis, and primary reason to conduct the study, was to test whether students who spend a semester abroad would show higher levels of cognitive complexity and lower levels of ethnocentrism than students who studied domestically. Specifically, at the end of a semester, those participants who studied abroad would have higher cognitive complexity index (CCI) scores as well as higher position preferences on a measure of cognitive complexity (LEP) than those who studied domestically. Additionally, at the end of the semester, they would show lower scores on the measure of ethnocentrism (GENE) than those who studied domestically.

Lastly, this study hypothesized that cognitive complexity would be related with ethnocentrism. The third hypothesis was that there would be a negative correlation between ethnocentrism scores on the (GENE) and the CCI cognitive complexity scores of the (LEP).

### **Participants**

Subjects were students attending UW-Platteville, either on-campus or abroad through a sponsored semester-long study abroad or international exchange program. The treatment group, students who were studying abroad, was contacted via email addresses listed in the International Education Office database. The control group participants, students who were studying domestically at UW-Platteville, were contacted through their general education classes on-campus. All participants had at least sophomore standing, as this was a pre-requisite for studying abroad.

## Procedures

Utilizing the International Education Office database, a list of students expected to study abroad was compiled. During the first week of the 2010 fall semester and the 2011 spring semester program, all study abroad participants received an email asking them to participate in the study and informed participants of their rights as stated on the subject consent form (See Appendix A). Each email contained a unique link to the online survey with a unique IP address; this allowed for the anonymous comparison of pre-semester and post-semester measures of those students studying abroad.

Students studying domestically were contacted through their general education classes. During the first week of the 2010 fall and the 2011 spring semester at UW-Platteville, instructors who were noted as “friendly” to international education by the International Education office were contacted with a request to visit their classes and recruit volunteers. The author visited the classes, gave a brief introduction to the purpose of her request and asked interested volunteers to sign-up by listing his/her email address on a sign-up sheet. Participants then received a prompting email asking them to participate in the study and informed participants of their rights as stated on the subject consent form (See Appendix A). Again, each email contained a unique link to the online survey with a unique IP address; this allowed for the anonymous comparison of pre-semester and post-semester measures of students studying domestically.

The week prior to each student’s respective first day of the final exam period, participants were prompted by a second email to once again complete the survey. The second survey contained the same instruments and a slightly altered demographic questionnaire. In an effort to increase participation rates during the spring semester survey, the second email was sent two weeks prior to the beginning of the final exams period and the order of the measurements was reversed, with the shorter instrument placed first.

The online survey contained a demographic questionnaire and two different standardized instruments. The Learning Environment Preferences (LEP, Moore, 1987) asked students to rate the significance of 65 statements on a 4-point Likert scale. The LEP measured the level of learning “independence” which was proposed to relate to Perry’s scheme of cognitive development. The Revised Generalized Ethnocentrism Scale (GENE, Neliup, McCroskey, 1997) measured levels of ethnocentrism using 22 questions on a 5-point Likert scale. After completing the two instruments, participants were asked to also fill out a demographic questionnaire. To encourage completion of both pre-semester and post-semester surveys, participants were entered into a drawing to win \$25. At the end of both the fall 2010 and spring 2011 semesters, two participants were picked at random for the drawing.

Statistical analysis of the data was performed using SPSS software. Using paired t-tests, the author explored the data to see if there was an increase in cognitive complexity and a decrease in ethnocentrism over the course of a semester for both the control and treatment groups. In order to analyze if studying abroad would result in higher levels of cognitive development and lower levels of ethnocentrism than the control group, a univariate analysis of variance was performed. The author also used a one-tailed bivariate correlation test to examine the relationship between the cognitive complexity scores of the (LEP) and the ethnocentrism scores of the (GENE). Finally, one-way ANOVAs were used for exploratory investigation of whether participant characteristics or participation in multicultural experiences were related to levels of cognitive development and ethnocentrism

### **Instrumentation**

Besides basic demographic information such as age, sex, major, etc., the demographic questionnaire asked about the students’ participation in curricular and extra-curricular activities which could be considered exposure to multiculturalism or contact with a different culture (See Appendix B & C). A part of this demographic questionnaire was based on

sections of the former Institute for Study Abroad Program's evaluation form, which evaluated students' participation in international extra-curricular activities. The purpose of assessing student's exposure to other multicultural or cross-cultural experiences was to control for the effects of multicultural activities on student's cognitive development or ethnocentrism scores. For example, without knowing if the control or treatment group sample actively participated in other multicultural activities or had contact with diverse groups via other programs, this third variable could affect the results. This would mean that the author would not be able to clearly explore the effects of location of study.

As well as the demographic survey, students completed two instruments: the Revised Generalized Ethnocentrism Scale (GENE, Neliup, McCroskey, 1997) and the Learning Environment Preference questionnaire (LEP, Moore, 1987).

The GENE (See Appendix D) was developed as a general measure of ethnocentrism that could be used with diverse populations, unlike other ethnocentrism measurements which could only be used with persons from a specific ethnicity or specific nationality. The GENE involves twenty-two items, of which only fifteen are used to calculate a total score. Participants rate statements using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). An example item would be, "My culture should be the role model for other cultures." Neliup (2003) stated that in past studies mean GENE scores were typically around 30.

Neliup and McCroskey (1997) found Alpha reliability coefficients ranging from about .80 to .90. In order to show validity, Neliup and McCroskey investigated if higher GENE scores would have the predicted relationships with greater contact with other cultures and negative attitudes towards contact with culturally different persons. They found significant correlations between the GENE and "size of home town" ( $r(369) = .56, p < .01$ ), "frequency of travel outside of home state ( $r(369) = .63, p < .01$ )," "number of people in

home town of same race ( $r(369) = .66, p < .01$ ),” “frequency of contact with a person from a different country ( $r(369) = .57, p < .01$ )” and “frequency of contact with a person from a different culture ( $r(369) = .54, p < .01$ ).” The scale also significantly correlated as predicted with the Personal Report of Intercultural Communication Apprehension ( $r(369) = .27, p < .01$ ) and the Personal Report of Interethnic Communication Apprehension ( $r(369) = .25, p < .01$ ). Neliup & McCroskey (1997) also found that the GENE was more predictive of these values than the United States Ethnocentrism Scale (USE), and therefore it was considered a more reliable and valid measure of ethnocentrism.

In a follow-up study, Neliup (2003) found that the GENE was reliable and had predictive, concurrent and construct validity. The GENE’s reliability at that time was found to be .84, which was consistent with past research into GENE’s reliability. High ethnocentrism scores on the GENE were predictive of negative attitudes towards interaction with foreigners as measured by the Traveling to Other Countries scale ( $r(88) = -.412, p < .001$ ) and the Working with Foreigners scale ( $r(88) = -.370, p < .001$ ). It also had statistically significant correlations with a similar measure, the Gudykunst’s Ethnocentrism Scale ( $r(88) = .420, p < .001$ ). This would indicate concurrent validity. Construct validity was evidenced by statistically significant correlations with instruments measuring similar concepts. The GENE had statistically significant correlations with the Patriotism Scale ( $r(88) = .372, p < .001$ ) for example.

The Learning Environment Preference questionnaire (See Appendix E & F) was a measure of cognitive complexity based on Perry’s model of cognitive development. The five subscales of the LEP measure one’s preferences within the following areas: beliefs of the nature of knowledge, role of the instructor, role of the student, atmosphere of the learning environment, and the role of evaluation. Each of the five domains had thirteen items. Items were rated on a 4-point Likert scale, which ranged from 1 (not at all significant) to 4 (very

significant). The least complex items were placed at the beginning, i.e. An instructor's role is to "teach me all the facts and information I am supposed to learn." Increasingly complex items were placed towards the end, i.e. An instructor's role is to "Challenge students to present their own ideas, argue with positions taken, and demand evidence for their beliefs." (See Appendices E and F to view a sample of the paper copy of the LEP, which was used to create the electronic format).

The LEP measurement produced two scores: the Cognitive Complexity Index (CCI) and the Position Preference. The CCI was an overall score ranging from 200 (representing Perry's Dualism position) to 500 (representing Perry's Relativism position). The instrument also showed the participants percentage of responses in each position, from position 2 (Dualism) to position 5 (relativism). The position with the highest percentage of responses for that individual indicated that person's preferred position and was that person's Position Preference score.

Moore (1989) explored the reliability and validity of the LEP. He felt that it had adequate correlations of 0.32-0.36 with a similar measure of Perry's scheme of intellectual development, the Measure of Intellectual Development (MID). While these correlations were a little lower than typical, they felt that this reflected the differences in format of the instruments. The LEP was a "recognition style" measure of preferences for learning which related to levels of cognitive development, while the MID measured production of levels of cognitive development (Moore, 1989). As stated earlier, participants could prefer or recognize levels of development, which they did not produce. When dividing the MID scores into position subgroups, they found the predicted trend of increasing CCI scores ( $F = 4.55, p = 0.0006$ ). Moore (1989) also investigated the internal consistency of positions. Position 2, 4 and 5 items had item correlations between 0.81 and 0.84, which was acceptable. Position 3 only reached 0.72, which was weak.

To further explore if the LEP had validity, Moore (1989) investigated if they would find predicted scoring patterns, i.e. freshmen would have lower scores than seniors. Indeed the CCI scores predictably increased with the year in school ( $F = 3.8, p < .01$ ). Also, as they had predicted, there were not statistically significances between genders ( $F = 2.6, p > 0.1$ ). This was considered evidence of convergent validity (Moore, 1989).

In a review of literature, Granello (2010) found that the LEP had adequate concurrent validity with a similar measure of intellectual development, the Measure of Intellectual Development (MID). The correlations between the MID and LEP scale scores ranged from 0.46 to 0.57. Construct validity for the LEP was evidenced by the fact that higher levels of education were related to higher levels of cognitive development on the LEP. Internal consistency reliability measures of the subscales ranged from the .60's to the .80's. Test-retest measures of reliability were reported as being .89. Due to these findings, Granello felt that the LEP was adequately valid and reliable for his study.

An additional important reason for the use of the GENE and the LEP was the cost and the convenience of the format. Since assessment of students studying abroad would make the use of lengthy interviews or paper-and-pencil formats challenging to arrange, an online survey was chosen. Also, it was feared that other instruments which were lengthier and more time-consuming would result in even lower response rates. Therefore, Likert-style measures were quicker and more suitable for an online format. Additionally, these instruments could be scored by the author. Other instruments would require the use of expensive, outside raters or expensive, lengthy training sessions to learn how to self-score. Thus the GENE and LEP were not only valid measures, but were also the most suitable format for this thesis study.

## CHAPTER IV. ANALYSIS OF THE SURVEY DATA

### **Demographic Information**

At the time of the study, UW-Platteville was a comprehensive university located in southwestern Wisconsin enrolling 7,048 undergraduate students. The university reported its population as predominantly male (65%), with an average age of 21 and identifying as Caucasian (93%). In 2009, the majors which were pursued in the largest numbers were Engineering (21%), Business/Management/Marketing/Support Services (16%), Homeland Security/Law Enforcement/Firefighting/Other Protective Services (11%), Education (9%) and Agriculture/Agriculture Operations/Other Related Sciences (9%); (College Portrait, 2011).

The control group for this study was the student population currently studying on-campus at UW-Platteville. Two-hundred forty-eight students who were currently studying domestically were asked to participate in the study. Thirty-four were contacted during the fall 2010 semester, and two-hundred fourteen were contacted in the spring 2011 semester. In the pre-semester surveys for the fall and spring semesters, there was a combined total of seventy-four students who responded. Fourteen surveys had to be thrown out as the students had not reached sophomore standing and did not qualify for the study. During the post-semester surveys for the fall and spring semesters, only eighteen students responded. One survey had to be thrown out because the student had not reached sophomore standing. In all, only thirteen students who were studying domestically responded to both the pre-semester and post-semester survey. The low response rate and high mortality rate again made the results unreliable. One could not assume that this small sample was a representative sample of the student population which studies domestically.

The control group was demographically more diverse, more disperse and was more evenly distributed in characteristics than the treatment group of study abroad students. The control group's median age of 21.27 years of age (sd = 3.014) was slightly older than the

study abroad sample (20.3,  $sd = .842$ ). The control group also had a larger range in ages: eighteen to thirty-eight. Although there was a larger percentage of men in the domestic student group, the control group had a more balanced distribution between the genders, 52.5% male and 47.5% female. Although there were a few participants who identified as bi-racial (3) or “Hispanic or Latino(a) and Chicano(a) Native (2),” there was the same large preponderance of participants identifying as “Caucasian or White (Non-Hispanic) (93.8%),” The reported number of years in school also had a larger range, ranging from sophomore to 6<sup>th</sup> year senior. The majority of students in the control group were in their sophomore year (42.5%). The mean year in school was 2.96 ( $sd = 1.186$ ); which was earlier in their education than the group of participants who were studying abroad (3.14,  $sd = 0.633$ ). Similar to the more equal distribution in sex, the population studying domestically was more evenly distributed among the colleges (BILSA 33.8%, LAE 33.8%, EMS 25%) than the treatment group (LAE 50.0%, BILSA 21.4%, EMS 14.3%). Overall, the sample studying domestically was more varied than the sample of study abroad participants. (See Appendix G)

In the 2006-2007 Open Doors Report on International Educational Exchange, the UW-Platteville International Education office (2007) estimated that one-hundred fifty-three students participated in a study abroad program between the fall 2006 semester and summer 2007 semester, sixty-six of which were on semester or year-long programs. The overall characteristics of these students were reported as Multiracial (52.3%), male (54.2%), in their senior year (24.8%) or sophomore year (21.6%). The levels of participation by colleges were reported as follows: BILSA (50.5%), EMS (26.5%), LAE (12.9%) or undeclared (3.1%). It should be noted that these rates of participation include short-term programs, which were not a part of this study on cognitive development (Open Doors, 2007).

The treatment group for this study was considered the student population studying abroad through a University of Wisconsin-Platteville program in the fall of 2010 or the spring

of 2011. A total of sixty-nine students (100%) who were currently studying abroad were asked to participate in the study. Twenty-nine studied abroad in the fall 2010 semester, and forty studied abroad in the spring 2011 semester. Of the 69 students from the fall and spring semester, there were a total of eight students who completed the pre-semester survey. For the fall and spring post-semester surveys, only a total of nine students responded, three of whom also had completed the pre-semester survey. This low response rate and high mortality rate unfortunately made any results questionable. One cannot assume that this small sample was an accurate representation of the student population which studied abroad. (See Appendix G)

The sample of students who were studying abroad was less varied in terms of demographic characteristics as compared to the control group or the UW-Platteville student population as a whole. This could be as a result of their self-selection into studying abroad. The treatment group only ranged in ages from the age of nineteen to twenty-two years of age, with a mean age of 20.3 (sd = 0.842). All study abroad participants (100%) identified as “Caucasian or White (Non-Hispanic)”. The gender of study abroad students was predominantly female (64.3%). The year in school also had a much smaller range than the students who studied domestically; the mean year in school was 3.14 (sd = 0.663) with the majority being in their junior year of college (57.1%). Similar to the other characteristics, the sample was less evenly distributed among the colleges; they were predominantly from LAE (50.0%), while BILSA only had 21.4% and EMS had 14.3% of the sample.

It should be noted that these characteristics of the study abroad sample would not be surprising to someone working in the field. It was common knowledge that the population that generally studied abroad was typically white females in the junior or senior year working towards a liberal arts degree (Institute of International Education, 2005). However, it was unclear why the characteristics of this sample varied so greatly from those reported in the UW-Platteville 2006-2007 Open Doors Report. It could be that short-term study abroad

programs at UW-Platteville attracted a very different participant, and that their inclusion in the Open Doors report skewed the data.

### **Comparison of Students Studying Abroad and Students Studying Domestically**

The primary purpose of the study was to test whether students who spent a semester abroad would show higher levels of development of cognitive complexity at the end of the semester. Pre-semester and post-semester scores on the LEP, specifically CCI scores, were used to test this hypothesis. The Position Preference scores were not analyzed, because there simply was not enough data. Using paired t-tests, the mean CCI scores were compared for the pre-semester and post-semester surveys. The treatment group's post-semester mean CCI score was 310.00 (sd = 51.96), which was 7.67 points lower than the pre-semester scores (317.67, sd = 42.03). However, this drop was not statistically significant ( $n = 3$ ,  $t = .405$ ,  $p = .434$ ). Considering that only three members from the study abroad group completed both a pre-semester and post-semester measure, the analysis of this data was not likely to yield statistically significant information. (See Appendix I)

For the second part of the first hypothesis, the author tested whether participants in the study abroad programs would have lower levels of ethnocentrism at the end of a semester abroad. At the end of the semester, it was proposed that they would show lower scores on a measure of ethnocentrism, specifically the GENE. Using a paired t-test, the mean GENE scores were compared for the pre-semester and post-semester surveys. The treatment group's post-semester ethnocentrism scores (26.00, sd = 6.56) had dropped by 8.33 points from the pre-semester ethnocentrism scores (34.33, sd = 20.98). However, once again, this difference was not found to be statistically significant ( $n = 3$ ,  $t = .991$ ,  $p = .111$ ). As stated earlier, since only three participants completed both a pre-semester and post-semester measure, the analysis of this data was not expected to yield statistically significant information (See Appendix J).

The second hypothesis was that at the end of the semester, the treatment group, those who studied abroad, would have greater increases in cognitive complexity scores and greater decreases in ethnocentrism scores than those students who had studied domestically that semester. Unfortunately, due to the low numbers of participants completing both a pre-semester and post-semester, it was not possible to compare the amount of change in cognitive development and ethnocentrism between the control group and treatment group. Instead, the author compared the post-semester levels of cognitive development and ethnocentrism. The second hypothesis changed accordingly; it was hypothesized that the treatment group would have higher scores on the post-semester LEP and lower post-semester scores of ethnocentrism. Indeed, the treatment group's end of the semester mean score on the CCI was higher than the control group, but the difference between the two groups was not statistically significant ( $n = 9$ , Study Abroad = 354.11,  $sd = 48.95$ ;  $n = 18$ , Domestic = 328.78,  $sd = 44.58$ ;  $F = 1.818$ ,  $p = .190$ ). The mean score for Position Preference was also higher for the treatment group, but the difference was not statistically significant ( $n = 7$ , Study Abroad = 3.29,  $sd = .756$ ;  $n = 16$ , Domestic = 3.13,  $sd = .886$ ;  $F = 0.126$ ,  $p = .681$ ). Lastly, the mean score for ethnocentrism was as predicted, but the difference was not statistically significant ( $n = 9$ , Study Abroad = 26.56,  $sd = 5.73$ ;  $n = 18$ , Domestic = 28.33,  $sd = 6.70$ ;  $F = 0.463$ ,  $p = .503$ ). While the cognitive complexity scores were higher and ethnocentrism scores lower for the treatment group, none of the findings were statistically significant. Although this sample included all participants of the fall and spring post-semester surveys, the sample size was still extremely small. We could not assume that the data accurately portrayed the developmental patterns of either the group studying domestically or the group studying abroad.

### **Relationship between Cognitive Complexity and Ethnocentrism**

The last hypothesis was that cognitive complexity would be negatively related with

ethnocentrism. The one-tailed bivariate correlation found a significant negative correlation between (GENE) ethnocentrism scores and (CCI) cognitive complexity scores (Pearson's  $r = -.200, p = 0.05$ ). Therefore, there was evidence that ethnocentrism could be related to cognitive complexity (See Appendix N).

### **Exploratory Findings**

Students studying domestically and students studying abroad showed differences in reported levels of participation in multicultural and cross-cultural experiences. Of respondents who were studying domestically, 6.8% had previously studied abroad and 10.8% had previously lived abroad; the treatment group had no previous experience living or studying abroad. In the pre-semester survey, the treatment group reported higher rates of participation on all the items pertaining to participation in multicultural experiences and cross-cultural experiences as compared to the control group. They reported having higher rates of attending a cultural event (treatment 87.5%, control 50%), and higher rates of previously attending a class which educated about diversity (treatment = 75.0%, control 66.2%). The treatment group also reported higher rates of contact with diverse groups. They reported higher rates of having sought contact with someone who identified as culturally different than themselves (treatment = 100%, control = 51.4%), higher rates of having a relationship with someone who identified as culturally different than the participant (treatment = 100%, control = 73.0%), and higher rates of having half or most of their significant relationships with someone who identified as culturally different than themselves (treatment = 25%, control 13.3%). Since the control group had an older mean age and included some participants who were much older than the treatment group, the differences in previous experiences living abroad and previous participation in study abroad might be attributable to the control group having more past opportunities to participate in such experiences.

In the “Post-Semester Demographic Questionnaire,” the control group participants reported higher rates of having attended a cultural event during the semester (treatment = 44.4%, control = 50.0%) and higher rates of attending a class which educated about diversity during the semester (treatment = 33.3%, control = 50%). The treatment group reported higher rates of contact with diverse groups. They reported higher rates of having sought contact with someone who identified as culturally different than themselves (treatment = 88.9%, control = 55.6%), higher rates of having had a relationship with someone who identified as culturally different than the participant (treatment = 100%, control = 61.1%), and higher rates of having half or most of their significant relationships with someone who identified as culturally different than themselves (treatment = 33.3%, control = 16.7%). These rates could be attributed to the unique attributes of the groups sampled, as well as to the environmental and situational factors allowing students who are studying abroad greater opportunities to have contact with persons from other cultures (See Appendix H).

Using one-way ANOVAs, the author explored whether participants’ age, sex, major, year in school or participation in multicultural experiences would have any relationship with their cognitive development or levels of ethnocentrism. She did not find any statistically significant relationship between participants’ age, sex or year in school and cognitive development or levels of ethnocentrism. However, there were some statistically significant findings found between students’ participation in multicultural experiences and cognitive development and between students’ major of study and ethnocentrism.

There was a statistically significant relationship between attendance of an event which celebrated or educated about diversity and higher scores on the post-semester CCI- LEP (See Appendix O). Those who had participated in a multicultural event during the semester in which they participated in the study had a mean CCI score of 356.615 ( $n = 13$ ,  $sd = 42.023$ ). Those who had not participated in a multicultural event during the semester in which they

participated in the study had a mean CCI score of 319.214 ( $n = 14$ ,  $sd = 44.875$ ) ( $F = 4.976$ ,  $p = .035$ ). While the LEP Position Preferences showed a similar pattern to the CCI scores, they were not statistically significant (Attended Event = Position Preference 3.273,  $n = 11$ ,  $sd = 0.647$ ; Did Not Attend = Position Preference 3.083,  $n = 12$ ,  $sd = 0.996$ ,  $p = .598$ ).

Attending a class which educated about diversity was significantly related to higher LEP -Position Preference for both the treatment group and control group. Those who had attended a class which educated about multicultural issues during the semester in which they participated in the study had a mean LEP- Position Preference of 3.600 ( $n = 10$ ,  $sd = 0.843$ ). Those who had not attended a multicultural class during the semester in which they participated in the study had a mean LEP- Position Preference of 2.846 ( $n = 13$ ,  $sd = 0.689$ ) ( $F = 5.578$ ,  $p = .028$ ). Similar to these findings, the CCI scores showed a pattern relating to attending a diversity class, but were not statistically significant (Attended Class = CCI 352.78,  $n = 12$ ,  $sd = 47.519$ ; Did Not Attend = CCI 324.80,  $n = 15$ ,  $sd = 43.722$ ;  $F = 2.54$ ,  $p = .125$ ).

A student's major was related to pre-semester survey ethnocentrism scores (BILSA  $n = 27$ , 30.259,  $sd = 6.705$ ; EMS  $n = 22$ , 32.727,  $sd = 9.755$ ; LAE  $n = 28$ , 24.750,  $sd = 5.434$ ; Mixed  $n = 5$ , 28.800,  $sd = 4.266$ ). However, post-semester ethnocentrism scores did not have a statistically significant relationship with a student's major. Statistical significance was 0.002 ( $F = 5.501$ ). Furthermore, most of the scores seemed to move closer towards the mean. This data could be attributed to differences in the pre-semester and post-semester samples or attributed to a regression towards the mean (See Appendix S & T).

The author investigated differences in reported participation in multicultural experiences. Using ANOVA's, she also explored whether there was a correlation between LEP and GENE scores and participants' age, sex, major, year in school or participation in multicultural experiences. While there was not found to be any statistically significant relationship between participants' age, sex or year in school and cognitive development or

levels of ethnocentrism, there were some statistically significant findings for students' major of study and participation in multicultural experiences. Attending a multicultural event or class which educated about diversity appeared to be correlated with higher levels of cognitive development. However, the results should be explored in future research with larger samples.

## CHAPTER V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Summary

The primary question being asked in this study was whether students who spent a semester abroad would increase cognitive complexity scores (CCI and Position Preference) and decrease ethnocentrism scores (GENE). Due to the extremely small response rate, there was not enough data to compare Position Preference scores. Differences in CCI and GENE scores were found, though they were not statistically significant; therefore there was no evidence found to support any part of the primary hypothesis.

The second hypothesis originally was that participants in the study abroad programs would have greater increases in cognitive complexity and greater decreases in levels of ethnocentrism than the control group which studied domestically. Due to the low number of participants completing both a pre-semester and post-semester survey, the author was unable to compare the changes in cognitive development and ethnocentrism between the control group and treatment group. Instead, there was an exploration into whether the treatment group would have higher cognitive complexity scores and lower ethnocentrism scores than the control group at the end of the semester. The second hypothesis tested was that participants in the study abroad programs would have higher levels of cognitive complexity and lower levels of ethnocentrism than the control group. The treatment group had higher mean scores on the CCI and the Position Preference, but none of the differences were found to be statistically significant. Lastly, the mean scores for ethnocentrism were also in the predicted direction, but the differences were not statistically significant. Thus, support for the hypothesis that students who study abroad would have higher cognitive complexity scores and lower ethnocentrism scores than students who studied domestically was not supported.

Thirdly, this study hypothesized that cognitive complexity would be negatively related with ethnocentrism. Specifically, there would be a negative correlation. This study did

find a negative correlation between levels of ethnocentrism and cognitive complexity.

### **Conclusions**

It would be difficult to draw conclusions about the effects studying abroad had on cognition or ethnocentrism since the sample size and response rates were so small. Of the sixty-nine students who studied abroad, only three completed both a pre-semester and post-semester survey. The three person sample was roughly 4.3% of the population that studied abroad on semester-long programs. This was not an adequate sample, and it would be irresponsible to claim to gain any knowledge from the analysis of their data.

Unfortunately, due to the low response rates, we were not able to investigate any patterns of development between the different study abroad programs. With a larger response rate, we could have controlled for the effects of differences such as cultural distance between home and host country, level of immersion, and student participation and engagement in enriching extracurricular activities. Much of the research had suggested that mere exposure to a foreign culture was not sufficient for change, but rather the individual must be engaged in the process of exploring differences, self-reflection and integration of cultural differences (Leung, et. al., 2008; Maddux, Galinsky, 2009; Tadmor, et. al., 2009). Since these might have mediated the effects of studying abroad, it would be important to explore patterns of engagement as compared to patterns of development with a larger sample.

Overall, there was enough participant data to compare GENE Scores to the LEP CCI (n = 108). Since there was found to be a statistically significant negative relationship between levels of ethnocentrism and cognitive complexity index scores (Pearson's  $r = -.200$ ,  $p = 0.05$ ), it could be concluded that there was a connection between intellectual development and ethnocentrism. However, future studies would have to explore how these two concepts relate and if one can cause change in the other.

Past research, the exploratory findings of this study and the confirmation of our third

hypothesis may be combined to show possible evidence of a pattern of connection between multicultural experiences and cognitive development. Future studies could be done to explore this connection further, as well as investigate the direction of causality if there was one.

### **Limitations**

There were many limitations to this study which limited the conclusions which could be drawn from the data. First of all, the design itself limited the conclusions. Due to obvious financial constraints and the nature of studying abroad, it was not possible to randomize the “treatment” of studying abroad. Without a randomized sample, this could not be truly experimental. In a quasi-experimental study such as this, it was not possible to make any claims of causation. It would not be possible to determine if a semester spent studying abroad was causing development or if students who were developing more quickly were more likely to study abroad.

Secondly, the participant pool severely limited the conclusions one could draw from the data. The population at UW–Platteville overwhelmingly identified as undergraduate, Caucasian males from rural Wisconsin. Furthermore, this study sampled a population which was equally not diverse. For example, there were only five participants who did not identify as Caucasian. Caution should be used when using these results for other types of campuses, other locations and other populations.

Another limitation of this study was that the small sample size and that the sample might not have accurately represented the populations on the UW-Platteville campus. The sample size was less than 10% of the populations which study abroad and study domestically on campus. Consequently, one could not claim with certainty that the respondents were an accurate representation of the populations on campus or currently studying on UW-Platteville international education programs.

It was also difficult to determine if the sample of students who study abroad were

comparable to the general UW-Platteville population of study abroad participants, since the data collected on the general study abroad population did not differentiate between short-term and semester-long programs. This study only sampled those who chose to study abroad for a semester or academic year. This study's sample population could differ in student characteristics from the population who chose to participate in a one-week or other short-term program. The data that was available from the 2006-2007 Open Doors Report would indicate that this study's sample population had larger percentages of females, lower percentages of students who identify as multiracial and much higher percentages of LAE majors than the general population of study abroad participants (Open Doors, 2007).

In addition to the lack of ability to compare the results to other campuses or UW-Platteville, the differences in characteristics between control group and treatment group would make it difficult to conclude if differences in development were only related to differences in treatment. Although the sample of students who were studying abroad were made up of comparable races, the respondents in the treatment group had higher percentages of female participants, higher percentages of LAE majors, a much smaller age range and had a larger percentage of students further along in their education. Without utilizing comparable treatment and control groups or without controlling for differences, it would make it impossible to conclude that differences were related to the treatment rather than differences in the respective group's characteristics.

Additionally, international education programs have such variations in level of immersion and interaction with the local population, that it would be hard to generalize outcomes from one program to another. For instance, some programs are called "island" programs. In these programs, students live in isolation with other Americans, typically take classes with their American cohorts and have limited contact with the local culture. The opposite of this type of program would be an exchange program or direct enrollment in a

foreign university. In these types of programs, students would live with locals on-campus or off-campus, attend classes with the local population and have limited contact with other students from their home university. Additionally, universities vary greatly in their pre-departure orientation programs and program curriculum. Since research found that level of immersion, juxtaposition of different cultures and adaptation to a culture were important in cognitive development (Leung, et.al., 2008; Maddux, Galinsky, 2009; Tadmor, et.al., 2009), program differences might have an important mediating effect on student developmental outcomes. For this reason, program design and curriculum features should be considered when assessing developmental outcomes, and one should not assume that positive outcomes of one international education program would generalize to all other programs.

Perhaps most importantly, the low participation rates and small sample of participants who completed both pre-semester and post-semester measures precluded any value-added conclusions. There were only sixteen respondents who replied to both the pre-semester and post-semester; three of which were studying abroad. Thus, it was not possible to compare changes in cognitive development or changes in ethnocentrism. Consequently, it was not possible to determine if variations were from individual differences in respondents or from studying abroad.

### **Recommendations**

The most important recommendation would be that future studies use different designs for more reliable data collection. For example, to ensure that the sample population studying domestically was comparable to the population currently studying abroad, one could compare students in the process of applying to study abroad programs and students who were currently studying on an international education program. In order to get a better response rate, one could use paper surveys with the study abroad group during mandatory pre-departure orientations and voluntary re-entry sessions. It should be noted that since

participation in re-entry sessions was not mandatory, there would still likely be far fewer participants completing post-semester surveys than completing the pre-semester surveys. Another design alteration would be to send several reminder emails to participants to increase response rates.

If future studies were able to increase response rates for both pre-semester and post-semester measures, one could compare developmental change over the course of a semester rather than just comparing score levels between treatment and control groups. Since treatment and control groups may begin the semester at different levels development, only comparing end of the semester scores might not accurately capture rates of change. For example, if one group started at a much higher level of ethnocentrism, it may have a greater change, but still have higher end of the semester scores in ethnocentrism. Therefore, rates of change would be a more meaningful comparison for development. This would also make it possible to investigate the unique developmental contributions of studying abroad.

Future studies should also research what particular aspect of the programs affect development. Understanding what aspects of the intervention were successful could further inform program and curriculum development for international education programs. For instance, if immersion in a foreign culture was a necessary component to cognitive development, it might call into question the efficacy of “island” programs. If the juxtaposition of two cultural value systems increased cognitive development, then perhaps it would be a valuable part of the curriculum to include mandatory classes which explore home-host country cultural differences or reflection journals asking students to compare and contrast their home and host country. To study effective models and curriculum, it might be important to begin with qualitative measures asking students to report which aspects of the trip were most challenging, thought-provoking and impactful. Since many programs only have one or two participants each semester, the study would need to gather data on

engagement and objective developmental outcome measures for each program over the course of several semesters in order to get samples large enough to investigate the mediating effects of program model and curriculum. With the knowledge of which programs and which aspects of programs had been most successful, the International Education office could improve existing programs and incorporate important aspects into newly developed programs.

One could also use other instruments or conceptualizations to more accurately measure student development. Instruments which objectively measure production rather than self-reported preferences could increase accuracy and predictive value of the data. Also, over the course of four years in college, the average college student typically only moves from Dualistic thinking position 2-3 to a Multiplicistic thinking position of 3-4 on Perry's scheme of cognitive development (Pascarella, Terenzini, 2005, p. 163). Granello's (2010) study also found that there was not rapid development of cognitive complexity; he found that practicing counselors were in the early multiplicistic for the first 5-10 years of practicing and then moved to late multiplicistic or early relativistic position after 10 or more years of practicing. Therefore, it might be difficult for the LEP instrument to accurately capture the development differences which occur for a treatment which lasts only the course of a semester. A different measure of cognitive complexity or perhaps a different conceptualization of cognitive development would have been a better choice for this study.

Lastly, it would be interesting to further explore the relationship between ethnocentrism and cognitive complexity. One could explore whether there was a reciprocal effect or if one affected change in the other. It would also be interesting to see if certain practices and interventions which affect one concept could have an inadvertent side-effect on the other. For instance, if multicultural programs aimed at decreasing prejudice and ethnocentrism would also affect a student's intellectual development, or if a program meant

to improve critical thinking skills could affect someone's response to cross-cultural experiences.

## References

- About Platteville (2011). *In UW Platteville ...What college should be*. Retrieved from:  
[www.uwplatt.edu/academics/catalogs/undergraduate/current/about.html#mission](http://www.uwplatt.edu/academics/catalogs/undergraduate/current/about.html#mission)
- Baars, J., Scheepers, P. (1993). Theoretical and methodological foundations of the authoritarian personality. *Journal of History and Behavioral Sciences*. 29, 345-353
- Benêt-Martinez, V., Lee, F., & Leu, J. (2006). Biculturalism and cognitive complexity: *Journal of Cross-Cultural Psychology*. 37(4), 386-407.
- Bizumic, B., Duckitt, J., Popadic, D., Dru, V., Krauss, S. (2009). A cross-cultural investigation into a reconceptualization of ethnocentrism. *European Journal of Social Psychology*. 39, 871-899.
- Black, H., Duhon, D. (2006). Assessing the impact of business study abroad programs on cultural awareness and personal development. *Journal of Education for Business*. January/February 2006.
- Borden, A. (2007). The impact of service-learning on ethnocentrism in an intercultural communication course. *Journal of Experiential Education*. 30 (2) 171-183
- Brown, R. (2000). Social Identity Theory: past achievements, current problems and future challenges. *European Journal of Social Psychology*. 30, 745-778.
- College Portrait of Undergraduate Education: Voluntary System of Accountability (nod.). *University of Wisconsin – Platteville College Portrait*. Retrieved:  
<http://www.collegeportraits.org/WI/UW-Platteville/>
- Crisp, R., Turner, R. (2011). Cognitive adaptation to the experience of social and cultural diversity. *Psychological Bulletin*. 137 (2), 242-266.
- DeLoach, S., Saliba, L., Smith, V., & Tiemann, T. (2003). Developing a global mindset through short-term study abroad: a group discussion approach. *Journal of Teaching in International Business*. 15(1), 37-59.

- de Oliveira, E., Braun, J., de Oliveira, S., Carlson, T. (2009). Student's attitudes towards foreign-born and domestic instructors. *Journal of Diversity in Higher Education*. 2 (2) 113-125.
- Giroux, D. (2009). *UW regents discuss budget allocation this week*. Retrieved: [www.wisconsin.edu/news/2009/r090302.htm](http://www.wisconsin.edu/news/2009/r090302.htm)
- Granello, D. (2010). Cognitive complexity among practicing counselors: how thinking changes with experience. *Journal of Counseling Development*, Winter 2010 (88).
- Hill, B., Thomas, N. (2005). Making sense of Bali: unintended outcomes of study abroad programs. *Teaching Education*.. 16 (3), 197-211
- Hopkins, J. R. (1999). Studying abroad: a form of experiential education: *Liberal education*, 85(3), 36-41. Institute of International Education. (2005) *Open Doors: Report on International Educational Exchange*.
- Ismail, B., Morgan, M., Hayes, K. (2006). Effect of short study abroad course on student openness to diversity. *Journal of Food Science Education*. 1, 16-18.
- International Programs. (2008). *Mission and Purpose*. Retrieved from: <http://www.uwplatt.edu/intprog/mission.html>
- King, P., Shuford, B. (1996). A multicultural view is a more cognitively complex view. *American Behavioral Scientist*. 40 (2), 153-164.
- Leung, A., Maddux, W., Galinsky, A., Chiu, C. (2008). Multicultural experience enhances creativity: the when and how. *American Psychologist*. 63 (3), 169-181.
- Love, P., Guthrie, V. (1999). *Understanding and applying cognitive development theory*. San Francisco, CA: Jossey-Bass Inc.
- Maddux, W., & Galinsky, A. (2009). Cultural borders and mental barriers: The relationship between living abroad and creativity. *Journal of Personality and Social Psychology*, 96(5), 1047-1061. doi:10.1037/a0014861.

- Maddux, W., Adam, H., Galinsky, A. (2010). When in Rome ... learn why the Romans do what they do: how multicultural learning experiences facilitate creativity. *Personality and Social Psychology Bulletin*. 36(6), 731-741.
- Miller-Perrin, C., Thompson, D. (2010). The development of vocational calling, identity, and faith in college students: a preliminary study of the impact of study abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*. 19, 87-103.
- Mines, R. (1982). Student development assessment techniques. In G. R. Hanson (Ed.). *Measuring Student Development. New Directions for Student Services, no. 20.* (p.65-91) San Francisco: Jossey-Bass, December 1982.
- Moore, W. (1989). The learning environment preferences: exploring the construct validity of an objective measure of the Perry scheme of intellectual development. *Journal of College Student Development*. 30, 504-514
- Morphew, C., & Hartley, M. (2006). Mission Statements: A Thematic Analysis of Rhetoric across Institutional Type. *Journal of Higher Education*, 77(3), 456-471.
- Negy, C., Shreve, T., Jensen, B., Uddin, N., (2003). Ethnic identity, self-esteem and ethnocentrism: A study of Social Identity Theory versus Multicultural Theory of Development. *Cultural diversity and ethnic minority psychology*. 9 (4), 333-344.
- Neuliep, J. W., & McCroskey, J.C. (1997). The development of a U.S. and generalized ethnocentrism scale. *Communication Research Reports*, 14, 385-398.
- Neuliep, J. , 2003-05-27 "Assessing the Reliability and Validity of the Generalized Ethnocentrism Scale" *Paper presented at the annual meeting of the International Communication Association, Marriott Hotel, San Diego, CA Online <.PDF>*.
- 2009-05-26 from [http://www.allacademic.com/meta/p111625\\_index.html](http://www.allacademic.com/meta/p111625_index.html)

Open Doors (2008) Report on International Education Exchange

University of Wisconsin – Platteville. (2007). Open Doors U.S. Study Abroad Survey: Fall 2006 through Summer 2007.

Pascarella, E., Terenzini, P. (2005). *How College Affects Students*. San Francisco, CA. Jossey-Bass Inc.

Pettijohn II, T., Naples, G. (2009). Reducing ethnocentrism in U.S. college students by completing a cross-cultural psychology course. *The Open Social Science Journal*. 2, 1-6.

Plant, W. (1958). Changes in ethnocentrism associated with a four-year college education. *Journal of Educational Psychology*. 49 (3), 162-165

Pratto, F., Glasford, D. (2008). Ethnocentrism and the value of a human life. *Journal of Personality and Social Psychology*. 95 (6), 1411-1428

Sandell, E. (2007). Impact of international education experiences on the undergraduate students. *The Delta Kappa Gamma Bulletin*.

Sue, D. (2004). Whiteness and ethnocentric monoculturalism: making the ‘invisible’ visible. *American Psychologist*. 59 (8), 761-769

Tadmor, C., Tetlock, P., Peng, K. (2009). Acculturation strategies and integrative complexity: the cognitive implications of biculturalism. *Journal of Cross-Cultural Psychology*. 40 (1), 105-139.

## APPENDIX A

### **Subject Consent Form for Participation of Human Subjects in Research University of Wisconsin-Platteville**

I hereby consent to take part in research sponsored by the Department of Counselor Education and directed by Molly Mroch, B.S., under the supervision of Dominic Barraclough Ph.D. at the University of Wisconsin-Platteville. I understand that:

1. **Purpose:** The purpose of this research is to explore the relationship between studying abroad and cognitive development. It will also investigate the relationship between ethnocentrism and cognitive complexity.
2. **Procedure:** Participation in this research will take approximately 20 minutes and will involve completion of two surveys and providing demographic information.
3. **Risks:** No immediate risks are anticipated from participating in this project other than the loss of time taken to complete the research surveys.
4. **Benefits:** Students who participate could help give insight into the effect of studying abroad and raise financial, academic and administrative support for increasing the accessibility of study abroad to the student body. Additionally, students who complete pre-semester and post-semester surveys will be entered into a drawing to win \$25.
5. **Rights as a Participant:** The information gathered will be used in an anonymous and confidential form. Summarized results will not be released in any way that could identify you. The data collected from the surveys will be kept until after completion of the study. Participation is VOLUNTARY. You can withdraw consent at any time and have the results of the participation, to the extent that is identifiable to yourself, removed from the experimental record or destroyed. If participation is ended for any reason, it will NOT result in any penalty for the participant. Participants will be told of any new, significant information that might affect willingness to participate in the research.
6. **Questions:** Any additional questions or concerns can be addressed to the directors of this study who may be contacted at 608-778-4144.

This consent form is for your information only. Do not sign or return this form. Completing the online survey indicates your understanding of and consent to this information.

---

Research at the University of Wisconsin-Platteville which involves human participants is carried out under the supervision of the Institutional Review Board. If you have any questions about your treatment as a participant in this study, please call or write Ms. Kathy Lomax, Office of Sponsored Programs, (608) 342-1456.

---

APPENDIX B  
(PRE) Demographic Questionnaire

Age: \_\_\_\_\_ Sex: \_\_\_\_\_ Nationality: \_\_\_\_\_

Race (Check all that apply):  
 American Indian or Alaskan Native  
 Asian-American  
 Black or African American  
 Hispanic or Latino(a) or Chicano(a)  
 Native Hawaiian or Pacific-Islander  
 White or Caucasian (Non-Hispanic)  
 Other: \_\_\_\_\_

Major/Minor: \_\_\_\_\_ Year in School: \_\_\_\_\_

**1) This current semester you are studying:**

domestically at UWP       abroad in a foreign country

**2) Have you attended an event celebrating or educating about diversity in the last academic year?**

Yes       No

**3) In the last academic year, have you attended a class which educated about diversity?**

Yes       No

**4) Have you sought contact with students who identify themselves as culturally different than yourself?**

Yes       No

**5) Have you had relationships with students who identify themselves as culturally different than yourself?**

Yes       No

**How many of the people with whom you have a significant relationship would identify as culturally differently than yourself?**

All       Most       Half       Less than Half       None

**6) Have you ever lived in a foreign country (not including studying abroad for college credit)?**

Yes       No

**-If so, in which country did you live?:** \_\_\_\_\_

**-If so, for how long?** Less than 8 weeks      8-12 weeks      1 semester      1 year  
Other: \_\_\_\_\_

**-While living in the foreign country, with whom did you predominantly interact in a meaningful way?**

Mostly Americans  
 Equally Americans and those of a different nationality than myself  
 Mostly those of a different nationality than myself

7) In previous semesters, have you ever studied for college credit in a foreign country?  
Yes                      No

-Year: \_\_\_\_\_ Semester: \_\_\_\_\_ Program  
Location: \_\_\_\_\_

-If so, for how long? Less than 8 weeks      8-12 weeks      1 semester      1 year  
Other: \_\_\_\_\_

**-While studying in the foreign country, with whom did you predominantly interact in a meaningful way?**

- Mostly Americans
- Equally Americans and those of a different nationality than myself
- Mostly those of a different nationality than myself

**-While abroad did you engage in the following activities? (Check all that apply)**

- Course-related field trip
- Weekend field trip
- Living among people of a different nationality
- Making friends with people of a different nationality
- Living in the home of someone from the local culture
- Joined a student club/organization/sports team
- Independent travel
- Attended a local cultural event, such as: play, concert, gallery, sporting event, etc.
- Held a job, internship or performed volunteer work

APPENDIX C  
(POST) Demographic Questionnaire

Age: \_\_\_\_\_ Sex: \_\_\_\_\_ Nationality: \_\_\_\_\_

Race (Check all that apply):  
 American Indian or Alaskan Native  
 Asian-American  
 Black or African American  
 Hispanic or Latino(a) and Chicano(a)  
 Native Hawaiian or Pacific-Islander  
 White or Caucasian (Non-Hispanic)  
 Other: \_\_\_\_\_

Major/Minor: \_\_\_\_\_ Year in School: \_\_\_\_\_

1) **This past semester you studied:** domestically at UWP abroad in a foreign country

**-If you studied abroad in a foreign country:**

**Program Location:** \_\_\_\_\_

**-If so, for how long?** Less than 8 weeks    8-12 weeks    1 semester    1 year  
Other: \_\_\_\_\_

**-While studying in the foreign country, with whom did you predominantly interact socially?**

Mostly Americans  
 Equally Americans and those of a different nationality than myself  
 Mostly those of a different nationality than myself

**-While abroad did you engage in the following activities? (Check all that apply)**

Course-related field trip  
 Weekend field trip  
 Living among people of a different nationality  
 Making friends with people of a different nationality  
 Living in the home of someone from the local culture  
 Joined a student club/organization/sports team  
 Independent travel  
 Attended a local cultural event, such as: play, concert, gallery, sporting event, etc.  
 Held a job, internship or performed volunteer work

2) **During this past semester, have you attended an event celebrating or educating about diversity?**                      Yes                      No

3) **During this past semester, have you attended a class educating about diversity?**  
    Yes                      No

**4) During this past semester, have you sought contact with students who identify themselves as culturally different than yourself?**

Yes                      No

**5) During this past semester, have you had relationships with students who identify themselves as culturally different than yourself?**

Yes                      No

**During this past semester, how many of the people with whom you have a significant relationship would identify as culturally differently than yourself?**

\_\_\_ All                  \_\_\_ Most              \_\_\_ Half              \_\_\_ Less than Half              \_\_\_ None

## APPENDIX D

### **Ethnocentrism Scale**

Below are items that relate to the cultures of different parts of the world. Work quickly and record your first reaction to each item. There are no right or wrong answers. Please indicate the degree to which you agree or disagree with each item using the following five-point scale: Strongly Disagree = 1; Disagree = 2; Neutral = 3; Agree = 4; Strongly Agree = 5;

- \_\_\_\_\_ 1. Most other cultures are backward compared to my culture.
- \_\_\_\_\_ 2. My culture should be the role model for other cultures.
- \_\_\_\_\_ 3. People from other cultures act strange when they come to my culture.
- \_\_\_\_\_ 4. Lifestyles in other cultures are just as valid as those in my culture.
- \_\_\_\_\_ 5. Other cultures should try to be more like my culture.
- \_\_\_\_\_ 6. I am not interested in the values and customs of other cultures.
- \_\_\_\_\_ 7. People in my culture could learn a lot from people in other cultures.
- \_\_\_\_\_ 8. Most people from other cultures just don't know what's good for them.
- \_\_\_\_\_ 9. I respect the values and customs of other cultures.
- \_\_\_\_\_ 10. Other cultures are smart to look up to our culture.
- \_\_\_\_\_ 11. Most people would be happier if they lived like people in my culture.
- \_\_\_\_\_ 12. I have many friends from different cultures.
- \_\_\_\_\_ 13. People in my culture have just about the best lifestyles of anywhere.
- \_\_\_\_\_ 14. Lifestyles in other cultures are not as valid as those in my culture.
- \_\_\_\_\_ 15. I am very interested in the values and customs of other cultures.
- \_\_\_\_\_ 16. I apply my values when judging people who are different.
- \_\_\_\_\_ 17. I see people who are similar to me as virtuous.
- \_\_\_\_\_ 18. I do not cooperate with people who are different.
- \_\_\_\_\_ 19. Most people in my culture just don't know what is good for them.
- \_\_\_\_\_ 20. I do not trust people who are different.
- \_\_\_\_\_ 21. I dislike interacting with people from different cultures.
- \_\_\_\_\_ 22. I have little respect for the values and customs of other cultures.

## APPENDIX E

### **LEARNING ENVIRONMENT PREFERENCES**

This survey asks you to describe what you believe to be the most significant issues in your **IDEAL LEARNING ENVIRONMENT**. The survey consists of five sections, each representing a different aspect of learning environments. In each section, you are presented with a list of specific statements about that particular area. Try not to focus on a specific class or classes as you think about these items; focus on their significance in an *ideal* learning environment *for you*.

We ask that you do two things for each section of the instrument:

1. Please **rate** each item of the section (using the 1-4 scale provided below) in terms of its significance or importance to your learning.
2. Review the list for your top-rated items (those you rated 4, or 3 if you have no items rated 4) and **rank** the three most important items to you as you think about your *ideal learning environment* by writing *the item numbers* on the appropriate spaces at the bottom of the answer sheet.

Please mark your answers on the separate answer sheet provided, and be sure to indicate both your ratings of individual items **and** *your ranking of the top 3 items in each section*. It is very important that you indicate your top three choices for each question area by writing the ITEM NUMBER in the spaces provided (1st choice, 2nd choice, 3rd choice).

Rating Scale:			
1	2	3	4
Not at all significant	Somewhat significant	Moderately significant	Very significant

**DOMAIN ONE:  
COURSE CONTENT/VIEW OF LEARNING**

**MY IDEAL LEARNING ENVIRONMENT WOULD:**

1. Emphasize basic facts and definitions.
2. Focus more on having the right answers than on discussing methods or how to solve problems.
3. Insure that I get all the course knowledge from the professor.
4. Provide me with an opportunity to learn methods and solve problems.
5. Allow me a chance to think and reason, applying facts to support my opinions.
6. Emphasize learning simply for the sake of learning or gaining new expertise.
7. Let me decide for myself whether issues discussed in class are right or wrong, based on my own interpretations and ideas.
8. Stress the practical applications of the material.
9. Focus on the socio-psycho, cultural and historical implications and ramifications of the subject matter.
10. Serve primarily as a catalyst for research and learning on my own, integrating the knowledge gained into my thinking.
11. Stress learning and thinking on my own, not being spoonfed learning by the instructor.
12. Provide me with appropriate learning situations for thinking about and seeking personal truths.
13. Emphasize a good positive relationship among the students and between the students and teacher.

PLEASE BE SURE TO REVIEW THE ABOVE LIST AND MARK YOUR THREE MOST SIGNIFICANT ITEMS (BY ITEM NUMBER) IN THE LINES PROVIDED ON THE ANSWER SHEET.

---

**Rating Scale:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Not at all significant</b>	<b>Somewhat significant</b>	<b>Moderately significant</b>	<b>Very significant</b>

**DOMAIN TWO:  
ROLE OF INSTRUCTOR**

**IN MY IDEAL LEARNING ENVIRONMENT, THE TEACHER WOULD:**

1. Teach me all the facts and information I am supposed to learn.
2. Use up-to-date textbooks and materials and teach from them, not ignore them.
3. Give clear directions and guidance for all course activities and assignments.
4. Have only a minimal role in the class, turning much of the control of course content and class discussions over to the students.
5. Be not just an instructor, but more an explainer, entertainer and friend.
6. Recognize that learning is mutual--individual class members contribute fully to the teaching and learning in the class.
7. Provide a model for conceptualizing living and learning rather than solving problems.
8. Utilize his/her expertise to provide me with a critique of my work.
9. Demonstrate a way to think about the subject matter and then help me explore the issues and come to my own conclusions.
10. Offer extensive comments and reactions about my performance in class (papers, exams, etc.).
11. Challenge students to present their own ideas, argue with positions taken, and demand evidence for their beliefs.
12. Put a lot of effort into the class, making it interesting and worthwhile.
13. Present arguments on course issues based on his/her expertise to stimulate active debate among class members.

**PLEASE BE SURE TO REVIEW THE ABOVE LIST AND MARK YOUR THREE MOST SIGNIFICANT ITEMS (BY ITEM NUMBER) IN THE LINES PROVIDED ON THE ANSWER SHEET.**

---

**Rating Scale:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Not at all significant</b>	<b>Somewhat significant</b>	<b>Moderately significant</b>	<b>Very significant</b>

**DOMAIN THREE:  
ROLE OF STUDENT/PEERS**

**IN MY IDEAL LEARNING ENVIRONMENT, AS A STUDENT I WOULD:**

1. Study and memorize the subject matter--the teacher is there to teach it.
2. Take good notes on what's presented in class and reproduce that information on the tests.
3. Enjoy having my friends in the class, but other than that classmates don't add much to what I would get from a class.
4. Hope to develop my ability to reason and judge based on standards defined by the subject.
5. Prefer to do independent research allowing me to produce my own ideas and arguments.
6. Expect to be challenged to work hard in the class.
7. Prefer that my classmates be concerned with increasing their awareness of themselves to others in relation to the world.
8. Anticipate that my classmates would contribute significantly to the course learning through their own expertise in the content.
9. Want opportunities to think on my own, making connections between the issues discussed in class and other areas I'm studying.
10. Take some leadership, along with my classmates, in deciding how the class will be run.
11. Participate actively with my peers in class discussions and ask as many questions as necessary to fully understand the topic.
12. Expect to take learning seriously and be personally motivated to learn the subject.
13. Want to learn methods and procedures related to the subject--learn how to learn.

**PLEASE BE SURE TO REVIEW THE ABOVE LIST AND MARK YOUR THREE MOST SIGNIFICANT ITEMS (BY ITEM NUMBER) IN THE LINES PROVIDED ON THE ANSWER SHEET.**

---

**Rating Scale:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Not at all significant</b>	<b>Somewhat significant</b>	<b>Moderately significant</b>	<b>Very significant</b>

**DOMAIN FOUR:  
CLASSROOM ATMOSPHERE/ACTIVITIES**

IN MY IDEAL LEARNING ENVIRONMENT, THE CLASSROOM ATMOSPHERE AND ACTIVITIES WOULD:

1. Be organized and well-structured--there should be clear expectations set (like a structured syllabus that's followed).
2. Consist of lectures (with a chance to ask questions) because I can get all the facts I need to know more efficiently that way.
3. Include specific, detailed instructions for all activities and assignments.
4. Focus on step-by-step procedures so that if you did the procedure correctly each time, your answer would be correct.
5. Provide opportunities for me to pull together connections among various subject areas and then construct an adequate argument.
6. Be only loosely structured, with the students themselves taking most of the responsibility for what structure there is.
7. Include research papers, since they demand that I consult sources and then offer my own interpretation and thinking.
8. Have enough variety in content areas and learning experiences to keep me interested.
9. Be practiced and internalized but be balanced by group experimentation, intuition, comprehension, and imagination.
10. Consist of a seminar format, providing an exchange of ideas so that I can critique my own perspectives on the subject matter.
11. Emphasize discussions of personal answers based on relevant evidence rather than just right and wrong answers.
12. Be an intellectual dialogue and debate among a small group of peers motivated to learn for the sake of learning.
13. Include lots of projects and assignments with practical, everyday applications.

PLEASE BE SURE TO REVIEW THE ABOVE LIST AND MARK YOUR THREE MOST SIGNIFICANT ITEMS (BY ITEM NUMBER) IN THE LINES PROVIDED ON THE ANSWER SHEET.

---

**Rating Scale:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Not at all significant</b>	<b>Somewhat significant</b>	<b>Moderately significant</b>	<b>Very significant</b>

**DOMAIN FIVE:  
EVALUATION PROCEDURES**

**EVALUATION PROCEDURES IN MY IDEAL LEARNING ENVIRONMENT WOULD:**

1. Include straightforward, not "tricky," tests, covering only what has been taught and nothing else.
2. Be up to the teacher, since s/he knows the material best.
3. Consist of objective-style tests because they have clear-cut right or wrong answers.
4. Be based on how much students have improved in the class and on how hard they have worked in class.
5. Provide an opportunity for me to judge my own work along with the teacher and learn from the critique at the same time.
6. Not include grades, since there aren't really any objective standards teachers can use to evaluate students' thinking.
7. Include grading by a prearranged point system (homework, participation, tests, etc.), since I think it seems the most fair.
8. Represent a synthesis of internal and external opportunities for judgment and learning enhancing the quality of the class.
9. Consist of thoughtful criticism of my work by someone with appropriate expertise.
10. Emphasize essay exams, papers, etc. rather than objective-style tests so that I can show how much I've learned.
11. Allow students to demonstrate that they can think on their own and make connections not made in class.
12. Include judgments of the quality of my oral and written work as a way to enhance my learning in the class.
13. Emphasize independent thinking by each student, but include some focus on the quality of one's arguments and evidence.

**PLEASE BE SURE TO REVIEW THE ABOVE LIST AND MARK YOUR THREE MOST SIGNIFICANT ITEMS (BY ITEM NUMBER) IN THE LINES PROVIDED ON THE ANSWER SHEET.**

---

APPENDIX F  
**LEARNING ENVIRONMENT PREFERENCES ANSWER SHEET**

STUDENT CODE NUMBER: \_\_\_\_\_

<b>Rating Scale:</b>	1 Not at all significant	2 Somewhat significant	3 Moderately significant	4 Very significant
----------------------	--------------------------------	------------------------------	--------------------------------	--------------------------

*For each domain, record your rating of each item (using the rating scale described above) on the lines by the appropriate item numbers.*

**DOMAINS**

Course Content/ View of Learning	Role of Instructor	Role of Student/Peers	Classroom Atmosphere	Evaluation Procedures
1. _____	1. _____	1. _____	1. _____	1. _____
2. _____	2. _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____	4. _____
5. _____	5. _____	5. _____	5. _____	5. _____
6. _____	6. _____	6. _____	6. _____	6. _____
7. _____	7. _____	7. _____	7. _____	7. _____
8. _____	8. _____	8. _____	8. _____	8. _____
9. _____	9. _____	9. _____	9. _____	9. _____
10. _____	10. _____	10. _____	10. _____	10. _____
11. _____	11. _____	11. _____	11. _____	11. _____
12. _____	12. _____	12. _____	12. _____	12. _____
13. _____	13. _____	13. _____	13. _____	13. _____

Now record your **TOP THREE CHOICES** for each domain area by writing the **ITEM NUMBERS**, not your ratings, of these choices in the spaces provided below. (For example, if you consider item # 2 the most significant issue for your own learning related to the domain of "Role of Instructor," write "2" next to "1<sup>st</sup>" under that domain below.)

<u>COURSE CONTENT</u>	<u>ROLE OF INSTRUCTOR</u>	<u>ROLE OF STUDENT/PEERS</u>	<u>CLASSROOM ATMOSPHERE</u>	<u>EVALUATION PROCEDURES</u>
1ST _____	1ST _____	1ST _____	1ST _____	1ST _____
2ND _____	2ND _____	2ND _____	2ND _____	2ND _____
3RD _____	3RD _____	3RD _____	3RD _____	3RD _____

APPENDIX G

**Table 1G  
Demographic Information**

	Study Abroad		Study Domestic	
<b>Age</b>	20.3571	Mean Age	21.2625	Mean Age
	0.84190	Std Deviation	3.01366	Std Deviation
	2 (13.3%)	19	15 (16.5%)	18-19
	11 (73.3%)	20-21	42 (51.8%)	20-21
	1 (6.7%)	22-23	14 (17.3%)	22-23
	0 (0.0%)	24+	9 (10.9%)	24+ (24-38)
<b>Sex</b>	9 (64.3%)	Female	38 (47.5%)	Female
	5 (35.7%)	Male	42 (52.5%)	Male
<b>Race</b>	0 (0%)	American Indian or Alaskan Native	0 (0%)	American Indian or Alaskan Native
	0 (0%)	Asian-American	0 (0%)	Asian-American
	0 (0%)	Black or African American	0 (0%)	Black or African American
	0 (0%)	Hispanic or Latino(a) and Chicano(a) Native	2 (2.5%)	Hispanic or Latino(a) and Chicano(a) Native
	0 (0%)	Hawaiian or Pacific-Islander	0 (0%)	Hawaiian or Pacific-Islander
	0 (0%)	White or Caucasian (Non-Hispanic)	75 (93.8%)	White or Caucasian (Non-Hispanic)
	14 (100%)	White or Caucasian (Non-Hispanic)	2 (2.5%)	White or Caucasian (Non-Hispanic) & American Indian or Alaskan Native
		1 (1.3%)	White or Caucasian (Non-Hispanic) & Asian-American	
<b>Year in School</b>	3.1429	Mean Year	2.9563	Mean Year
	0.66299	Std. Deviation	1.18587	Std. Deviation
	2 (14.3%)	Sophomore (2)	34 (42.5%)	Sophomore (2)
	0 (0%)	Sophomore+ (2.5)	1 (1.3%)	Sophomore+ (2.5)
	8 (57.1%)	Junior (3)	15 (18.8%)	Junior (3)
	4 (28.6%)	Senior (4)	21 (26.3%)	Senior (4)
	0 (0%)	Senior+ (5)	5 (6.3%)	Senior+ (5)
	0 (0%)	Senior++ (6 <sup>1</sup> )	2 (2.5%)	Senior++ (6 <sup>1</sup> )
0 (0%)	Transfer/ Not Answered	2 (2.5%)	Transfer/ Not Answered	
<b>College</b>	3 (21.4%)	BILSA	27 (33.8%)	BILSA
	2 (14.3%)	EMS	20 (25%)	EMS
	7 (50.0%)	LAE	27 (33.8%)	LAE
	2 (14.3%)	Mixed	6 (7.5%)	Mixed
	0 (0%)	Undecided/ Not Answered	0 (0%)	Undecided/ Not Answered

APPENDIX H

Table 2H

Participation in Multicultural/Cross-Cultural Experiences

Pre-Semester Questionnaire	Study	Abroad	Study	Domestic
Previously Lived Abroad	0 (0.0%) 8 (57.1%) 6 (42.9%)	Yes No Not Answered	8 (10.0%) 66 (82.5%) 6 (7.5%)	Yes No Not Answered
Previously Studied Abroad	0 (0.0%) 6 (42.9%) 8 (57.1%)	Yes No Not Answered	5 (6.3%) 69 (86.3%) 6 (7.5%)	Yes No Not Answered
Pre: Have you attended an event celebrating or educating about diversity in the last academic year?	7 (50.0%) 1 (7.1%) 6 (42.9%)	Yes No Not Answered	37 (46.3%) 37 (46.3%) 6 (7.5%)	Yes No Not Answered
Pre: In the last academic year, have you attended a class which educated about diversity?	6 (42.9%) 2 (14.3%) 6 (42.9%)	Yes No Not Answered	49 (61.3%) 25 (31.1%) 6 (7.5%)	Yes No Not Answered
Pre: Have you sought contact with students who identify themselves as culturally different than yourself?	8 (57.1%) 0 (0%) 6 (42.9%)	Yes No Not Answered	38 (47.5%) 36 (45.0%) 6 (7.5%)	Yes No Not Answered
Pre: Have you had relationships with students who identify themselves as culturally different than yourself?	8 (57.1%) 0 (0%) 6 (42.9%)	Yes No Not Answered	54 (67.5%) 20 (25.0%) 6 (7.5%)	Yes No Not Answered
Pre: How many of the people with whom you have a significant relationship would identify as culturally different than yourself?	0 (0.0%) 2 (14.3%) 6 (42.9%) 0 (0.0%) 6 (42.9%)	Most Half Less Than Half None Not Answered	4 (5.0%) 6 (7.5%) 54 (67.5%) 11 (13.8%) 5 (6.3%)	Most Half Less Than Half None Not Answered
Post-Semester Questionnaire	Study	Abroad	Study	Domestic
Post: Have you attended an event celebrating or educating about diversity in the last academic year?	4 (28.6%) 5 (35.7%) 5 (35.7%)	Yes No Not Answered	9 (11.3%) 9 (11.3%) 62 (77.5%)	Yes No Not Answered
Post: In the last academic year, have you attended a class which educated about diversity?	3 (21.4%) 6 (42.9%) 5 (35.7%)	Yes No Not Answered	9 (11.3%) 9 (11.3%) 62 (77.5%)	Yes No Not Answered
Post: Have you sought contact with students who identify themselves as culturally different than yourself?	8 (57.1%) 1 (7.1%) 5 (35.7%)	Yes No Not Answered	10 (12.5%) 8 (10.0%) 62 (77.5%)	Yes No Not Answered
Post: Have you had relationships with students who identify themselves as culturally different than yourself?	9 (64.3%) 0 (0.0%) 5 (35.7%)	Yes No Not Answered	11 (12.5%) 7 (8.8%) 62 (77.5%)	Yes No Not Answered

APPENDIX I

**Table 3I**  
**Treatment Group Pre-Semester Cognitive Complexity Index Scores**  
**vs. Treatment Group Post-Semester Cognitive Complexity Index Scores**

<b>Survey</b>	<b>Mean CCI</b>	<b>Std. Deviation</b>
<b>Treatment Group Pre-Semester CCI (Studying Domestic) N = 3</b>	317.6667	42.02777
<b>Treatment Group Post-Semester CCI (Studying Domestic) N = 3</b>	310.0000	51.96152

Correlation: .776;  
 p = .434, no significant  
 difference.

APPENDIX J

**Table 4J**  
**Treatment Group Pre-Semester Ethnocentrism Scores**  
**vs. Treatment Group Post-Semester Ethnocentrism Scores**

<b>Survey</b>	<b>Mean Ethnocentrism Score</b>	<b>Std. Deviation</b>
<b>Treatment Group Pre-Semester CCI</b> (Studying Domestic) N = 3	34.3333	20.98412
<b>Treatment Group Post-Semester CCI</b> (Studying Domestic) N = 3	26.0000	6.55744

Correlation = .985,  
 p = .111, no significant  
 difference.

APPENDIX K

**Table 5K**  
**Treatment Group Post-Semester Cognitive Complexity Index Scores**  
**vs. Control Group Post-Semester Cognitive Complexity Index Scores**

Current Location	Mean CCI	Std. Deviation
<b>Control Group</b> (Studying Domestic) N = 18	328.7778	44.57717
<b>Treatment Group</b> (Studying Abroad) N = 9	354.1111	48.94753
Total N = 27	337.2222	46.73932

Sig. = .190, not significant

Tests of Between-Subjects Effects		Dependent Variable: Spring Post CCI				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3850.667 <sup>a</sup>	1	3850.667	1.818	.190	.068
Intercept	2798023.407	1	2798023.407	1321.117	.000	.981
Current Location	3850.667	1	3850.667	1.818	.190	.068
Error	52948.000	25	2117.920			
Total	3127207.000	27				
Corrected Total	56798.667	26				
a. R Squared = .068 (Adjusted R Squared = .031)						

APPENDIX L

**Table 6L**  
**Treatment Group Post-Semester Cognitive Complexity Scores (Position Preference)**  
**vs. Control Group Post-Semester Cognitive Complexity Scores (Position Preference)**

<b>Current Location</b>	<b>Mean Position Preference</b>	<b>Std. Deviation</b>
<b>Control Group</b> (Studying Domestic) N = 16	3.1250	.88506
<b>Treatment Group</b> (Studying Abroad) N = 7	3.2857	.75593
<b>Total</b> N = 23	3.1739	.83406

Sig. = .681, not significant

<b>Tests of Between-Subjects Effects</b>	Dependent Variable: Highest % Positions					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.126 <sup>a</sup>	1	.126	.174	.681	.008
Intercept	200.126	1	200.126	276.880	.000	.930
Current Location	.126	1	.126	.174	.681	.008
Error	15.179	21	.723			
Total	247.000	23				
Corrected Total	15.304	22				

a. R Squared = .008 (Adjusted R Squared = -.039)

APPENDIX M

**Table 7M**  
**Control Group Post-Semester Ethnocentrism Scores vs.**  
**Treatment Group Post-Semester Ethnocentrism Scores**

<b>Current Location</b>	<b>Mean Ethnocentrism Score</b>	<b>Std. Deviation</b>
<b>Control Group</b> (Studying Domestic) N = 18	28.3333	6.69504
<b>Treatment Group</b> (Studying Abroad) N = 9	26.5556	5.72519
Total N = 27	27.7407	6.33423

Sig. = .503, Not Significant

<b>Tests of Between-Subjects Effects</b>	Dependent Variable: Post-Semester Ethnocentrism					
<b>Source</b>	<b>Type III Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	<b>Partial Eta Squared</b>
<b>Corrected Model</b>	18.963 <sup>a</sup>	1	18.963	.463	.503	.018
<b>Intercept</b>	18076.741	1	18076.741	441.231	.000	.946
<b>Current Location</b>	18.963	1	18.963	.463	.503	.018
<b>Error</b>	1024.222	25	40.969			
<b>Total</b>	21821.000	27				
<b>Corrected Total</b>	1043.185	26				

a. R Squared  
 = .018 (Adjusted R  
 Squared = -.021)

APPENDIX N

**Table 8N**  
**Revised Generalized Ethnocentrism Scale**  
**vs. Learning Environment Preferences**

<b>Correlations</b>				
		<b>(GENE)</b>	<b>(CCI)</b>	<b>Position Preference</b>
<b>Revised General Ethnocentrism Scale (GENE)</b>	<b>Pearson Correlation</b>	1	<b>-.200*</b>	-.093
	<b>Sig. (1-tailed)</b>		.019	.182
	<b>N</b>	108	108	98
<b>Learning Environment Preferences (LEP) – Cognitive Complexity Index (CCI)</b>	<b>Pearson Correlation</b>	<b>-.200*</b>	1	<b>.705**</b>
	<b>Sig. (1-tailed)</b>	.019		.000
	<b>N</b>	108	108	98
<b>Learning Environment Preferences (LEP) – Cognitive Complexity Position Preference</b>	<b>Pearson Correlation</b>	-.093	<b>.705**</b>	1
	<b>Sig. (1-tailed)</b>	.182	.000	
	<b>N</b>	98	98	98

\*. Correlation is significant at the 0.05 level (1-tailed).

\*\*. Correlation is significant at the 0.01 level (1-tailed).

<b>Descriptive Statistics</b>			
	Mean	Std. Deviation	N
Ethnocentrism	28.8519	7.75177	108
CCI	335.2778	43.93747	108
Position Preference	3.1122	.88379	98