

The Pennsylvania State University

The Graduate School

College of Education

**PSYCHOSOCIAL EFFECTS OF STUDYING ABROAD:  
OPENNESS TO DIVERSITY**

A Thesis in

Higher Education

by

Thomas I. Wortman

© 2002 Thomas I. Wortman

Submitted in Partial Fulfillment  
of the Requirements  
for the Degree of

Doctor of Philosophy

May 2002

We approve the thesis of Thomas I. Wortman.

Date of Signature

---

Robert M. Hendrickson  
Professor of Education  
Thesis Advisor  
Chair of Committee

---

M. Lee Upcraft  
Affiliate Professor Emeritus of Education

---

Donald E. Heller  
Associate Professor of Education

---

Dennis S. Gouran  
Professor of Communication Arts and Sciences

---

Michael R. Laubscher  
Director of European Union Center  
Texas A&M University  
Special Signatory

---

Dorothy Evensen  
Associate Professor of Education  
In Charge of Graduate Programs in Higher Education

## **ABSTRACT**

The number of students from the United States who study abroad as part of their curriculum and the number of study abroad programs for students have been steadily increasing over the past 50 years. A review of literature in this area shows that little significant research addressed the effects of studying abroad upon students' openness to diversity. Further, most studies that have purported to measure study abroad outcomes have failed to use scientifically rigorous methods. This dissertation reports a quantitative study to determine what specific developmental outcome—in terms of openness to diversity—results from students at The Pennsylvania State University participating in an international education program or study outside the United States. The researcher compares measured results with those from a comparison group of students who remained in the United States.

Students who participated in study abroad programs in spring semester of 2001 displayed high levels of openness to diversity prior to their experience. The data from this research revealed a clear ceiling effect for the dependent variable. When all but the three top scores in the study's pretest were considered, students in the experimental group showed an increase in openness to diversity; the students who did not participate in an academic program overseas showed no change. Further data analysis indicated a significant increase in openness to diversity among students who studied in programs where they were fully integrated into the host culture, but not in students who studied in programs in which they were less than fully integrated. Finally, students studying in English speaking countries showed an increase in openness to diversity whereas those in non-English speaking countries showed no change.

This research provides contributions to the body of knowledge relating to the impact of study abroad programs and to the body of research on students and outcomes in higher education. Additional contributions from this research are in program development, administration, and evaluation among study abroad professionals.

## TABLE OF CONTENTS

<b>LIST OF FIGURES</b> .....	ix
<b>LIST OF TABLES</b> .....	x
<b>PREFACE</b> .....	xi
<b>ACKNOWLEDGEMENTS</b> .....	xiii
<b>CHAPTER 1: INTRODUCTION</b> .....	1
<b>THE PROBLEM</b> .....	2
<b>THE RESEARCH QUESTION</b> .....	4
<b>Background</b> .....	4
The case for internationalization .....	4
Study abroad outcomes .....	5
Openness to diversity .....	7
<b>The Question</b> .....	7
<b>Hypotheses</b> .....	8
<b>DEFINITIONS OF TERMS</b> .....	8
<b>Affective Development</b> .....	8
<b>Cognitive Development</b> .....	9
<b>Dependent Variables</b> .....	9
<b>Developmental Task</b> .....	9
<b>Identity Formation/Identity Development</b> .....	9
<b>Immersion Program</b> .....	10
<b>Island Program</b> .....	10
<b>Psychosocial Development</b> .....	10

<b>Study Abroad</b> .....	11
<b>CHAPTER 2: REVIEW OF LITERATURE</b> .....	12
<b>CONCEPTUAL FRAMEWORK</b> .....	12
<b>THEORETICAL FRAMEWORK</b> .....	13
<b>Psychosocial Theory</b> .....	13
<b>Chickering’s Theory</b> .....	18
<b>Study Abroad Outcomes</b> .....	19
Overview .....	19
Vector 1: Achieving Competence .....	21
Vector 2: Managing Emotions .....	24
Vector 3: Moving through Autonomy to Interdependence .....	25
Vector 4: Establishing Identity.....	26
Vector 5: Developing Mature Interpersonal Relationships.....	28
Vector 6: Developing Purpose .....	29
Vector 7: Developing Integrity .....	30
<b>Shortcomings of Prior Research</b> .....	30
<b>Openness to Diversity</b> .....	32
<b>SUMMARY</b> .....	32
<b>CHAPTER 3: METHODOLOGY</b> .....	34
<b>THE SETTING FOR THIS STUDY</b> .....	34
<b>DESIGN, POPULATION, AND SAMPLE</b> .....	35
<b>DATA COLLECTION PROCEDURES</b> .....	36
<b>Pretest</b> .....	36

<b>Posttest</b> .....	37
<b>Return Rate</b> .....	38
<b>VARIABLES</b> .....	39
<b>Dependent Variable</b> .....	39
<b>Independent Variables</b> .....	41
<b>Control Variables</b> .....	41
<b>Analyses</b> .....	44
<b>LIMITATIONS</b> .....	45
<b>SUMMARY</b> .....	46
<b>CHAPTER 4: ANALYSES</b> .....	47
<b>DEMOGRAPHICS</b> .....	47
<b>OPENNESS TO DIVERSITY</b> .....	52
<b>Measuring the Dependent Variable</b> .....	52
<b>Ceiling Effect</b> .....	56
<b>LANGUAGE OF HOST COUNTRY</b> .....	57
<b>AMOUNT OF PROGRAM INTEGRATION</b> .....	60
<b>DEMOGRAPHIC VARIABLES</b> .....	63
<b>SUMMARY</b> .....	64
<b>CHAPTER 5: CONCLUSIONS</b> .....	66
<b>SUGGESTIONS FOR FURTHER RESEARCH</b> .....	70
<b>IMPLICATIONS FOR PRACTICE</b> .....	74
<b>REFERENCES</b> .....	77
<b>APPENDIX A: APPROVAL FOR USE OF HUMAN SUBJECTS</b> .....	85

<b>APPENDIX B: PRETEST SURVEY .....</b>	<b>86</b>
<b>APPENDIX C: POSTTEST SURVEY .....</b>	<b>90</b>

## LIST OF FIGURES

Figure 1: Study abroad leading to Chickering's Vectors .....	14
Figure 2: Study abroad leading to Chickering's vector 5.....	15
Figure 3: Study abroad leading to openness to diversity .....	16

## LIST OF TABLES

Table 1: Chickering’s seven vectors .....	19
Table 2: Openness to diversity scale .....	40
Table 3: Operationalized variables.....	42
Table 4: Responses to demographic questions.....	49
Table 5: Responses to openness to diversity scale: pretest, posttest, mean change.....	53
Table 6: Paired samples t-tests comparing change in mean openness to diversity score by participation .....	54
Table 7: Paired samples t-tests comparing change in mean openness to diversity score by language of host country.....	58
Table 8: Paired samples t-tests comparing change in mean openness to diversity score in students studying in non-English speaking countries; by number of prior semesters foreign language .....	60
Table 9: Paired samples t-tests comparing change in mean openness to diversity score by amount of program integration .....	61
Table 10: Crosstabulation of language of host country with amount of integration into the host culture .....	62

## PREFACE

This dissertation had its genesis in the early fall of 1997. Michael Laubscher was Assistant Dean of International Programs and director of Penn State's study abroad programs at the time. From the earliest days, Michael instilled in me a love for international education and a commitment to the American students studying overseas. His own dissertation, which became the book *Encounters with Difference: Student Perception of the Role of Out-of-Class Experiences in Education Abroad* (Laubscher, 1994), explored study abroad experiences from the students' perspectives and identified what it is about study abroad programs that changes students. Dr. Laubscher wrote that he hopes his book can be a jumping off point for my career. It certainly has been.

Many long conversations with Dr. Laubscher, on topics both pointed and myriad, affected my own course of inquiry. How do students change? We wanted to know the answer to this. A serious academic and a talented practitioner, Michael showed me the benefits of marrying the two to reach a better understanding of our work and our students. Invariably our interactions turned toward the topic of worldview—how individuals look at the world outside of themselves. This is what I aimed at in this research by operationalizing worldview into openness to diversity and using that construct to discover how study abroad programs affect students.

Dr. Laubscher guided me in the earliest stages of this project, helped with early reviews of literature, and gave countless hours and invaluable direction to this project. He first mentioned that this research may be a good companion to his own work, and clarified my rambling questions and obtuse ideas. Throughout the process, he helped

with numerous drafts, put me in contact with colleagues who offered valuable insight and opinions, and helped to identify how this research might help the field.

## ACKNOWLEDGEMENTS

My father is my hero. We spent many hours sitting on the back porch or in the living room of our family home in St. Marys, Pennsylvania talking about all manner of things—whatever subject came our way. Dad and I seemed to have a special bond in conversation that transcended the years between us. He died in September of 2000 and left a sad hole in my life. But heroes live forever; his lessons in faith, in love, and in courage left an indelible mark on me. I thank my dad for giving me the nerve to start this process of higher education and the drive to see it through. Every day I wish he were here.

Mom is equally impressive. Her strength of character and willingness to give everything she has to help her children shows a commitment seen in few others. She believes in me and therefore allows me to believe in myself. She's always been there to support and counsel me. All my education is based on the powerful foundation that she built when I was just small. Without my mother, this project would never have been possible, and I thank her deeply and love her dearly.

All of my nine brothers and sisters add important features to the tapestry of my life. Each of them helped me with my learning and my dissertation in some important way. I owe a special debt to my brother Jim—a true educator who helped me in countless ways as this project developed and came to fruition. I'm also indebted to brother Rob because he displayed the mettle to return to college. He taught me that maybe I could, too.

I have had numerous teachers and professors who contributed to this project either directly or in ways less clearly connected. Although I owe gratitude to everyone who has

taught me in the classroom, several persons touched my life in other, special, ways and added to this project. Kathleen Ansell was my undergraduate advisor at Edinboro University. She may not remember encouraging me to get a doctorate even then, but this project is traced clearly to her mentoring and confidence. David DeCoster and Steve Ender were at IUP when I was earning my Master's degree there and were strong positive forces in my educational and professional careers.

I owe special thanks to my dissertation committee. Bob Hendrickson willingly offered his time and energy and suffered through countless drafts of this thesis, and still his comments were insightful and helpful. Thanks go to Lee Upcraft for his ongoing advice and candor; and to Dennis Gouran, who was particularly ready to lend a hand as the project began to develop. I am especially grateful for the help that Don Heller gave, especially in working through the logic of my analyses after coming onto my committee late in the process. Most of all, thank you to Michael Laubscher—a true class act. Without Michael's guidance, this project would never have started in the first place. More than a supervisor, Michael became a teacher, mentor, and a true and dear friend.

Penn State's University Office of International Programs is chock full of persons who freely gave invaluable support, assistance, and resources. Dean Beverly Lindsay always treated me as a professional and gave me unfettered access to her staff and her resources as this project developed. John Keller and Lew Jillings have been great mentors, but also confidants and true friends. The help of Jim Lynch, Margo Groff, Kristi Wormhoudt, and Chris Klein are all notable. Maria Poindexter was more than a colleague, but a dear friend and a terrific supporter throughout the process. Kris Burris

remained cheerful and helpful, even when I was pretty demanding of her time. And I mustn't forget Kelli Burns, who was most useful as my personal humility police officer.

Jennifer Kennedy gave me the time to interview her throughout her own study abroad experience when she was a Penn State student, and she hosted me when I visited her program in Venezuela. Jennifer gave life to my numbers and explained just how she changed because of her study abroad program. Chip Peterson from the University of Minnesota; Jordan Pollack from the University of Michigan; and Barbara Burn, late of the University of Massachusetts Amherst, offered useful input and support early in the process and, along with Karel Reuss from Monash University, they assured me that I was asking the right questions.

At Penn State Erie, The Behrend College, Jack Burke and Bob Light gave the kind of support without which I never could have finished this dissertation while working full-time. They are the epitome of proper professionals. Diane Parente's support is especially noteworthy, and John Fizel was always willing to help me sort out the puzzles that arose as I neared completion. I also appreciate the support from Mary-Ellen Madigan; maybe I can help her out some day. Tracy Greene has always been exceptional in supporting all my dissertation-related mailings, faxes, and countless phone calls. Catherine Hanhauser, Carol Whitbred, and Peggy Shupenko have all been outstanding colleagues.

Numerous friends deserve my thanks. Joe Wickett kept me grounded in reality and is one of the smartest people I know. Joel Dornisch kept bugging me to just finish the darn thing, and so I have. Jack Makara, Jeff Docking, Chris Rasmussen, and Patrick McDevitt all helped me out a great deal and I value their friendships. Kris Otto's

friendship was unflagging. Todd Ream became something of a soul mate for me over these past five years and his camaraderie is much appreciated. Finally, special thanks to John and Amy Parente, who are possibly the most honest, giving, and unselfish people there are in the world.

## CHAPTER 1: INTRODUCTION

The Institute of International Education (IIE) reports that more than 113,000 students studied overseas in more than 2400 programs during the 1997-98 academic year (Davis, 1999). In 1950, only a handful of U.S. students participated in programs that allowed undergraduates to study overseas (Baskin, 1965). The number of programs has increased rapidly since then; American students are now studying abroad in record numbers. The 1997-98 figure represents a gain of 14.6 percent over the previous year and a doubling from twelve years before then. This figure still amounts to less than 10 percent of the total undergraduate population at baccalaureate-granting institutions (Davis, 1999). If current trends continue, the number of American college students studying overseas may again double by 2010.

Researchers should attempt to measure how these experiences affect participating students for several reasons. “In the closing decade of the twentieth century,” Geiger (1999, p. 65) writes, “American higher education has endured another storm of public criticism.” Among these criticisms are current cries from both public and private constituencies and from forces both internal and external for accountability in universities.

Administrators of study abroad programs must continue to justify the resources devoted to those programs as educationally sound endeavors. Assessment is useful in answering two important questions surrounding this perceived “value added” dimension of study abroad programs: What are study abroad’s unique contributions to undergraduate education? and What is the most effective means of providing these

contributions? Assessment can also be used “both to improve programs and to be more purposeful about what we do for students” (Miller, 1997, p. v).

International educators have long assumed that studying abroad affects the students who participate. Some administrators and researchers began to employ methodology to find out what some of these outcomes are; these attempts focused upon, among others, changes in: ability to cope in difficult or trying situations, academic/cultural issues, attitudes toward others, autonomy, future career orientation, international understanding, language skills, maturity, self-awareness, and world view. Lamet (1982, cited in Herman, 1997) offered a summary of the feelings of international educators: “[W]ith such vast numbers of students going abroad each year, overseas study must irrefutably have some impact on its participants, and by corollary on American society” (p. 1). This research project will employ scientifically rigorous methodology in an attempt to provide empirical data in support of Lamet’s hypothesis.

## **THE PROBLEM.**

After a review of research and of literature identifying the benefits of studying abroad to a student’s development, the following problem emerged.

Universities continue to devote significant fiscal resources and personnel to developing, coordinating, and administering curricular programs overseas for students enrolled at the institutions. The assumption is that developmental benefits arise from such programs. Developmental benefits are generally assumed to include maturity, sophistication, critical thinking, cultural awareness, and the like (Goodwin & Nacht, 1988; Laubscher, 1994; Pascarella & Terenzini, 1991). The key question is: Is

commitment to this aspect of the curriculum justified by developmental benefits acquired by participating students?

Although study abroad program outcomes were first studied in about 1955 (Stimpfl & Engberg, 1997), serious research of study abroad outcomes began only in the mid-1960s and has continued recently (Bates, 1997; Herman, 1997; Kalunian, 1997; Russow, 1998; Seo, Teng, DeMicco, Wortman, & Martin, 2000; Ybarra, 1997), and there are works in progress. The research to this point, however, continues to be what Burn (1980) called “fragmentary and insufficient” (p. 76).

Although “research on education abroad,” according to Laubscher (1994), “is still in infancy” (p. 7), a body of literature does exist. A review of the research reveals gaps that exist in understanding developmental benefits from study abroad programs. Weaver (1989) edited an exhaustive bibliography listing 264 resources addressing many aspects of study abroad. Laubscher (1994) reviewed this work and criticized not the extent of the offerings, but the lack of studies that measure outcomes and specific effects on students who sojourn. His criticisms are valid. Many items in the Weaver work are lists of issues surrounding study abroad, overviews or evaluation of study abroad programs, guides, or theoretical presentations. Studies evaluating the impact of studying abroad on students’ learning and development are less common.

Despite Goodwin and Nacht’s (1988) postulate that students become “more mature, sophisticated, hungry for knowledge, culturally aware, and sensitive” (p. 12) because of spending time in an academic program outside the United States, they offer no empirical research beyond observation and anecdotal evidence to support the claim. This lack of supporting evidence is a common and unfortunate occurrence in writings about

study abroad. Carlson, Burn, Useem, and Yachimowicz (1991) mention this lack of systematic research addressing the experience of American undergraduates overseas, and recommend that more in-depth, meticulous studies be done. Other works have echoed this recommendation, but researchers have not attempted often to meet this call for additional empirical knowledge. Johnston (1993) repeats this thought when he writes that faculty members often see the effects of study abroad as suspect—because other academics have rarely and unconvincingly assessed the impact of these programs on student learning and development.

## **THE RESEARCH QUESTION.**

### **Background.**

The case for internationalization.

Internationalization, according to Friedman (2000), “has one overarching feature—integration. . . . The world has become an increasingly interwoven place” (p. 8). Many scholars, educators, and higher education policymakers have noted that academic globalization is not just a passing phenomenon as we move into this new century, but “a definitive world system” (NASULGC, 2000, p. 1). Key factors in the internationalization of institutions are the presence and participation of students in education abroad programs. Lundy Dobbert (1998) argues that institutions cannot “pretend” to internationalize simply by adding components to the curriculum. Internationalization, she writes, spans many dimensions, and must occur both in the people and through their exposure to other cultures and persons. Studying abroad is a key component of this process.

Pickert (1992) noted that “ignorance of world cultures and languages” is often viewed as a major threat to national security (p.6). This observation underlines the fact that, since the World War II era, political concerns have often motivated the internationalization of American higher education. Furthermore, as the world continues to become increasingly more globalized, especially since the 1991 breakup of the Soviet Union, there are added implicit demands upon Americans to increase their international proficiency. “In the broadest sense, we have gone from a system built around divisions and walls to a system increasingly built around integration and webs” (Friedman, 2000, p. 8). The existence of study abroad opportunities on college campuses has become critical in fostering a global perspective among American students. Officials at the highest levels of government have also recognized internationalization as a key component in forwarding the United States’ place in the world. During his presidency, for example, United States President Bill Clinton issued an executive memo citing the importance of international study and educational exchange as being critical components to meet challenges in an increasingly interdependent world (Hardi, 2000, p. A-36).

Study abroad outcomes.

It is widely accepted that students often view studying abroad as a positive addition to their curriculum (Laubscher, 1994); Smelser (1985) called studying abroad a “positively [*italics added*] disrupting experience” (p. 58). Many studies, such as those by Kalunian (1997), Carlson et al. (1991), Hensley (1979), and Larnet and Larnet (1982), focused on students’ attitudes or their cultural awareness (Stimpfl & Engberg, 1997). Indeed, most studies have concerned interests and values (Pascarella & Terenzini, 1991).

Other studies look at various other outcomes, as diverse as world-mindedness and language skills and as specific as one attempt to measure students' coping behaviors when faced with a foreign culture (Coelho, 1962). Stryker (1997) wrote that, considering the myriad benefits of study abroad—including learning to cope with change, encouraging self-knowledge and personal growth, and expanding horizons to encompass the entire wider world—every student should study abroad as part of the curricular experience.

Although the resources are full of studies that purport to measure the outcomes caused by studying abroad, these studies are, as Pascarella and Terenzini (1991) noted, part of only a “small body of research” (p. 306). These authors also pointed out, along with Barber (1983), that the research is often done poorly and without control groups against which to compare the results. There are few pieces of research comparing a control group of students to an experimental group, such as that done by Nash (1976).

Most of the literature has mentioned some change in the affective characteristics of the students who participate. Terms used to describe these changes have included personality, identity, self-concept, autonomy, self-reliance, values, etc., but these concepts are often used loosely and with differing connotations (Herman, 1997). Some standardized tools used include the Student Developmental Task and Lifestyles Inventory (SDTLI), in studies by Pyle (1981) and Herman (1997); the Global-Mindedness Scale, the Self-Efficacy Scale, and the Self-Knowledge Scale, all used in Bates' 1997 dissertation at the University of South Carolina; the Defining Issues Test used to study the “Semester at Sea” program (Garvey, 1991); and the Omnibus Personality Inventory used by Kauffman and Kuh (1984). Of these, only Bates' work used a control group

against which to measure the results. More detail on these studies are included as part of the literature review.

Openness to diversity.

“Future college graduates will be challenged by a society that is increasingly diverse in terms of race, culture, and values” (Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996, p. 175). By studying diversity outside our society, we can better appreciate the diversity within it. For our students to function in this increasingly globalized world, programmatic offerings must expose them to attitudes, beliefs, and cultures different from their own, and help develop a sense of tolerance and appreciation for difference. “Professionals in the field of study abroad must deal on a regular basis with students who fail to recognize that the discomfort of dealing with an unfamiliar situation is in fact the very ingredient that makes study abroad an especially effective learning opportunity” (Laubscher, 2000, p. 8). Study abroad programs can provide the collaboration between American students and those from other cultures that is necessary to provide this challenge.

### **The Question.**

After determining that a gap exists in measuring specific developmental results in a scientifically rigorous manner, as well as that research on specific psychosocial results that students receive from their participation in study abroad programs is lacking, the following question arises:

Does one semester's participation in a study abroad program result in a significantly different level of openness to diversity in the participating undergraduates, as compared to students who do not study abroad?

### **Hypotheses.**

1. Students who study abroad develop a greater level of openness to diversity than students who do not study abroad.
2. Students who study abroad in programs in countries where English is not the primary language attain a measurably greater level of openness to diversity than do students in countries where English is the primary language.
3. Students participating in highly integrated programs have a higher level of openness to diversity than students in mixed programs. Students who participate in island programs attain the lowest level of openness to diversity.

### **DEFINITIONS OF TERMS.**

Here is a glossary of terms used in this work. The list also includes some terms utilized in general discussion about study abroad programs. Although the terms are not unfamiliar to most readers, discussion of relevant concepts and terminology may aid in the general understanding of this work.

**Affective Development:** "Affect . . . represents our emotional reaction to a particular object, where 'object' refers to almost anything including inanimate objects, specific places, social policies, and people" (Buskit & Gerbing, 1990, p. 609). Affective development, consequently, refers to the formation of such

reactions, often characterized in terms such as good-bad, positive-negative, like-dislike and the sort.

**Cognitive Development:** Refers to the development of cognition, which can be defined as the complete extent of mental activities used to represent and process knowledge. The range of activities can include the components of memory, perception, the use of language, thought, and memory (Buskit & Gerbing, 1990).

**Dependent Variables:** Openness to diversity as measured by the Pascarella, et al. (1996) instrument.

**Developmental Task:** According to Chickering (1969), the challenges faced throughout life that specific behaviors and attitudes allow an individual to accomplish successfully. Winston and Miller (1987) added that these behaviors and attitudes should be “exhibited at approximately the same time by a given age cohort in a designated context” (p. 8).

**Identity Formation/Identity Development:** The process that an individual goes through culminating in a stable sense of self and an understanding of what one believes. This process involves interaction among psychological, environmental, and biological challenges.

**Immersion Program:** A study abroad program generally consisting of integration into the culture of the host country and direct enrollment in courses taught at a foreign university.

**Island Program:** A study abroad program offered by Penn State or another institution or organization or consortium that is often designed around prearranged group coursework. Island programs often offer little to no integration into the curriculum of the host institutions of higher education but may or may not include integration with students or families in the overseas country.

**Psychosocial Development:** Student development theory that provides the framework for understanding the various tasks, issues, and life events that occur throughout an individual's life span (Erikson, 1959). Theories that purport to explain psychosocial development focus generally on the “‘what’ or content of development,” as opposed to cognitive developmental theories, focusing on the “‘how’ or processes of student development” (Rodgers, 1980). These types of theories combine several aspects of the individual, including feelings and thinking, into explanations for a student's behavior. These aspects are studied in relation to how a student acts in relation to others and to herself/himself (Chickering & Reisser, 1993, p. 2). Chickering's vectors of student development were used; he offered a theoretical explanation of the unique challenges that students engaged in higher education face, basing his theories on the psychosocial theories of

Erikson (Chickering, 1969; Chickering & Reisser, 1993). Chickering attempted to expand on, and offer more in depth treatment of, Erikson's concept of identity, which he applied to traditional-aged college students.

**Study Abroad:** Engaging in a credit-bearing academic experience or program outside the political and/or cultural borders of the United States. Because of the significant cultural differences from the continental U.S., students engaged in Puerto Rico, for example, can be considered to be “studying abroad.”

## CHAPTER 2: REVIEW OF LITERATURE

### CONCEPTUAL FRAMEWORK.

Although some of the prior research on students who study abroad yields results that are contradictory, generally researchers agree that there are some positive gains in student development that result from their experiences overseas. These effects are usually reported in terms of cognitive or psychosocial benefits. We can be certain, based on the research of others, that studying abroad has some positive benefits for students; however those benefits are measured or discussed. What is less clear, however, is using an established theoretical base to determine how students benefit specifically in terms of their openness to attitudes toward ideas, cultures, or people different from them, especially when compared to students who do not participate in a study abroad experience.

Figure 1 illustrates the impacts that college student experiences have on student development as measured using Chickering and Reisser's (1993) seven vectors. According to this schema, students bring certain pre-college traits with them into any of their experiences in college, and combine those characteristics with those experiences (here, participation in a study abroad program), to develop in specific ways. This figure shows that the study abroad experiences, as with many other episodes that students have in college, may affect the participants' development within the several vectors. The present study, however, was an exploration of the impact of studying abroad for only one of the seven vectors, developing mature interpersonal relationships. Figure 2 shows this relationship.

Chickering and Reisser (1993) list two key components of their fifth vector. As shown in Figure 2, as students develop a tolerance for differences and a capacity for intimacy, they can successfully navigate the necessary task inherent to this portion of the theory. Students who fail to develop in these areas become intolerant of differences and become engaged in unhealthy intimate relationships (Chickering & Reisser, 1993, p. 38). Between these two components, this study concentrates on the former, openness to diversity.

Figure 3 shows the conceptual framework for this study. The model is a longitudinal one hypothesizing that students have certain levels of development prior to participation in a study abroad experience that are affected by two components during their time abroad and that result in a higher level of openness to diversity upon their return from the sojourn. These components are: 1) the type of program (e.g., an immersion program, island program, or combination program); and 2) the primary language of the host country (e.g., English or non-English). The study proposes to estimate the relative relationship of each of these components to the students' openness to diversity after returning from the study abroad program. Students we study in this project were involved in programs that incorporate all of the possible combinations of these two components.

## **THEORETICAL FRAMEWORK.**

### **Psychosocial Theory.**

This study's interest in openness to diversity because of studying abroad has a basis in the research and writings of student development theorist Arthur Chickering, and

**STUDY ABROAD: A conceptual framework of student development**

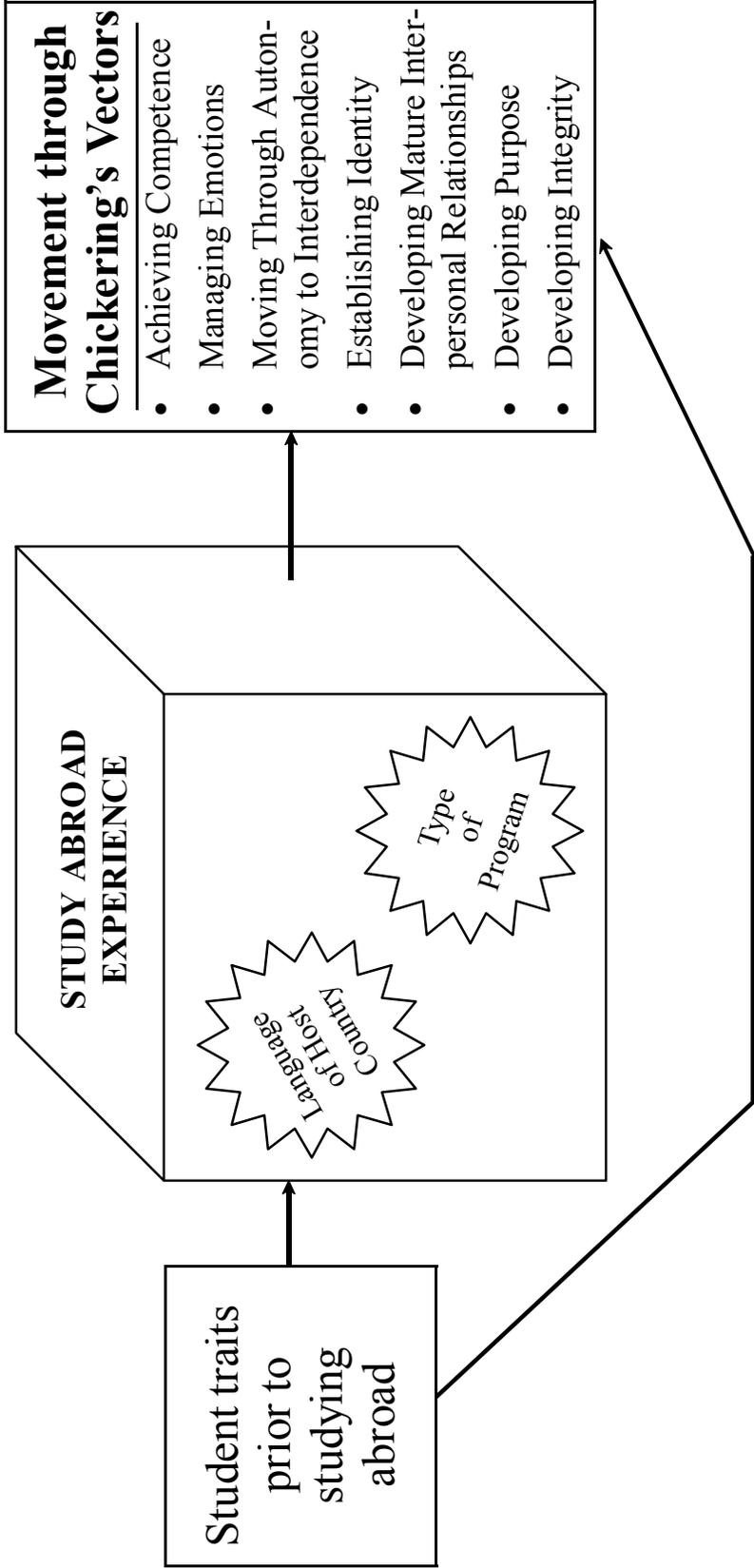


Figure 1

**STUDY ABROAD: A conceptual framework of relationship development**

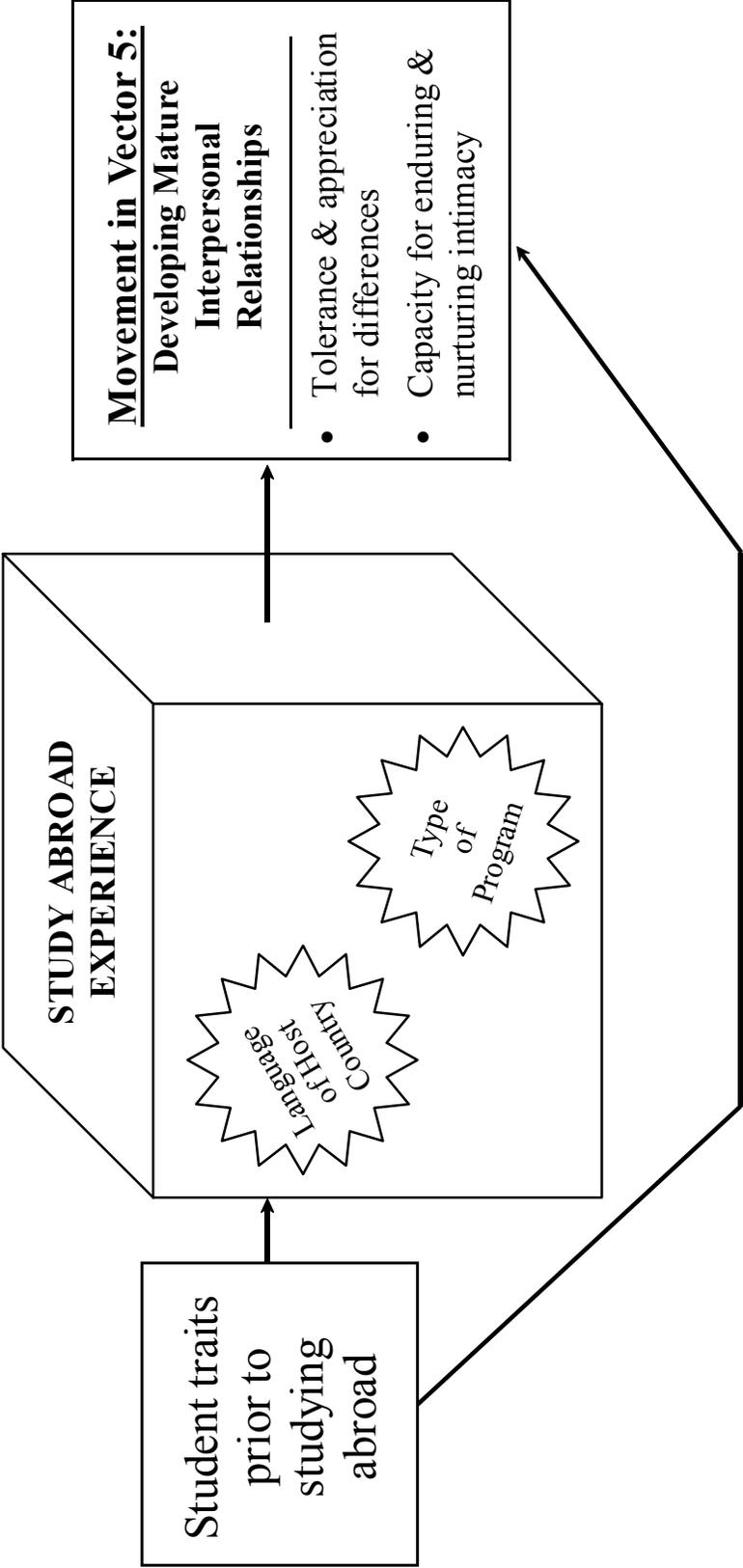


Figure 2

**STUDY ABROAD: A conceptual framework of openness to diversity**

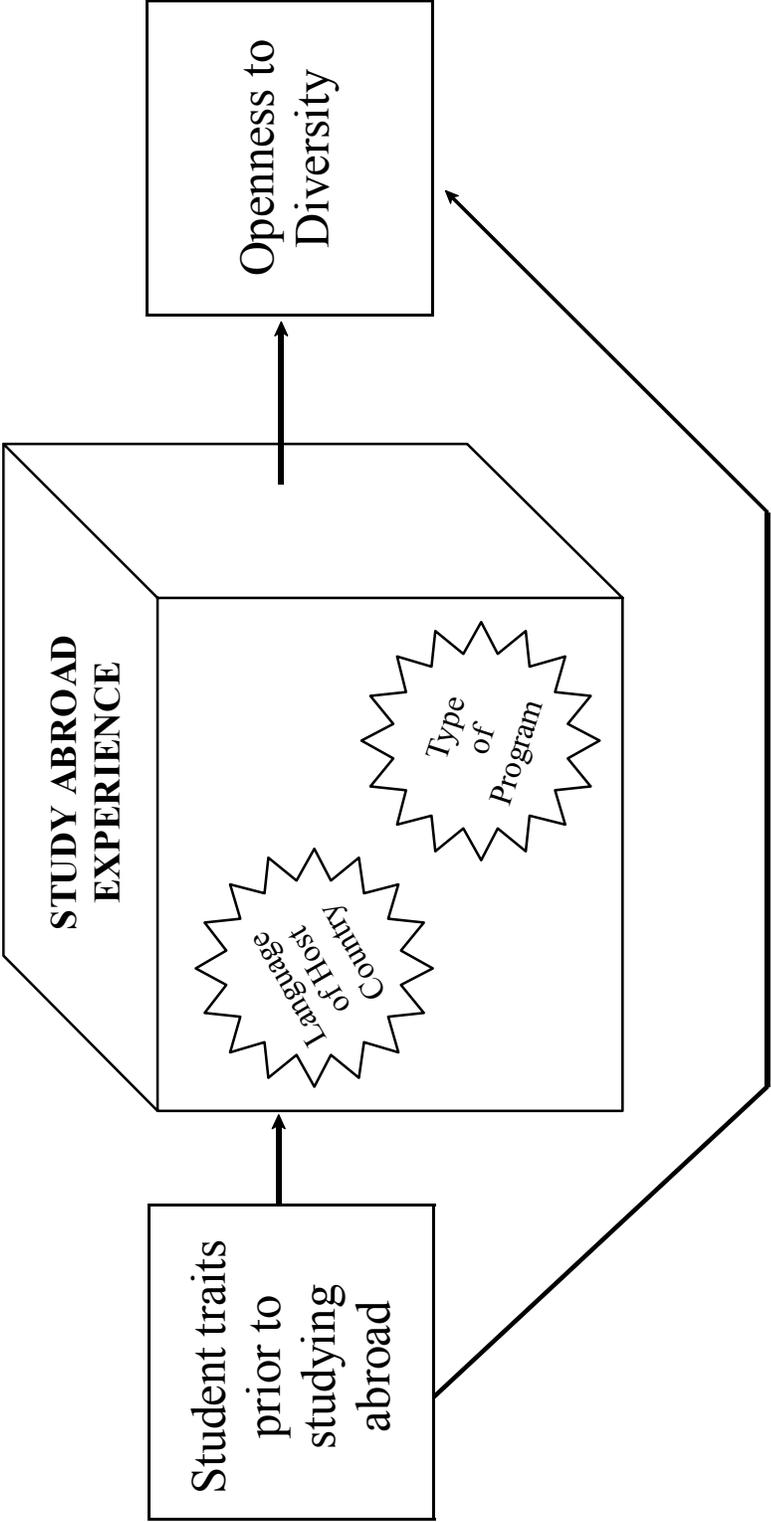


Figure 3

especially the “seven vectors” of student development (Chickering, 1969; Chickering & Reisser, 1993). Chickering devoted his research and theoretical work involving college students’ to their movement toward developing a concept of identity—and in so doing formed bodies of knowledge that Pascarella and Terenzini (1991) acknowledge to be probably the greatest influence on college student development or “on administrative programming intended to promote it” (p. 20). They cite Ellison and Simon (1973, p. 50, cited in Pascarella & Terenzini, 1991, p. 20) in referring to Chickering’s theory as the “modal model.”

Chickering’s theory is one of psychosocial development among undergraduate college students—one of a body of theories that view an individual’s development as a process that involves completion of “a series of developmental tasks or stages” (Chickering & Reisser, 1993, p. 1). These challenges to developmental status or current identity are presented to individuals “partly as a consequence of age progression and partly as a consequence of sociocultural or environmental influences” (Pascarella & Terenzini, 1991, p. 19), but all require a response of some kind from the individual encountering the challenge.

According to Rodgers (1980), “Psychosocial theories combine feelings, behavior, and thinking into a rich, complex picture of the life-span” (p. 35). This body of theories related to college students examines their personal preoccupations, “qualitative changes in thinking, feeling, behaving, valuing, and relating to others and oneself” (Chickering & Reisser, 1993, p. 1). These concerns can be summarized as questions centering on “‘Who am I?’ ‘Who am I to love?’ and ‘What am I to believe?’” (Rodgers, 1980, p. 36). Questions such as these encapsulate the concerns of identity, as identified by

Erikson (1959). Student development theorists have called Erikson the “progenitor of psychosocial models” (Chickering & Reisser, 1993, p. 21). Erikson identified eight periods of psychosocial development as intervals when the individual is faced with a “crisis” of interaction of biological and psychological changes with sociocultural demands.

### **Chickering’s Theory.**

The development of what Erikson labeled “identity” assumes a central position in the theory of Arthur Chickering (Chickering, 1969; Chickering & Reisser, 1993). Chickering’s writings added significant specificity to those of Erikson. His theory does however, differ in one significant way from those of many other developmental theorists. Many developmental theorists write of responses to developmental tasks as “stages”; an individual’s development occurs in a straight line and is consecutive and cumulative. When an individual adequately addresses a crisis or task, he or she moves to the next stage and does not revisit the previous one. Instead of writing about psychosocial development as “stages,” however, Chickering chose to use the term “vectors” because he saw development as one of direction and magnitude and that the direction could be best described as degrees, steps, or spirals. Development, in his vector theory, can be either forward or backward along a task, and an individual may regress to an earlier vector if their development presents additional challenges in that area. As applied to college students, a student progresses among the vectors, encountering increasing complexity, integration and organization as she or he becomes aware of a personal identity. A summary of the seven vectors appears in Table 1.

Table 1.  
Chickering's seven vectors

<b>Vector</b>	<b>Task</b>	<b>Summary</b>
1	Achieving Competence	The student is developing the competence to cope with what comes along and to successfully achieve what he or she sets out to do; intellectually, socially and interpersonally, physically.
2	Managing Emotions	Internally adopted behavioral standards and controls replace those whose influence is internal.
3	Moving Through Autonomy to Interdependence	Becoming independent both emotionally and instrumentally, and recognizing one's interdependence with others.
4	Establishing Identity	Forming "a solid sense of self" (Chickering, 1969, p. 80).
5	Developing Mature Interpersonal Relationships	Tolerance and respect for others; increased quality of friendship and intimate relationships.
6	Developing Purpose	Integration of priorities in recreational and vocational interests; vocational plans and aspirations; lifestyle choices.
7	Developing Integrity	Clarifying a system of valid, consistent beliefs as at least a tentative guide for behavior.

Note: From Chickering, A. W. & Reisser, I. (1993). *Education and identity*, 2nd edition. San Francisco: Jossey-Bass.

## **Study Abroad Outcomes.**

### Overview.

Academic writing about study abroad began in the 1950s as a direct reaction to the significant increase in organized study abroad programs following the end of World War II. In the years after that war, the United States government became increasingly interested in and supportive of institutions' address of international issues, language, and area and regional studies. As the number of students going abroad has increased, there has been a corresponding increase in "the urgency to discover how they are impacted" (Herman, 1997, p. 16).

Study abroad programs reportedly affect college students' perceptions of themselves and the world around them positively. For the purposes of the present study,

the review of literature concentrated on the specific personal outcomes that arise in students presumably because of studying abroad.

Besides supplying the conceptual and theoretical framework for this study, the student development theory of Chickering and Reisser (1993) provided a useful framework for reviewing the research in this area. Their theory is widely recognized as a seminal work for viewing the development of college students. If viewed as a complete picture of the tasks that traditionally-aged college students face in their development, most, if not all, studies concerning those students can be placed into one or more of the topical areas addressed in the vectors.

The personal development of students who study abroad may be the most critical component of such programs. As Herman (1997) wrote:

This particular area of growth may be difficult to measure, but . . . it is a realized effect and often the most observable outcome of an overseas experience. It is an important one, and an area of impact that almost all researchers agree needs to be further explored. (p. 32)

Among the many recurring themes in study abroad research on students' development, those asking the question of how the study abroad experience changes college students are most prevalent. Upon returning from programs abroad, students have reported that the experience was one that made a significant difference in their lives (Kauffman et al., 1992; Laubscher, 1994). Nearly every study and/or review of study abroad students or program content offers ample anecdotal evidence of the altering effects of participation in such programs. Laubscher's observations include students making such statements as "[I] learned more than can ever be expressed" (p. xi).

Most literature addressing the developmental results of study abroad experiences mentions the affective results of the experience. Most studies are quantitative, but few have had a theoretical foundation. Notable and recent exceptions include Waldbaum (1996) who used Chickering's (1969) theory in assessing outcomes in a case study. Waldbaum suggested that student development while abroad might be heightened and made more intense than that which occurs in the local university setting. Waldbaum, however, offers no empirical data on which to base this claim. His case studies merely imply that implementations would have desired consequences.

Vector 1: Achieving Competence.

Juhasz and Walker (1987) reported increases in students' self-esteem and self-efficacy from studying abroad. In this study, they assessed 70 participants by means of an instrument designed to capture students' worth and feelings of competence, but without the use of a group for comparison. After the pre- and post-study administration of the instrument to students studying in Italy, the researchers reported that students changed considerably in these areas, and that students who studied for a full academic year had greater change than students who studied for only one semester.

Self-concept and/or self-confidence were also the focus of a study by Kauffman and Kuh (1984). This research used an experimental group (126 students) and a comparison group (90 students) from two different colleges. The results suggested that there was change associated with study abroad in several areas besides self-confidence, including reflective thought, interest in the welfare of others, and greater sensitivity and

emotionality among the students. Carsello and Creaser (1976) reported increases and positive change in these same areas.

Gibson (1991) reported that students' cultural interest, as well as openness to current events and international affairs, increased because of their study abroad. She interviewed nine students from Grand Canyon University, all of whom reported that changes in those areas occurred because of their experiences on a study abroad program.

The programs that Gibson studied ranged in length from three weeks to two years.

Carlson, Burn, Useem, and Yachimowicz (1990) found similar results in another study that used an *ex post facto* design to administer pre- and posttest questionnaires to 204 students who had studied abroad and 153 students who had not. Study abroad students scored significantly higher on measures of interest in international affairs and current events, as well as general cultural interest. This study identified the opportunity for interaction with persons from the host culture to be the most significant aspect of students' study abroad experience. Both works characterized the effects as long-term, when compared to quantitative results gathered from similar samples of students who had just returned from study abroad programs and those who had studied abroad five years previously. Similarly, Yachimowicz (1987) reported increases in international understanding, and cultural and political knowledge following the students' participation.

Among the most recently published literature and research, some authors have directed their efforts to measuring and evaluating the program types. Cash (1993), for instance, spent considerable time evaluating the strengths and weaknesses of Saint Mary's College of Maryland's study abroad office. Additional discussion in his paper posited that students gain language skills if their program is at a location where English is

not the dominant language. Waldbaum's (1996) dissertation used both qualitative and quantitative measures in determining that students' language proficiency skills increased dramatically after participation in a University of Denver program at the University of Bologna. Even more recently, Russow (1998) presented a series of recommendations for developing a meaningful international component to universities' business curricula.

Pederson (1996) examined the learning aspects of studying abroad by using a descriptive account of students participating in an international business internship program in Mexico City. She concluded with a description of what she believes are the stages of a learning experience abroad. According to Pederson, students must first go through an initial stage of postponement of participation where the students do not really partake in their learning experience but separate themselves from the foreign involvement. This initial stage is followed by a second stage of confrontation and effrontery, during which students on a study abroad program do a great deal of comparison to their "home" experiences and are, in a sense, longing for the familiar sights, sounds, and activities of their own culture. The final stage is active participation and learning. In this stage, a student leaves the home country and the home culture behind and surrenders her or himself to the learning experiences available in the program. Pederson also discusses how an institution of higher education might best develop an internationalized curriculum and an effective study abroad office to support that endeavor.

## Vector 2: Managing Emotions.

In a different vein, Barber (1988) cited presenters at the University of California Symposium on Education Abroad as noticing stronger positive and stronger critical reactions to both the United States and the country in which students study. Barber inferred that students have feelings and opinions about their home country and other countries that are generally strengthened because of the study abroad experience, whether those opinions and feelings are generally positive or generally negative. In a study that partially supports Barber, and partially contradicts him, Yachimowicz (1987) observed that students returned from studying abroad with more critical attitudes about their host culture, but his quantitative study revealed that study abroad had no impact on participants' attitude toward their homeland. He used a questionnaire administered to an experimental group of 204 students and to a 157-student comparison group before and again after studying abroad.

In a study of 52 students studying in Santiago, Chile, Stephenson (1999) asked students to complete a questionnaire before and after their experience. The questions were intended to measure the cultural perceptions and personal values of the students on the program. (Stephenson also questioned host families and faculty members involved with the program.) Through use of mainly descriptive statistics, he claimed that students' perceptions of the United States remained unchanged, but that the students' perceptions of the differences in culture between themselves and Chileans were greater than they had anticipated prior to their participation.

### Vector 3: Moving through Autonomy to Interdependence.

Many researchers have discerned—either empirically or anecdotally—that studying abroad can and does result in broadened perspectives and increased interest in international and/or intercultural and world issues. Among those showing such outcomes are studies by Abrams (1963), Coelho (1962), Pfinster (1972), Marion (1980), Kauffman and Kuh (1984), Laubscher (1994), and Ybarra (1997).

Bates (1997) reported a study of 14 honors students participating in a program in the United Kingdom and compared her results to a control group of 35 students who remained on campus in the United States. This study used mixed methods—both a standardized instrument and qualitative essays—to measure personal growth and changes in attitude toward global-mindedness. As to attitude toward global-mindedness, she reported that students showed significant positive changes in globalcentrism and interconnectedness, by which she measured the personal growth of the participants. These quantitative data were supported through the analysis of their ethnographic essays.

Hutchins (1996) identified key factors that influence the development of an international and global perspective in her research on study tours. These factors include the student's maturity, participation in multiple study tours, minority experiences, geographic location of the tour, level of immersion, and the focus of the study tour program. She conducted her study with six students at Ohio State University whom she purposefully sampled for maximum variation. Her conclusions were that the students on her study tours returned with a perspective that was broadened, but the amplitude of the increase depended on the factors internal and external to the students. She used qualitative analysis of interviews, focus groups, and group diaries to reach her

conclusions. She, as do others, suggests continued examination of the “international perspective” aspect of international education programs.

#### Vector 4: Establishing Identity.

Abrams (1963), in one of the earliest studies of outcomes related to education abroad experiences, wrote that the experience might help students to discover who and what they are. Abrams reported that the study abroad experience directly influences students’ formation of identity and their view of “self”. Thirteen years later, Nash (1976), provided some support for the hypothesis that there are “significant changes of personality in the directions claimed by the proponents of overseas study programs” (p. 201). Nash used an experimental group of 41 students and a control group of 32 in assessing students’ autonomy, sense of self, tolerance and flexibility, self-assurance and confidence, and objectivity. This study of participants in a University of Connecticut program in France involved a pretest and a posttest, and used a control group of upper division students in a French class, which may not have reflected the characteristics of the experimental group. Nash noted increases in two of these areas: perception of self and autonomy. His results showed some support for the hypothesis, but he also reported that these changes in personality were temporary and did not persist, even for as long as several months after returning from abroad. The temporary nature of the change may have been affected, however, by the exceptionally low response rate to the follow-up questionnaire designed to measure the permanence of the changes.

Both empirical evidence and a theoretical base exist in Herman’s (1997) study of developmental outcomes using the Student Development Task and Lifestyle Inventory

(SDTLI) (Winston, Miller, & Prince, 1987). She examined 59 students enrolled in study abroad programs offered by Antioch College and Ohio University and reported that students experienced positive developmental changes from studying abroad, particularly in their development of identity, but she could not correlate the changes with students' personal characteristics. Herman drew her conclusions primarily on the basis of within-group comparison of SDTLI outcomes for demographic characteristics (particularly gender) and by type of study abroad program, and the interaction of these factors, all without using a control group. She detected no statistical differences in the developmental outcomes in students attributable to these variables. Her conclusion was, however, that short-term programs might not affect longer-term developmental outcomes among the participants particularly because this study was not longitudinal in design. Pyle (1981) included a control group to note positive development of identity in students via SDTLI results.

In qualitative studies involving students from Goshen College (Kauffman et al., 1992) and Penn State (Laubscher, 1994), the researchers cite examples of students' noting a positive increase in their personal development. Both studies yielded findings similar to those of the other studies. As noted by Laubscher, "[S]tudents use ethnographic methods to develop an awareness of cultural differences" (p. 97) and use that awareness to progress in developing a strong personal identity. He listed participant observation, personal interaction, and travel as the primary methods that affect students' self-reported positive change.

Some research concerning development while abroad has produced mixed results. Garvey (1991) combined results obtained from a standardized instrument, the Defining

Issues Test (DIT) and qualitative data in letters, journals, diaries, and personal interviews, without benefit of a control group. The DIT is a multiple-choice, objective, self-administered test derived from Kohlberg's (1969) theory of moral development. It measures how people reason morally about social problems. Among the 30 students participating in the study and traveling in the "Semester at Sea" program, Garvey (1991) concluded that participation in this program did not significantly affect students' moral development, as measured by the DIT. His qualitative inquiry, however, showed that students did undergo some largely self-reported positive changes in identity development and attitude toward other cultures because of participation in this program. It should be noted that "Semester at Sea" is a decidedly atypical study abroad experience in which American students live, study, and travel together on a cruise ship and visit several foreign port cities for brief stays throughout an academic semester. In this sense, results from any study of participants in "Semester at Sea" programs may have little applicability to students studying in programs that are more traditional.

Stephenson (1999) concluded his study by stating, "Cultural patterns are firmly rooted within most individuals, and not as open to modification as many people assume" (p. 36). He wrote that a perhaps the greatest contribution of overseas programs is fostering students' crucial ability to maintain a personal cultural affiliation while appreciating the richness of other cultures.

Vector 5: Developing Mature Interpersonal Relationships.

Among descriptions given by Pfinster (1972) of the changes that students experience are reduction in stereotyped thinking. He also reported changes in the way that students

think about others (p. 4). He reviewed students who participated in an experimental study abroad program at Goshen College in Indiana that he designed to affect students in nine ways, including understanding and respecting another culture, and developing a viewpoint that is useful to work and live in the world. Although essentially a program evaluation, the program reportedly was a success, and Pfinster indicated that students might benefit in the two ways noted, among others, because of studying abroad.

Kauffman, Martin, and Weaver (1992) wrote about students coming back from overseas study with a change toward a “bicultural or multicultural worldview” (p. 142) and an integration of new viewpoints into old perspectives; Harrop (1991) reported similar findings from her interviews of 54 College of William and Mary students. Conversely, Zhai’s (2000) quantitative study of 21 Ohio State students using a self-designed questionnaire showed no significant changes in the participant’s global perspective or attitudes toward cultural diversity. A qualitative component of this same study did suggest an increase in cultural sensitivity and global perspective.

#### Vector 6: Developing Purpose.

McCombie (1988) did research with more than 1600 students who had studied in the University of Chicago’s Rome Center of Liberal Arts at some point over the 25 years prior to his study, and a comparison group of 391 University of Chicago students who had not. His work revealed mixed results in an attempt to measure the impact of this program participation on students’ life and career goals, particularly when trying to support one theoretical approach, “flow” theory (Csikszentmihalyi, 1974). This theory posits that people can become so involved in an activity that nothing else much attracts

their attention; they become rather unaware of their surroundings, enjoy their task, and have fun doing their task. A key concept in flow theory is that students achieve a state of increased cognitive efficiency.

Vector 7: Developing Integrity.

A study addressing this vector is the aforementioned one by Kaufman and Kuh (1984), who noted increases in study abroad students' interest in, and a greater sensitivity to the welfare of others. As indicated earlier, the work of Carsello and Creaser (1976) yielded similar results.

### **Shortcomings of Prior Research.**

Research involving the effects on American students from studying abroad reveals some serious gaps. According to Laubscher (1994), outcomes studies include mainly "guides, evaluations, general overviews, theoretical presentations, and general discussions" (p. 7) of the topic. In the corresponding study using qualitative methods, Laubscher attempted to identify the process by which students are affected from studying overseas. He asked the question: What is it about study abroad that causes changes in students? His work began important recent endeavors to close the gap in research on students' outcomes from adding education abroad to their curricular experience.

Although observation, and some scholars' writings, showed that students reportedly reap numerous emotional and social, and educational benefits (Goodwin & Nacht, 1988) from studying overseas, more academic research, such as Laubscher's, must be undertaken.

Goodwin and Nacht, for instance, did not even define exactly what they meant by “emotional and social” benefits.

The present research adds to Laubscher’s (1994) study, not by exploring the process that causes changes in students who study abroad, but by determining what changes, as far as openness to diversity is concerned, appear among students who engage in that process. Evidence exists, as has been shown, to suggest that students develop, but there are few studies, whether quantitative, qualitative, or using mixed methodology, that demonstrate this on the basis of scientifically rigorous methods.

Like Laubscher’s study, other researchers’ work has focused on the outcomes of studying abroad by using interviews (James, 1976; Pfinster, 1972). Others have looked at students’ study abroad experiences by means of standardized instruments (Carsello & Creaser, 1976; Herman, 1997; Kuh & Kauffman, 1985; Marion, 1980; Nash, 1976; Pyle, 1981) or participant observation (Morgan, 1975). Still others have devised instruments of their own designed, in part, to assess the study abroad program itself (Cash, 1993).

Sell (1983) emphasized that strong research concerning study abroad outcomes is lacking and cites loosely structured designs, little theoretical base, and infrequent follow-up to studies as problematic. Even Pascarella and Terenzini (1991), in their thorough review of literature related to how students change because of college attendance, identify a chasm in research in this area and note that results from studies that have been done are often inconsistent and/or contradictory. They devote just 26 lines of their 894-page book to a review of literature in this area and conclude that “the literature in this area is not distinguished for the rigor of its research designs and methods” (Hull & Lemke, 1975, cited in Pascarella & Terenzini, 1991, p. 306).

## **Openness to Diversity.**

Chickering and Reisser (1993) describe tolerance and appreciation for differences as being at the core of the fifth vector, Developing Mature Interpersonal Relationships.

They wrote of how critical tolerance is in negotiating this vector:

Tolerance implies a willingness to suspend judgment, to refrain from condemnation, and to attempt to understand an unfamiliar or unsettling way of thinking or acting rather than to ignore, attack, or belittle it. . . . This broadening of awareness and experience leads to an appreciation of cultural diversity and a comfort with people from all walks of life. (p. 146)

Because tolerance and openness to diversity play such a key part in students' development of identity during their college years, a bridge can easily be built between students exposure to diversity in a study abroad experience and those students' psychosocial development. Cabrera, Nora, Bernal, Terenzini, and Pascarella (1998) imply that purposeful learning activities that involve collaborative learning may provide the process by which students' beliefs and attitudes about diversity and persons and groups that differ from them can be challenged in a developmentally effective manner. Study abroad programs can contribute to the collaboration between American students and those from other cultures that is necessary to provide this challenge.

## **SUMMARY.**

After reviewing the literature, the importance of additional research that addresses specific psychosocial outcomes resulting from studying abroad emerged. Prior research on study abroad outcomes tended to focus on general outcomes, learning outcomes, language learning, and program reviews or evaluation. Little of this work has been done

in a scientifically rigorous manner, whether it be quantitatively or qualitatively based.

The specific question about students' openness to diversity remains unanswered.

## **CHAPTER 3: METHODOLOGY**

This study quantified openness to diversity among students prior to their participation in a study abroad program for a semester and after their participation in the program. Outcomes resulting from study abroad have been studied for about 50 years, but much of the research has been contradictory or incomplete and/or used suspect research methods. The questions that this research addressed concerned: 1) whether a student benefits from study abroad participation in terms of openness to diversity, 2) whether the level of integration into the host culture affects the outcome, and 3) whether the language of the host country influences openness to diversity.

The research uses a conceptual framework based on Chickering's seven vectors of student development (Chickering, 1969; Chickering & Reisser, 1993). The fifth of those vectors posits that developing mature interpersonal relationship is one key component of young adults' psychosocial development. A tolerance for difference is listed as one of the two factors leading to success in this vector (Chickering & Reisser, 1993, p.38).

### **THE SETTING FOR THIS STUDY.**

The site for this study was The Pennsylvania State University. Penn State is a large, publicly-funded, land grant research university for men and women located in the mid-Atlantic region. The institution enrolls more than 80,000 students at 24 locations throughout the state. The University's mission is to improve the lives of people in Pennsylvania, the region, the country, and throughout the world through teaching, research, and outreach. The institution awards bachelor's, master's, and doctoral degrees, as well as professional degrees in medicine and law.

## **DESIGN, POPULATION, AND SAMPLE.**

The study included an *ex post facto* design (McMillan & Schumacher, 2001; see also Campbell & Stanley, 1963) involving a comparison group of students who do not participate in a study abroad experience with which to compare an experimental group of students who do. Because students self-select participation in the study abroad experience instead of being randomly assigned for the treatment, an experimental design could not be used (Campbell & Stanley, 1963, p. 47).

All students with interest in studying abroad must attend a “general advising” session offered by Penn State’s International Education Programs and Studies (IEPS) unit of the university office of international programs. This session allows students to become familiar with the process of investigating study abroad options and how to use the services of IEPS. Application deadline for students studying abroad in spring programs is generally in March of the year preceding the program. After attending this session, some students apply for and are accepted for enrollment in a study abroad program. Other students either never apply for enrollment or, in some cases, apply and then are denied admission.

The population in the experimental group consisted of students who attended a general advising session and registered with the Pennsylvania State University’s University Office of International Programs (UOIP) to study abroad in programs offered through the IEPS unit. A total of 535 students who studied abroad in the spring semester of the year 2001. This entire group was included in the study.

A comparison group of 677 students was identified from the population of students who expressed an interest in studying abroad by attending a general advising

session in IEPS between October 1999 and March 2000, but who never applied for a study abroad program, or were rejected (n = 677). By choosing this comparison group from this population, some confounding influences that could have been present from not including in the comparison group students who may have never considered studying abroad are minimized. For instance, students who have never considered studying abroad may differ so dramatically from students who study abroad in terms of their general demographics, their parent's income, their major field of study, their previous experience overseas, or even their involvement in organized athletics, that no meaningful comparison between the groups regarding the dependent variable could cleanly be made. Results of this research can be generalized to other Penn State students and to students studying abroad in similar programs at similar institutions.

## **DATA COLLECTION PROCEDURES.**

### **Pretest.**

Quantitative data were acquired from students using an instrument chosen to measure the dependent variable of openness to diversity. The instrument had its genesis in a study by Pascarella et al. (1996) that addressed influences on openness to diversity among first-year college students. Procedures established by the University that governs research on human subjects were followed, and approval was obtained prior to the start of the research. A copy of the approval letter appears in Appendix A.

Student participants completed a survey form devised to provide information about their demographic characteristics and other pre-experience characteristics. The openness to diversity instrument was used for in both the pretest and the posttest.

Demographic information was collected only at pretest. The survey was available on the Internet (see Appendix B and Appendix C) or in paper form, if requested. (No students requested a paper copy of the instrument.) The use of the Internet and the World Wide Web to deliver assessment instruments is an acceptable and useful method for collecting survey instruments from students primarily because of the ease of the data collection process, the accessibility of the technology for students, and the relatively high response rate (Wortman, 2000). Students were aware of the study from receiving an e-mail message informing them of the study and asking them to complete the instrument on the web site, made available on UOIP's public web space. They received two reminder messages. Data from participants were kept in electronic form on a secure server. Students provided the last four digits of their Social Security Number on the survey form, which allowed responses to the posttest to be matched with the pretest surveys. Surveys were anonymous and confidential. Participants in both the experimental and the comparison group completed the pretest in November and December of 2000.

Of those contacted, 512 students completed and submitted the pretest. Of these, 191 students indicated that they were enrolled in a study abroad program in the spring term of 2001, and 321 students indicated that they were not enrolled in a program in that same semester.

### **Posttest.**

The posttest instrument consisted of only the eight items on the openness to diversity scale. Students were again asked to provide the last four digits of their Social Security Number to enable matching of responses from the two instruments. The posttest was

administered to the experimental group after or within two weeks before the completion of their study abroad program in the spring term of 2001. (Some students studying on programs in the Southern hemisphere completed the program in mid- to late summer, because of seasonal differences in the dates of academic semesters at many of those locations.) Students again received e-mail messages informing them of the web site at which the instrument was located. The comparison group completed the posttest immediately prior to the end of the spring 2001 semester. A total of 340 students completed the posttest questionnaire. Of these, 188 could be matched with a response on the pretest. Matching relied on using the last four digits of Social Security Numbers that students provided on the surveys. Surveys that were eliminated generally did not match because either only a pretest survey was returned, or only a posttest survey was returned. Some data (n = 12) were discarded because students returned either survey twice, with duplicate responses—the students most likely inadvertently had pressed the “submit” button twice, because the date and time of submission was generally nearly identical. To aid in matching information about the date and time of submission and the IP address and browser type of the connection from where the surveys were submitted was collected along with survey results. Consequently, just two surveys were eliminated when the four digits of the student’s SSN matched another pair of pretest-posttest surveys.

### **Return Rate.**

Exactly 1212 e-mail messages were sent to students requesting their participation in the study. In both the pretest and the posttest, 32 of these messages were electronically returned to the researcher because the e-mail address used made the message

undeliverable. This amounts to a failure rate of 2.6 percent. Consequently, 1180 e-mails were successfully sent. Although there is no easy method to determine how many of these 1180 messages actually reached the students for whom they were intended, it is reasonable to assume a nearly complete delivery rate.

Of those contacted, 512 students submitted a completed pretest instrument for a return rate of 44.4 percent. 340 completed instruments were returned at the time of the posttest; this is a return rate of 28.8 percent. The 188 usable and matched completed instruments indicate a return rate of 15.9 percent. Of the matched instruments, 100 were from students who had studied abroad in the spring semester (a return rate of 18.7 percent); 88 were from students in the comparison (not enrolled in a study abroad program) group (return rate = 13%).

## **VARIABLES.**

### **Dependent Variable.**

The dependent variable was “openness to diversity,” as indicated on an eight-point scale designed to measure openness to diversity and challenge (Pascarella et al., 1996). Items comprising this instrument appear in Table 2. Items for recording responses were in scales in the Likert format (5 = strongly agree to 1 = strongly disagree). Pascarella et al. (1996) initially developed the instrument in a longitudinal pilot study involving factor analysis prior to their article.

Table 2.

Openness to diversity scale

---

- 1 I enjoy having discussions with people whose ideas and values are different from my own.
  - 2 The real value of a college education lies in being introduced to different values.
  - 3 I enjoy talking with people who have values different from mine because it helps me understand myself and my values better.
  - 4 Learning about people from different cultures is a very important part of my college education.
  - 5 I enjoy taking courses that challenge my beliefs and values.
  - 6 The courses I enjoy the most are those that make me think about things from a different perspective.
  - 7 Contact with individuals whose background (e.g., race, national origin, sexual orientation) is different from my own is an essential part of my college education.
  - 8 I enjoy courses that are intellectually challenging.
- 

Note: From Pascarella, E. T., Edison, M., Nora, A., Hagedorn, L. S., & Terenzini, P. T. (1996). Influences on students' openness to diversity and challenge in the first year of college. *Journal of Higher Education*, 67(2), p. 179.

The creators of the instrument consider the items included in this scale to be critical components in students' openness to diversity. The instrument was used in numerous other studies, including research by Pike (2000) and Cabrera et al. (1998). The initial authors tested the scale for reliability ( $\alpha=.85$ ), and presumably has face validity because of its wide use. In this instrument, the authors include not only assessment of an individual's openness to racial, value, and cultural diversity, but also an assessment of the extent to which an individual enjoys being challenged by ideas that are different from her or his own because the two concepts are so closely linked (Pascarella et al., 1996, p. 179).

The aggregate scores for the eight items on the openness to diversity instrument fell into groups of low, medium, and high openness to diversity. These groups came about from categorizing the data by splitting the data into three groups of roughly the same number of cases, using the cumulative percentages in a frequency distribution of the mean scores on the pretest.

**Independent Variables.**

Consistent with the conceptual framework for this study were the two independent variables selected. The first involved the language predominantly spoken in the host country in which the student was studying abroad (English, non-English) because some evidence existed to suggest that students who study in Western Europe or English-speaking countries may not change at the same rate as students studying in other locations (see Cash, 1993). The second independent variable was the type of study abroad program (island, immersion, or combination) and represented how much students in the program were integrated into the host culture. Some students study in locations where they lived and took classes only with persons from that country and culture, and other students lived with American students and took classes only with students from Penn State or other American colleges.

**Control Variables.**

Control variables in this study closely mirrored the variables included in the Pascarella et al. (1996) study; as operationalized version appears in Table 3. These control variables include student age, gender, racial or cultural background, total credit hours earned prior to administration of the pretest, major area of study, on-campus residence, membership in a fraternity or sorority, participation in a racial or cultural awareness workshop, GPA, and other variables that previous research supports on students studying abroad, including prior experience outside the United States, language(s) other than English studied prior to going abroad, and parents' educational

Table 3.  
Operationalized variables

Variable	Variable Name	Response Values
Study Abroad in Spring 2001	SASPR01	0 Did not study abroad 1 Studied broad 2 Studied broad 3 4 5 6 7
Age	AGE	Continuous variable measured by year of birth
Gender	SEX	Male Female
Ethnic Category	RACE	American Indian/Alaskan American Asian/Pacific American Black/African American Latino/Hispanic American White/Caucasian Other
Semesters Completed Before Spring 2001	PREVSEM	Continuous variable measured by students choosing the appropriate number of semesters
Cumulative GPA	GPA	Variable obtained by choosing one of 12 categories, each representing a range of GPA
Biglan Hard or Soft Science	HARDSOFT	Measured using descriptions according to classifications of Biglan for hard or soft science (1973a, 1973b)
Residence	RESID	On Campus Room or Apt. Off Campus Parent/Spouse/Relative
Greek Membership	GREEK	Member Non Member
Workshop Attendance	WRKSHIP	Participated Did Not Participate
Prior Months Outside the US	MNTHSOUT	Ordinal variable obtained by choosing one of 13 categories, each representing a month (5=Less Than One, 12=More than 12)
Prior Months spent in Non-English Speaking Country	NOENGLISH	Ordinal variable obtained by choosing one of 13 categories, each representing a month (5=Less Than One, 12=More than 12)
Prior Semesters of College-level Foreign Language	SEMLANG	None One Two More than Two
Previous Study Abroad Experience	PREVSA	Yes No
Father's Education Level	DADEDUC	< HS HS Bachelor's Master's Doctoral/Prof.
Mother's Education Level	MOMEDUC	< HS HS Some College Bachelor's Master's Doctoral/Prof.

achievement. Any or all of these variables could interact with the independent variables and affect the statistical outcomes of the study.

Responses to the item identifying a student's major field of study were classified using Biglan's framework for identifying the differences between academic disciplines (Biglan 1973a, 1973b; Stoecker, 1991). In research aimed at determining the relationship of subject matter to organizational structure in higher education, Biglan developed a scheme whereby academic disciplines can be classified into three dimensions: hard-soft, pure-applied, and life-nonlife. He posited that these classifications comprise the body of theories subscribed to by most members of a field and encompass a "consistent account of most of the phenomena of interest in the areas" and are characterized by great consensus about the appropriateness of content and method in that area (Biglan, 1973b, p. 210). Stoecker (1993) examined the validity of the Biglan taxonomy in her study of 1188 faculty members. She arrived at the same classification scheme as Biglan and added further classifications for the fields of nursing and dentistry. Johnson (1997) identified eight studies that used Biglan's classification in examining the difference between disciplines.

Classification into the Biglan categories of hard and soft science are most relevant to the study because students in the hard sciences are traditionally underrepresented in study abroad programs (see Davis, 1999). Using this categorization may consequently offer some additional explanation for that underrepresentation. The variable was useful, subsequently, in terms of clarifying the effect of major on the dependent variable.

#### IV. Analytical Methods.

The two groups (study abroad, no study abroad) were compared in terms of the reported demographic characteristics to ascertain how similar they were. The results of this comparison appear in Chapter 4.

An independent samples t-test and chi-square tests served to reveal what differences, if any, existed in the dependent variable and background variables between the group of 188 students who completed both the pretest and the posttest and the 296 students whose pretest instrument could not be matched with a posttest. The two groups were similar in almost every way. The mean score for the openness to diversity scale did not differ between the two groups ( $t = .541$ ,  $df = 483$ ,  $sig. = .589$ ). The two groups differed in background characteristics in only two ways.

1. A higher percentage of females completed both the pretest and the posttest survey (78 percent) than those whose pretest instrument could not be matched with a posttest (68.4 percent).
2. Students in the study (students who returned both a pretest survey and a posttest survey) had completed fewer semesters prior to the spring semester of 2001 (5.18 prior semesters) than students not included in the study because they returned only a pretest survey (5.77 prior semesters).

#### **Analyses.**

Statistical analysis of the results included several steps. Here is an outline.

1. Develop a variable to indicate change in the dependent variable.

2. Use a paired samples t-test dependent variable in students who studied abroad and those who did not.
3. Test the second two hypotheses using paired samples t-test to determine whether there is a change in the students who studied abroad. Students' individual pretest responses were paired with the responses that they gave at posttest using the last four digits of the Social Security Number that were provided in the online survey.
4. Use correlation and analysis of variance to identify which of the control variables, if any, have a relationship to the dependent variable for the students who studied abroad.

#### **LIMITATIONS.**

Limits of the design used in this research were several. First, it was not possible to assign students to the treatment randomly since they chose whether or not to enroll in a study abroad program. This distinguishes this design from an experimental design, and represents a major limitation of *ex post facto* designs. Consequently, any statements about cause-and-effect can only be made with this limitation in mind. In addition, conclusions about a strong relationship between studying abroad and openness to diversity depended on the homogeneity of the experimental and the comparison groups. There could have been fundamental differences in the persons comprising the experimental and the comparison groups. Students selecting to study abroad may be more willing to experience such an educational program, be more involved in their educational experiences, be more comfortable with the material that is to be presented, among other characteristics. Another limitation to this study involved mortality; data

were not available for students who do not complete the posttest. This differential loss of results could have affected the results. Finally, limits of the survey design include the fact that respondents could not ask for clarification or feedback as in interviews, and answers for a Likert-type scale typically provide incomplete information. Low response rates may threaten generalizability.

### **SUMMARY.**

This study incorporated an *ex post facto* design and assessed students' openness to diversity on a scale developed by Pascarella, et al. (1996) to which they responded before the start of the spring semester 2001 and again at the close of the semester. These responses to this scale served as the measure of the dependent variable. The independent variables were: 1) level of integration and 2) language of host country. Sixteen additional variables measured students' background characteristics.

The experimental group came from the population of students participating in a Penn State study abroad program during the semester in which they provided data; a comparison group consisted of students who had expressed an interest in studying abroad but who did not enroll in a program. There were 188 usable responses to requests for participation in the project—100 in the experimental group and 88 in the comparison group. The return rate was 15.9 percent. Data analysis of the results use six steps to answer the research questions and test the hypotheses.

## **CHAPTER 4: ANALYSES**

Openness to diversity as a result of studying abroad was the focus of this study. Because of the relative paucity of research on the development of students who study abroad, this study incorporated rigorous quantitative design and a theoretical base to explore three hypotheses. These hypotheses are that 1) students who study abroad develop a greater openness to diversity than students who do not, 2) the difference in openness to diversity is greater in students who attend programs that are more highly integrated, and 3) students studying in non-English countries attain a greater openness to diversity.

The research drew on Chickering's student development theory (Chickering, 1969; Chickering & Reisser, 1993), which specifically considers students' development of mature interpersonal relationships through tolerance for difference. The study had students in an experimental group of similar students complete an instrument before and after an academic semester and provide information about their demographic characteristics. A comparison group of students also completed the two surveys. Students provided 188 usable responses to the web-based instrument, and a six-step data analysis plan was implemented. This chapter reviews the results of those analyses.

### **DEMOGRAPHICS.**

Student participants in this study completed and returned a total of 862 surveys; 512 of these were pretest surveys and 340 were posttest surveys. After receiving the responses, pretest responses were matched with posttest responses on the basis of the last four digits of the Social Security Numbers supplied by the respondents. Following the

matching, some surveys were eliminated because there were duplicate and identical responses (e.g., the respondent had submitted the survey twice) on either the pretest or the posttest. Additional pairs of surveys were then eliminated because respondents did not respond to any of the questions in the instrument or because there were multiple pretest or posttest submissions with differing responses to the items. This eliminated 152 unmatched pairs of responses, which left a total of 188 usable paired surveys.

Respondents could choose whether or not to respond to any of the questions included on the survey; rendering some surveys unusable for those items alone; the entire survey was not eliminated unless data for all of the dependent items were missing. A summary of the usable responses categorized by the student's participation in a study abroad experience and control variables appears in Table 4.

Responses on the demographic variable items were compared by means of an independent samples t-test for ordinal variables and a chi-square for categorical variables. The test results indicated that the comparison group differed from the experimental group along only three demographic lines. More respondents in the experimental group were enrolled in soft science majors than students in the comparison group. Students who studied abroad were older; they also had completed more semesters prior to spring 2001 than those who did not. In the other demographic categories, students' characteristics were similar.

The implications arising from these differences are minimal, but one major possibility does emerge. Since students who did not study abroad in the semester of the study were younger and had less advanced academic standing, there exists a probability,

Table 4.  
 Responses to demographic questions

Variable	Response	Study Abroad Participation				Total
		Studied Abroad		Did not Study Abroad		
		N	Percent	N	Percent	
Gender	Male	26	26.0%	15	17.0%	41
	Female	72	72.0%	72	81.8%	144
	No response	2	2.0%	1	1.1%	3
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Major Category	Hard Science	20	20.0%	33	37.5%	53
	Soft Science	80	80.0%	55	62.5%	135
	No response	0	0.0%	0	0.0%	0
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Residence	On Campus	45	45.0%	41	46.6%	86
	Room or Apt Off Campus	51	51.0%	46	52.3%	97
	Parent/Spouse/Relative	3	3.0%	0	0.0%	3
	No response	1	1.0%	1	1.1%	2
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Race	Amer Indian/Alaskan	1	1.0%	0	0.0%	1
	Asian/Pacific Am	5	5.0%	3	3.4%	8
	Black/African Am	1	1.0%	5	5.7%	6
	Latino/Hispanic Am	3	3.0%	4	4.5%	7
	White/Caucasian	86	86.0%	72	81.8%	158
	Other	2	2.0%	2	2.3%	4
	No response	2	2.0%	2	2.3%	4
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Age	19	0	0.0%	1	1.1%	1
	20	2	2.0%	25	28.4%	27
	21	49	49.0%	32	36.4%	81
	22	37	37.0%	17	19.3%	54
	23	5	5.0%	9	10.2%	14
	24	2	2.0%	1	1.1%	3
	25	0	0.0%	1	1.1%	1
	No response	5	5.0%	2	2.3%	7
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
	Semesters Completed Before Spring 2001	3	0	0.0%	29	33.0%
4	3	3.0%	2	2.3%	5	
5	63	63.0%	38	43.2%	101	
6	7	7.0%	7	8.0%	14	
7	24	24.0%	10	11.4%	34	
8	0	0.0%	2	2.3%	2	
9	1	1.0%	0	0.0%	1	
12 or more	1	1.0%	0	0.0%	1	
No response	1	1.0%	0	0.0%	1	
<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>	

(continued)

Table 4. (continued)  
 Responses to demographic questions

Variable	Response	Study Abroad Participation				Total
		Studied Abroad		Did not Study Abroad		
		N	Percent	N	Percent	
GPA	2.21 - 2.40	0	0.0%	1	1.1%	1
	2.41 - 2.60	2	2.0%	1	1.1%	3
	2.61 - 2.80	1	1.0%	4	4.5%	5
	2.81 - 3.00	7	7.0%	6	6.8%	13
	3.01 - 3.20	13	13.0%	17	19.3%	30
	3.21 - 3.40	17	17.0%	14	15.9%	31
	3.41 - 3.60	16	16.0%	15	17.0%	31
	3.61 - 3.80	14	14.0%	16	18.2%	30
	3.81 - 4.00	23	23.0%	10	11.4%	33
	No response	7	7.0%	4	4.5%	11
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Greek Membrshp	Greek	22	22.0%	23	26.1%	45
	Non-Greek	75	75.0%	63	71.6%	138
	No response	3	3.0%	2	2.3%	5
<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>	
Diversity Workshop	Attended	28	28.0%	29	33.0%	57
	Did Not Attend	71	71.0%	59	67.0%	130
	No response	1	1.0%	0	0.0%	1
<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>	
Prior Months Outside US	Less than One	25	25.0%	29	33.0%	54
	1	24	24.0%	21	23.9%	45
	2	8	8.0%	8	9.1%	16
	3	8	8.0%	2	2.3%	10
	4	4	4.0%	2	2.3%	6
	5	3	3.0%	1	1.1%	4
	6	1	1.0%	1	1.1%	2
	7	0	0.0%	1	1.1%	1
	8	4	4.0%	0	0.0%	4
	9	0	0.0%	0	0.0%	0
	10	0	0.0%	0	0.0%	0
	11	1	1.0%	0	0.0%	1
	12 or More	5	5.0%	6	6.8%	11
	No response	17	17.0%	17	19.3%	34
<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>	

(continued)

Table 4. (continued)  
 Responses to demographic questions

Variable	Response	Study Abroad Participation				Total
		Studied Abroad		Did not Study Abroad		
		N	Percent	N	Percent	
Prior	Less than One	28	28.0%	29	33.0%	57
Months in	1	13	13.0%	14	15.9%	27
Non-English-2	2	4	4.0%	2	2.3%	6
Speaking	3	8	8.0%	2	2.3%	10
Country	4	5	5.0%	1	1.1%	6
	5	1	1.0%	3	3.4%	4
	6	1	1.0%	0	0.0%	1
	7	0	0.0%	2	2.3%	2
	8	5	5.0%	0	0.0%	5
	9	0	0.0%	0	0.0%	0
	10	1	1.0%	0	0.0%	1
	11	1	1.0%	0	0.0%	1
	12 or More	3	3.0%	4	4.5%	7
	No response	30	30.0%	31	35.2%	61
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Prior	Less than One	14	14.0%	20	22.7%	34
Semesters of	1	14	14.0%	16	18.2%	30
Foreign	2	19	19.0%	20	22.7%	39
Language	3 or More	52	52.0%	24	27.3%	76
	Missing	1	1.0%	8	9.1%	9
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Father's	Some High School	2	2.0%	2	2.3%	4
Education	High School	17	17.0%	10	11.4%	27
	Some College	11	11.0%	21	23.9%	32
	Bachelor's	39	39.0%	24	27.3%	63
	Master's	18	18.0%	20	22.7%	38
	Doctorate	6	6.0%	5	5.7%	11
	Professional	7	7.0%	4	4.5%	11
	No response	0	0.0%	2	2.3%	2
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Mother's	Some High School	4	4.0%	0	0.0%	4
Education	High School	17	17.0%	27	30.7%	44
	Some College	20	20.0%	12	13.6%	32
	Bachelor's	32	32.0%	24	27.3%	56
	Master's	25	25.0%	18	20.5%	43
	Doctorate	0	0.0%	1	1.1%	1
	Professional	2	2.0%	1	1.1%	3
	No response	0	0.0%	5	5.7%	5
	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>
Previous	Some	12	12.0%	5	5.7%	17
Study	None	87	87.0%	82	93.2%	169
Abroad	No response	1	1.0%	1	1.1%	2
Experience	<b>TOTAL</b>	<b>100</b>	<b>100.0%</b>	<b>88</b>	<b>100.0%</b>	<b>188</b>

Note: Because of rounding, not all items in the *Percent* column total to 100.

although difficult to measure, that these same students may yet elect to study abroad. Because they may participate at some future time in a study abroad experience, some of the characteristics or background that may add to openness to diversity might preexist in these students. For instance, nearly all (97 percent) of students in the study who studied abroad were in at least their sixth semester at Penn State, whereas 35 percent of the students in the comparison group were in either the fourth or the fifth semester of their schooling. Many of those students may yet elect to study abroad in their junior or senior year of college, which is when most students participate in study abroad.

## **OPENNESS TO DIVERSITY.**

### **Measuring the Dependent Variable.**

Descriptive data for the eight-item openness to diversity scale appear in Table 5. The students' responses to the questions on the scale show what seems to be an especially high response on the pretest—a great openness to diversity—for the entire population of respondents. The mean score of 4.24 indicates that students began the semester with a fairly high openness to diversity. The standard deviation is relatively low for this group, implying that most students scored, on average, higher than the midpoint of 3.0 on the scale. The distribution of scores is very nearly normal, and there is little skewness as the median score of 4.25 barely differs from the mean.

In responses to the posttest instrument, responses appear to indicate that there is an increase in students' openness to diversity when considered both in the aggregate for both groups and separately according to participation in a study abroad experience. When considering these data, some preliminary findings begin to emerge. Students who

Table 5.  
Responses to openness to diversity scale, pretest, posttest, mean change

Measures		Study Abroad Participation		
		Studied Abroad	Did not Study Abroad	Combined Groups
Pretest	N	100	88	188
	Pretest Mean	4.265	4.210	4.239
	St. Deviation	0.539	0.539	0.538
	Minumum	2.250	2.500	2.250
	Maximum	5.000	5.000	5.000
	Median	4.315	4.250	4.250
Posttest	N	100	88	188
	Posstest Mean	4.339	4.224	4.285
	St. Deviation	0.543	0.524	0.536
	Minumum	2.375	2.750	2.375
	Maximum	5.000	5.000	5.000
	Median	4.315	4.250	4.250
Mean Change	N	100	88	188
	Mean Change	0.074	0.014	0.046
	St. Deviation	0.448	0.338	0.400
	Minumum	-1.250	-0.875	-1.250
	Maximum	1.875	1.125	1.875
	Median	0.000	0.000	0.000

studied abroad showed a greater difference in the openness to diversity mean score than students who did not participate in a program. The mean change score for the students in the experimental group also showed more variability, with a higher minimum and maximum score and a higher standard deviation.

The first hypothesis in this study was that students who study abroad develop a greater level of openness to diversity than students who do not study abroad. To test this hypothesis, the mean score for the eight items comprising the instrument was calculated for both the pretest and the posttest. A paired samples t-test was conducted on those scores to ascertain whether or not that mean score differed from pretest to posttest. Table

6 shows pertinent data for the openness to diversity instrument, and the results of that analysis.

Table 6.  
Paired samples t-tests comparing change in mean openness to diversity score by participation.

Cases	Measures	Study Abroad Participation		
		Studied Abroad	Did not Study Abroad	Combined Groups
All Responses	N	100	88	188
	Mean Change	0.074	0.014	0.046
	t	1.651	0.395	1.576
	df	99	87	187
	sig.	0.102	0.694	0.117
Highest 1/3 on pretest	N	43	33	76
	Mean Change	-0.093	-0.117	-0.104
	t	1.819	2.600	2.981
	df	42	32	75
	sig.	0.076	0.014	0.004
Middle 1/3 on pretest	N	33	29	62
	Mean Change	0.053	0.013	0.0343
	t	0.707	0.230	0.721
	df	32	28	61
	sig.	0.485	0.820	0.473
Lower 2/3 on pretest	N	57	55	112
	Mean Change	0.200	0.093	0.147
	t	3.130	1.940	3.660
	df	56	54	111
	sig.	0.003	0.058	0.000
Lowest 1/3 on pretest	N	24	26	50
	Mean Change	0.402	0.183	0.288
	t	4.067	2.364	4.536
	df	23	25	49
	sig.	0.000	0.026	0.000
Highest 22.9% on pretest (score = 4.75)	N	24	19	43
	Mean Change	-0.135	-0.112	-0.125
	t	2.325	1.766	2.947
	df	23	18	42
	sig.	0.029	0.094	0.005
Lowest 77.1% on pretest (score = 4.63)	N	76	69	145
	Mean Change	0.140	0.049	0.097
	t	2.596	1.173	2.791
	df	75	68	144
	sig.	0.011	0.245	0.006

A paired samples t-test revealed no significant difference between the mean of the pretest questions and the mean of the posttest questions ( $t = 1.576$ ,  $df = 187$ ,  $sig = .117$ ). This indicates that, despite an average increase of about .05 points on the scale, when all respondents are considered together, there was no change in openness to diversity from December 2000 through the end of the spring semester of 2001.

Similarly, there was no difference in the mean from pretest to posttest for those who studied abroad ( $t = 1.651$ ,  $df = 99$ ,  $sig = .102$ ) or for those who did not ( $t = .395$ ,  $df = 87$ ,  $sig = .694$ ). Comparing these scores, however, showed some interesting numerical differences in student responses to the survey. Although there was no statistical change in students' openness to diversity regardless of whether or not they studied abroad, Table 6 shows a mean change in study abroad students that is .06 points higher than students who did not study abroad, and a difference in the t-value of nearly 1.3 points. These differences suggest a direction that is consistent with the hypothesis and additional analyses were necessary to provide further explanation of the absence of any change and to determine if the differences are more than just random.

The responses to the eight-question instrument were coded as (5 = strongly agree through 1 = strongly disagree); a higher score implied a greater openness to diversity. Since the pretest response mean was 4.24, responses to the pretest indicated considerable openness to diversity. Consequently, the possibility of a ceiling effect offered a possible explanation and a reasonable continuation of the analysis process. To begin this consideration, students' scores on the pretest were divided into the three categories of high, medium, and low openness to diversity by dividing the cases into approximate

thirds according to the mean on the pretest for the entire group of respondents. Those results follow.

### **Ceiling Effect.**

Immediately upon considering students' responses when grouped by amount of openness to diversity at pretest, interesting results emerged. Analyses of the change in openness to diversity scores from pretest to posttest using these three categories shows some significant change. These results also appear in Table 6. Analysis of variance revealed change to be significant at the .001 level ( $f = 14.348$ ,  $df = 2$ ,  $sig = .000$ ); there was indeed some difference in the students' openness to diversity. Students who scored high on the pretest showed a decrease in openness to diversity, most likely because there was little space on the scale for them to improve. There was no change in openness to diversity in the middle group, but among students who scored lowest on the pretest, a significant increase in openness to diversity was indicated, regardless of their participation in a study abroad program.

When the low and medium categories of mean responses on the pretest instrument were combined, in essence to attempt to clarify the ceiling result, the results emerged that showed significant positive differences in mean change from pretest to posttest among all students who studied abroad and scored in the combined medium and low categories on the pretest. According to these data, the group of students scoring in the bottom two-thirds in the instrument at pretest increased significantly in their openness to diversity over the period that was being measured.

To determine the exact point at which the ceiling effect began to affect students' change in openness to diversity, and to discover whether study abroad students continue to change more positively in comparison to those who do not, paired samples t-tests were conducted at each change point in cumulative percentage. There were 22 different mean scores for the pretest instrument. The results revealed that there is positive change in responses to all but the three highest means; there was an aggregate positive change among students in the lower 19 means (mean  $\geq 4.75$ ,  $n = 43$ , mean change = 0.097,  $t = 2.791$ ,  $df = 144$ ,  $sig. = .006$ ). More illustratively, Table 6 also shows that there is positive change ( $sig. = .011$ ) in the experimental group for all but the highest 22.9 percent. In the comparison group, change is not shown ( $sig. = .245$ ).

These additional analyses supported the initial hypothesis of this study; that is students who study abroad show measurable gains in development in terms of openness to diversity. A secondary and unexpected finding from these data was that students who studied abroad or who were interested in a study abroad program had an apparently high level of openness to diversity. Additionally, among students who began at a level lower than the top 22.9 percent of respondents, only students who studied abroad gained in openness to diversity.

#### **LANGUAGE OF HOST COUNTRY.**

Students studying in Penn State's academic programs outside of the United States can choose from about 130 programs in 49 different countries throughout the world. These students can choose programs in either countries in which English is the primary language or in countries in which a language other than English is generally spoken. A

second hypothesis in this study was that students who study abroad in programs in countries where English is not the primary language attain a measurably greater level of openness to diversity than do students studying in countries in which English is the primary language. Table 7 shows the difference in mean change in openness to diversity score by the language of the host country.

Table 7.  
Paired samples t-tests comparing change in mean openness to diversity score by language of host country.

Cases	Measures	Language of Host Country		
		English	Non-English	Combined Groups
All Responses	N	41	58	100
	Mean Change	0.177	-0.002	0.074
	t	2.237	0.042	1.651
	df	40	57	99
	sig.	0.031	0.967	0.102
Highest 22.9% on pretest (score = 4.75)	N	7	16	24
	Mean Change	-0.232	-0.117	-0.135
	t	1.543	2.167	2.325
	df	6	15	23
	sig.	0.174	0.047	0.029
Lowest 77.1% on pretest (score = 4.63)	N	34	42	76
	Mean Change	0.262	0.042	0.140
	t	3.110	0.622	2.596
	df	33	41	75
	sig.	0.004	0.538	0.011

These results were surprising in how dramatically change in openness to diversity is displayed between the two groups. Initial analysis considered the ceiling effect that was discussed in the previous section. The data showed that among the 77.1 percent of students who displayed an initial increase in openness to diversity, for those students studying in countries where English is the primary language there was an aggregate

positive increase in the change in the mean openness to diversity score from pretest to posttest, but not for those in the non-English category.

Because the difference in the change was so dramatic between the students studying in English and non-English speaking countries, and because the difference in level of significance was so great, further scrutiny was required. Additional inspection of the results revealed that there was no apparent ceiling effect when looking at mean score of the instrument along the lines of the language of the programs' host country. There was a clear and significant increase in openness to diversity among students who sojourned in countries in which English is the primary language. Students studying in the other countries exhibited no change in openness to diversity using this instrument.

These series of analyses directly contradicted the second hypothesis in this study. Although the hypothesis was that students studying in non-English speaking countries would show more openness to diversity than those in English speaking countries; exactly the opposite proved to be the case.

Because of the dramatic rejection of the second hypothesis from these data, some additional analyses were conducted. It seemed possible that, for those students studying in non-English speaking countries, that lack of familiarity with the language of the host culture could influence students' opportunity to become more open to diversity. Consequently, several attempts were made to determine whether or not a student's language preparation influenced openness. First, data obtained from the instrument were compared to students' language preparation. No correlation between students' change in mean openness to diversity score on the instrument and the number of prior semesters of a foreign language that the student had completed before the study abroad experience was

evident (correlation = .102, sig = .449). Second, paired samples t-tests were used to determine whether students with different semesters of prior language courses changed in openness to diversity. None of the groups showed significant change in openness to diversity. Table 8 presents those results.

Table 8.  
Paired samples t-tests comparing change in mean openness to diversity score in students studying in non-English speaking countries: by number of prior semesters foreign language.

Measures	Prior Semesters of Foreign Language Enrollment				Combined Groups
	None	1	2	3 or more	
N	2	3	10	42	58
Mean Change	0.188	-0.333	-0.100	0.027	-0.002
t	1.000	0.718	1.177	0.452	0.042
df	1	2	9	41	57
sig.	0.500	0.547	0.269	0.654	0.967

## AMOUNT OF PROGRAM INTEGRATION.

Penn State’s study abroad offerings involve programs in which students are exposed to three differing levels of integration into the culture of the host country. In *immersion* programs, students live with families or other students who are native to the country in which the program is located, and take classes in the foreign classroom. An *island* program has students living with Penn State or other American students and taking classes with other American students. Other programs combine these traits into *mixed* or *combination* programs. The final hypothesis in the study was: “Students participating in immersion programs have a higher level of openness to diversity than students in mixed programs. Students who participate in island programs attain the lowest level of openness to diversity.” When considering level of program integration on the impact of

study abroad on openness to diversity, the data showed results that supported the hypothesis.

Table 9 shows the descriptive statistics and results of statistical analysis for all students in the study according to level of immersion. The mean change in the openness to diversity score increased as the study abroad program became more integrated, using the three categories of integration. When paired samples t-test were introduced, however, none of the categories revealed any significant change in openness to diversity.

Table 9.  
Paired samples t-tests comparing change in mean openness to diversity score by amount of program integration.

Cases	Measures	Level of Integration			Combined Groups
		Island	Combination	Immersion	
All Responses	N	6	59	34	100
	Mean Change	-0.125	0.047	0.151	0.074
	t	0.866	0.869	1.702	1.651
	df	5	58	33	99
	sig.	0.426	0.388	0.098	0.102
Highest 22.9% on pretest (score = 4.75)	N	0	15	8	24
	Mean Change	--	-0.075	-0.297	-0.135
	t	--	1.418	2.378	2.325
	df	--	14.000	7.000	23
	sig.	--	0.178	0.049	0.029
Lowest 77.1% on pretest (score = 4.63)	N	6	44	26	76
	Mean Change	-0.125	0.088	0.289	0.140
	t	0.866	-1.280	3.039	2.596
	df	5	43	25	75
	sig.	0.426	0.207	0.005	0.011
All students in English speaking countries	N	0	15	25	40
	Mean Change	--	0.150	0.193	0.177
	t	--	1.437	1.740	2.237
	df	--	14	25	40
	sig.	--	0.173	0.094	0.031
All students in non-English speaking countries	N	6	44	8	58
	Mean Change	-0.125	0.011	0.016	-0.002
	t	0.866	0.182	0.143	0.042
	df	5	43	7	57
	sig.	0.426	0.856	0.890	0.967

As a further test of the hypothesis, the ceiling effect identified in testing the initial hypothesis was again considered. The results of that analysis were consistent with the hypothesis. Among the 145 students who showed a low level of openness to diversity on the pretest, only those who studied in programs that were fully integrated into the host culture showed an increase in change in their mean score on the instrument for openness to diversity. Results of the paired samples t-test for that group were significant at the .005 level (mean change = .289,  $t = 3.039$ ,  $df = 25$ ,  $sig = .005$ ).

One final series of analyses were conducted to explore whether openness to diversity changes based on the level of program integration for students in the study who studied abroad. As displayed in Table 10, more students studied in non-English speaking countries than in countries in which English is the primary language. Combination programs enrolled the most students, followed by fully immersed programs and then island programs. Those students in non-English speaking countries were more likely to be enrolled in combination programs than either fuller immersed or island programs. Among students in English speaking countries, students were most likely to be in fully immersed programs, followed by combination programs; none of these students enrolled in island programs.

Table 10.  
Crosstabulation of language of host country with amount of integration into the host culture.

Language of Host Country	Level of Integration						Total	
	Island		Combination		Immersion		N	Percent
	N	Percent	N	Percent	N	Percent	N	Percent
Non-English	6	6.1%	44	44.4%	8	8.1%	58	58.6%
English	0	0.0%	15	15.2%	26	26.3%	41	41.4%
<b>Total</b>	<b>6</b>	<b>6.1%</b>	<b>59</b>	<b>59.6%</b>	<b>34</b>	<b>34.3%</b>	<b>99</b>	<b>100%</b>

The reason for exploring these relationships is again resting on the possibility that lack of familiarity with the language of the host culture could influence students' opportunity to become more open to diversity, especially when considering that students have differing opportunities to interact with the host culture. Two attempts were made to determine whether or not change occurs. First, the results of the instrument were correlated to the amount of integration in the students' study abroad program. No correlation was discovered between change in mean openness to diversity score on the instrument for students studying in non-English speaking countries and the level of integration (correlation = .080, sig = .552). Neither was there a correlation between the mean change score and level of integration for students in English speaking countries (correlation = .041, sig = .798). Second, paired samples t-tests were used to determine whether students changed in openness to diversity for each of the three levels of program integration. None of the groups showed significant change in openness to diversity. (Refer back to Table 9 for these results.) These results support a conclusion that the language of the program is unrelated to amount of integration in affecting students openness to diversity.

#### **DEMOGRAPHIC VARIABLES.**

Each of the demographic variables was tested to determine whether or not it was correlated with a change in mean score on the openness to diversity instrument in the students who studied abroad. Whether or not a ceiling effect was considered, none of the 16 control variables helped to explain why students in the experimental group scored higher in change in openness to diversity over the course of the semester. Those

variables were: age; gender; ethnicity; semesters completed before spring 2001; cumulative GPA; Biglan hard or soft science; residence; Greek membership; diversity workshop attendance; prior months outside the US; prior months spent in non-English speaking country; prior semesters of college-level foreign language; previous study abroad experience; father's education; mother's education.

## **SUMMARY.**

This study used a scale developed by Pascarella et al. (1996) to measure study abroad students' openness to diversity. The results were then compared to the scores of a group of students who did not participate in a study abroad program. Students completed the instrument as a pretest, and then as a posttest at the end of an academic semester. Two other dependent variables measured 1) the level of integration, and 2) the language of host country of the programs in which the study abroad students participated. There were 16 additional variables measuring background characteristics. A return rate of about 16 percent yielded 100 usable response pairs in the experimental group and 88 in the comparison group.

Respondents in the experimental group were more likely to be enrolled in soft science majors than students in the comparison group. They were older and had completed more semesters than those who did not study abroad. In the other demographic items, there was little appreciable difference between the two groups.

Initial analysis showed no relationship between students' pretest scores and the posttest scores on the instrument, nor was there a difference in the mean of the pretest or the mean of the posttest. When comparing the group of students who studied abroad to

students who did not, however, the researcher discovered a ceiling effect. Because students scored quite highly on the pretest, scores in the highest three categories were eliminated in the analysis. In the remainder of cases, there is an aggregate positive change in openness to diversity in the study abroad group; the comparison group (those students who did not study abroad) showed no change in the dependent variable.

Students studying in English speaking countries showed an increase in openness to diversity, while students studying in non-English speaking countries showed no change. Related to amount of program integration, students in programs that were fully integrated into the culture of the host country showed gains in openness to diversity, while students in island or combination programs showed no change from their pretest scores. None of the background variables helped to explain the differences in change in openness to diversity between the groups.

## CHAPTER 5: CONCLUSIONS

This study explored changes in openness to diversity resulting from a study abroad experience. Little research has been done in this area, but much has been written about the importance of openness to diversity in a college student's development (see Chickering, 1969; Chickering & Reisser, 1993; Pascarella et al., 1996). A pretest-posttest *ex post facto* design using an established instrument measured the change in openness to diversity using an experimental group of students who participated in a semester-long study abroad program and a comparison group of students who did not. Three hypotheses were tested in this study: 1) students who study abroad develop a greater openness to diversity than students who do not; 2) the difference in openness to diversity is greater in students who attend programs that are more highly integrated; and 3) students studying in non-English countries attain a greater openness to diversity than students who study in countries where English is the predominant language.

There were 100 students in an experimental group and 88 students in a comparison group who completed a pretest and a posttest instrument before and after an academic semester and provided demographic information. Data analysis yielded three major results:

1. Students who participate in a one-semester study abroad program showed measurable gains in openness to diversity.
  - a. No change in openness to diversity was initially evident, for either group.
  - b. Students scored quite high on the instrument at pretest.

- c. A ceiling effect emerged; positive change among students in the experimental group emerged when all but the top 22.9 percent were considered. Students in the comparison group continued to show no change in openness to diversity.
2. Students in programs where they were fully integrated into the host culture showed significant positive change in their openness to diversity. Students in programs that were less than fully integrated (students studying in mixed programs and island programs) did not show any change in openness to diversity.
3. Students whose programs took place in English speaking countries showed increases in openness to diversity; students studying in non-English speaking countries showed no change.

The results of this study indicated that Penn State students who participated in a one-semester study abroad program showed measurable gains in openness to diversity. Further, this study showed that students who did not participate in the program showed no gains in this area. An unintended yet instructive outcome of the study was that a clear ceiling effect among students who studied abroad or who showed interest in studying abroad emerged. Students starting at a high level of openness show little increase in their openness after participating in study abroad; some declined in their openness.

After returning from study abroad programs, students consistently report that the experience had a significant impact on their lives (see Kauffman et al., 1992; Laubscher, 1994). Consistently, too, the positive impact of the experience comes from experiences outside of the classroom (Laubscher, 1994). Openness to diversity is one of those

impacts. As a psychosocial construct, openness to diversity certainly cannot be taught in the classroom. This research shows that students' mere presence in a structured experience in a culture other than their own yields significant substantive results.

The results of this study help to clarify and support what Chickering and Reisser (1993) wrote is a key component to navigating the fifth vector in their seven-vector student development theory—developing mature interpersonal relationships. A tolerance for differences is a necessary task inherent to this portion of the theory. Without developing tolerance, students are not able to complete successfully the task necessary for moving through this vector (Chickering & Reisser, 1993, p. 38). Adding a study abroad component to students' undergraduate experiences may not only impact the students in particular ways, such as increasing their openness to diversity, but may also add dramatically to the overall successful development of the students.

This study tested three hypotheses. The first hypothesis, that students who study abroad return with a greater openness to diversity, seems to be supported by some of the prior research involving students who study abroad. Bates (1997) and Hutchins (1996), for example, reported that studying abroad increases international and globalized perspectives in students who participate. Although perspectives of this sort are certainly not the same as the dependent variable in this study, a connection can certainly be drawn between globalized viewpoints and tolerance or celebration of difference.

When Carlson et al. (1990) conducted their research with study abroad students to measure interest in international affairs and current events, as well as general cultural interest, the most significant aspect of students' experiences was the opportunity for interaction with persons from the host culture. Although this study did not measure what

components of the experience resulted in the psychosocial development in the participants, the presence of the student in the host culture is essentially the only variable that differed between the experimental group and the group to which they were compared. The apparent similarity between the groups in this study supported the work of these researchers. Students in this study who participated in an academic study abroad program were nearly similar totally in demographic characteristics to students who did not participate. Considering, then, that the primary differences between the two student groups was participation in the programs, this treatment may be considered as an essential cause of any changes in the development of the students.

The third finding, that the language of the host culture had an effect on openness to diversity, was not consistent with the hypothesis that it is exposure to difference that promotes openness to diversity. Students in this study increased in their openness to diversity when they studied in countries in which English is the primary language. Differences in amount of integration into the host culture afforded by the program's classroom and living structure had no explanatory effect for students in these programs. If one is not fluent in the language of the host country, then that might mitigate the impact of the experience as reaction to culture shock lessens the opportunities for participating fully in experiences outside of the foreign classroom or living environs. Conversely, familiarity with the host culture, including a full understanding of its language, especially if it is one's native tongue as is the case for most Penn State students who participate in study abroad programs, might actually be the key to promoting greater openness to diversity. It is possible that sharing a native language with persons in the

host culture could open the possibilities for students to attain more breadth and greater depth in their experiences while studying abroad.

Waldbaum (1996) postulated that, when considering Chickering's theory, students' development might be more heightened or intense because of participation in a study abroad experience. This research shows that his posit may indeed be true—students develop in at least one area addressed by Chickering where they may not otherwise develop at all over the course of the same period. If college administrators and student development experts hope to broaden students' openness to the "other," everything that is different from them, this research suggests that an experience such as studying abroad may provide just the impetus to encourage development in those areas.

#### **SUGGESTIONS FOR FURTHER RESEARCH.**

Some areas for further research surrounding this first variable emerge. How students change is more difficult to ascertain than what it is about studying abroad that changes students. What components of the experience add to this result? Carlson, Burn, Useem, and Yachimowicz (1990) identified the opportunity for interaction with persons from the host culture to be the most significant aspect of students' study abroad experience, but Laubscher may have expressed this best in his 1994 work, which is quickly becoming a seminal one in the field. He found that it is students' outside the classroom experiences that contribute most to changes students show after completing their programs. This conclusion is certainly supported by research on students who remain in this country for their academic experiences in higher education (see, for example, Kuh, 1993).

It would be instructive to learn what development outcomes beyond openness to diversity relate to study abroad. Researchers should undertake more projects like Garvey's (1991) study of students' moral development, where he reported no gains among study abroad students, but those researchers should be sure to use rigorous methods to do so—like comparing the results to students who do not sojourn. As shown in the literature review for this project, there are gaps in this area of study. Additional work using a theoretical base for exploring students' psychosocial, moral, or cognitive development will help to paint a clearer and more robust picture of the benefits of overseas programs, and further make the case for including them in students' curricula.

Another area that begs for further research is the impact of program length on student outcomes. Students in American universities are getting older and are more likely to attend school part-time; the proportion of non-traditionally aged and less than full-time students is increasing. Given the additional family or work responsibilities that these older students have, can they benefit from programs that are shorter than a full semester (the only program length that these students may reasonably be able to attend). It is possible that any overseas participation is better than none at all—especially considering the profound affect that semester-long programs have on students' openness to diversity—but little research exists in this area. Conversely, is student development more heightened in programs that last longer than a traditional semester? Little work has been done in this area either. Similarly, additional information about how developmental increases arising from study abroad experiences persist in students following their return to the United States would be useful. Herman (1997) reported that short-term programs

may not affect longer-term developmental outcomes, but she did not base her statement on empirical data.

Researchers may want to focus more attention on the question of why study abroad promotes openness to diversity. This research suggests that it has more to do with what goes on outside the classroom than with the academic program itself, which is what constituted the premise upon which Laubscher (1994) based his study. Still, neither his qualitative work nor this quantitative project developed or utilized methodology sufficient to verify that premise. Further research should focus on developing a methodology to identify specifically what it is about study abroad that promotes openness to diversity, perhaps by testing the hypothesis that it is exposure to and interaction with a distinctively different sociocultural milieu that is the key factor in promoting openness to diversity.

Support of the second hypothesis—that level of program integration may affect the outcome, at least in terms of openness to diversity—seems on the surface to sustain the assumption that exposure to and interaction with a different setting or locale is a key factor in promoting openness to diversity. This is a conclusion that should be examined further in the context of a broader study about why study abroad promotes openness to diversity. This conclusion may very well raise the most interesting issues for discussion and follow-up. Perhaps future researchers could do a follow-up study using similar methodology involving sample groups of students enrolled in traditional study abroad programs in Western Europe, students enrolled in programs in non-Western cultures, and students participating in work abroad programs. It would be interesting to see whether

there are any significant differences in the effects on the dependent variable, i.e., openness to diversity.

In her study, which was also based on Chickering's writing, Herman (1997) failed to identify factors contributing to student change resulting from study abroad experiences. This project suffered from a similar problem; none of the background factors correlated to change in openness to diversity. Other researchers, however, claim to have identified some of these factors. Student maturity, participation in multiple experiences, minority experiences, geographic location of the program, level of immersion, and the focus of the study tour program were all listed by Hutchins (1996) as factors influencing and increasing students' international and global perspective. Additional study to ascertain what exactly adds to student changes will help us better understand the process of development that occurs when a student sojourns in another country and may assist program developers and administrators to create purposeful experiences for the students. Finally, more research designed to identify and explore the role of culture shock in promoting openness to diversity may help to explain why students studying in non-English speaking countries did not increase in their openness to diversity.

More detailed study is necessary to explore the relationship between a student's familiarity with a foreign language and the level of immersion in the program in which they participate, particularly in non-English speaking countries. Students in this study clearly prefer programs where they are not highly immersed in the foreign-language culture, yet students studying in highly immersed programs show measurable gains in their openness to diversity. Further study may serve to provide additional implications

for the practice of study abroad professionals or program planners, especially in attracting students in countries where English is not the primary language to programs that more completely immerse them into the host culture thereby providing providing greater opportunity for psychosocial development.

### **IMPLICATIONS FOR PRACTICE.**

This project was an effort to subject study abroad to a high level of academic scrutiny in an attempt to illuminate it more completely, as well as to justify it more clearly in terms of the impact that it has on the participants. Consequently, the primary implication for practice is an argument for continuing study abroad efforts and encouraging and rewarding participation by greater numbers of students. In looking toward internationalizing the whole institution, study abroad programs for undergraduate students can assist by integrating efforts to affect students' views of the world into the fabric of the academy.

Perhaps the most interesting question that this study raises is what it is specifically about study abroad that promotes openness to diversity. The data support the hypothesis that students who participate in a study abroad program develop a greater openness to diversity than those who do not study abroad, but we are still left with the question of why that is so. If we can distill from the experience what it is specifically that promotes openness to diversity, then perhaps program initiators or administrators can find ways to incorporate that element into educational programs generally. Incorporating mitigating experiences in order to achieve a similar outcome among the vast majority of

students who never study abroad may thus narrow the gap between what constituted the experimental group and the control group in this study.

This study certainly offers some suggestions about which experiences may foster positive developmental change. Study abroad practitioners should consider encouraging student participation in programs located in Australia, Western Europe, and other English speaking locales that might contribute to positive student gains in openness to diversity. American students already study in these areas in numbers greater than in non-English speaking countries, yet conference presentations and opinion articles abound in the field that suggest students should eschew English speaking countries for the “more profound” experiences available to them in countries in which English is not the chief language. Program developers should seek to incorporate high levels of integration into new programs, and study abroad advisors should encourage students to participate in these highly integrated programs.

As we continue to move into an increasingly interconnected world, institutions have an obligation to prepare students in becoming positive, contributing members of the global society. It is disturbing to read literature suggesting that American students are becoming less accepting of races and cultures other than their own (see Astin, Keup, & Lindholm, 2002). If the persons in our colleges and universities who design curricular and co-curricular offerings purport to educate the whole student and teach them to function appropriately in today’s society, programs such as study abroad must take a greater role. The developmental outcomes of study abroad experiences, as displayed in this work and other supporting research, is reason enough to develop and expand such programs.

Studies of the college curriculum rarely mention a study abroad component in the sequence of courses that students take as part of their undergraduate degree programs. Stark and Lattuca, for instance, in their 1997 book *Shaping the College Curriculum*, do not mention any contributions that studying abroad has for the participating students. There is some indication, however, that a number of institutions are making stronger efforts to encourage students to study abroad. Penn State, for example, is attempting to double—in eight years—the number of students who study abroad (A Strategic Update, 1998), and included a study abroad component in the university's new honors college curriculum (The Schreyer Honors College, 1997). Penn State also requires study abroad experiences for undergraduates studying in several majors, such as international business. Institutions of higher education can use this research to justify changes or adaptations that result in adding this component to students' curricula.

International programs administrators may use this research to provide quantified justification for the existence of their programs. This research may also be used to improve and to design study abroad programs more effectively. This study adds some depth to the paucity of research on the subject.

These results are useful in addressing some of the significance issues noted above, and will help to narrow the gap in existing research. This work may also serve as a basis for additional research that adds to, widens, or otherwise augments this study.

## REFERENCES

- A strategic update of the vision and plan: The University Office of International Programs. (1998). University Park, PA: The Pennsylvania State University, University Office of International Programs.
- Abrams, I. (1963). Preface to study abroad. Journal of General Education, 1, 220-229.
- Astin, A. W., Keup, J. R., & Lindholm, J. A. (2002). A decade of changes in undergraduate education: A national study of system "transformation". Review of Higher Education, 25 (2), 141-162.
- Barber, E. G. (1983). The impact of foreign educational experience on individuals. ISECSI bulletin of international interchanges, 20, 7-10.
- Barber, E. G. (1988). [Review of the book Dimensions of international higher education: The University of California symposium on education abroad]. The Journal of Higher Education, 59 (1), 104-105.
- Baskin, S. (Ed.). (1965). Higher education: Some newer developments. New York: McGraw-Hill.
- Bates, J. T. (1997). The effects of study abroad on undergraduates in an honors international program. Dissertation Abstracts International, 58 (11), 4162. (UMI No. 9815480)
- Bennett, M. J. (1986). Towards ethnorelativism: A developmental model of intercultural sensitivity. In R. M. Paige. Cross-cultural orientation: New conceptualizations and applications (pp. 27-70). Lanham, MD: University Press of America.
- Biglan, A. (1973a). The characteristics of subject matter in different academic areas. Journal of Applied Psychology, 57 (3), 195-203.
- Biglan, A. (1973b). Relationships between subject matter characteristics and the structure and output of university departments. Journal of Applied Psychology, 57 (3), 204-213.
- Bowen, H. R. (1977). Investment in learning: The individual and social value of American higher education. San Francisco: Jossey-Bass.
- Burn, B. B. (1980). Expanding the international dimension of higher education. San Francisco: Jossey-Bass.
- Buskist, W., & Gerbing, D. W. (1990). Psychology: Boundaries and frontiers. New York: HarperCollins.

- Cabrera, A. F., Nora, A., Bernal, E. M., Terenzini, P. T., & Pascarella, E. T. (1998, November). Collaborative learning: Preferences, gains in cognitive & affective outcomes, and openness to diversity among college students. Paper presented at the 1998 Annual Meeting of the Association for the Study of Higher Education, Miami, FL.
- Campbell, D. T., & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research. Boston: Houghton Mifflin.
- Carlson, J. S., Burn, B. B., Useem, J., & Yachimowicz, D. (1990). The experience of American undergraduates. New York: Greenwood Press.
- Carlson, J. S., Burn, B. B., Useem, J., & Yachimowicz, D. (1991). The experience of American undergraduates in Western Europe and the United States. In E. G. Barber & B. B. Burn (Vol. Eds.), Occasional papers on international educational exchange #28, research series. New York: Council on International Educational Exchange.
- Carsello, C., & Creaser, J. (1976). How college students change during study abroad. College Student Journal, 10, 276-278.
- Cash, R. W. (1993, May). Assessment of study abroad programs using surveys of student participants. Paper presented at the Association for Institutional Research Annual Forum: Chicago.
- Chickering, A. W., & Reisser, I. (1993). Education and identity, (2nd ed.). San Francisco: Jossey-Bass.
- Chickering, A. W. (1969). Education and identity. San Francisco: Jossey-Bass.
- Coelho, G. V. (1962). Foreign study as a developmental transition—some coping behavior aspects. Occasional papers on international educational exchange #1-19, research series: A chronicle of study abroad: CIEE occasional papers. New York: Council on International Educational Exchange.
- Creamer, D. G. (Ed.). (1980). Student development in higher education: Theories, practices, and future directions. Cincinnati, OH: American College Personnel Association.
- Csikszentmihalyi, M. (1974). FLOW: Studies of enjoyment. Chicago: University of Chicago Press.
- Davis, T. M. (Ed.). (1999). Open doors 1998-99: Report on international educational exchange. New York: Institute on International Education.

- Ellison, A., & Simon, B. (1973). Does college make a person healthy and wise? In L. Solomon & P. Taubman. (Eds.). Does college matter? New York: Academic Press.
- Erikson, E. (1959). Identity and the life cycle. Psychological Issues, 1, 1-171. New York: International Universities Press.
- Friedman, T. L. (2000). The Lexus and the olive tree. New York: Anchor Books.
- Garvey, D. E. (1991). Cross-cultural experiences and moral development in a selected group of college students. Dissertation Abstracts International, 52 (09), 3193. (UMI No. 9132566)
- Geiger, R. L. (1999). The ten generations of American higher education. In P. G. Altbach, R. O. Berdahl, & P. J. Gumport (Eds.). American higher education in the twenty-first century: Social, political, and economic challenges, (pp. 38-69). Baltimore: Johns Hopkins University Press.
- Gibson, T. K. H. (1991). Effects of international experiences on Grand Canyon University students. Dissertation Abstracts International, 38 (12), 5211. (UMI No. 9210377)
- Goodwin, C. D., & Nacht, M. (1988). Abroad & beyond: Patterns in American overseas education. Cambridge, MA: Cambridge University Press.
- Hammer, M. R. (1997). A measure of intercultural sensitivity: The Intercultural Development Inventory. In S. M. Fowler & M. G. Mumford (Eds.), The intercultural sourcebook: Cross-cultural training methods, (Vol. II). Yarmouth, ME: The Intercultural Press.
- Harrop, J. C. (1991). International education and the college student. Dissertation Abstracts International, 53 (01), 80. (UMI No. 9217331)
- Hensley, T. R. (1979). A study-abroad program: An examination of impacts on student attitudes. Teaching Political Science, 6 (4), 387-411.
- Hardi, J. (2000, April 28). Clinton calls on federal agencies to help colleges encourage foreign study. The Chronicle of Higher Education, p. A-36.
- Herman, N. B. (1997). The impact of study abroad experiences on the psychosocial development of college students. Dissertation Abstracts International, 57 (11), 4659. (UMI No. 9713159)

- Higbee, J. L., & Dwinell, P. L. (1992). The development of underprepared freshmen enrolled in a self-awareness course. Journal of College Student Development, 33, 26-33.
- Hull, W., & Lemke, W. (1975). The assessment of off-campus higher education. International Review of Education, 21, 195-206.
- Hutchins, M. M. (1996). International education study tours abroad: Students' professional growth and personal development in relation to international, global, and intercultural perspectives. Dissertation Abstracts International, 57 (10), 4235. (UMI No. 9710583)
- James, N. (1976). Students abroad: Expectations versus reality. Liberal Education, LXII (4), 599-607.
- Johnson, L. D. (1997). Faculty teaching goals at senior teaching universities. Doctoral dissertation. Virginia Polytechnic Institute and State University. Retrieved April 3, 2001 from VT ETD on-line database on the World Wide Web: <http://scholar.lib.vt.edu/theses/>
- Johnston, J. S., Jr. (1993). Beyond borders. In (Ed.), Beyond borders: Profiles in international education, (pp. 1-23). Washington, DC: Association of American Colleges.
- Juhasz, A., & Walker, A. (1987). The impact of study abroad upon university students' perception of self. ERIC Document Reproduction Service No. 341 916.
- Kalunian, J. E. (1997). Correlations between global-mindedness and study abroad. International Education Forum, 17 (2), 131-143.
- Kauffman, N., & Kuh, G. (1984). The impact of study abroad on the personal development of college students. ERIC Document Reproduction Service No. 245-591.
- Kauffman, N., Martin, J., & Weaver, H. (1992). Students abroad, strangers at home: Education for a global society. Yarmouth, ME: Intercultural Press.
- Kelley, C., & Meyers, J. (1995). Cross-Cultural Adaptability Inventory. Minneapolis, MN: National Computer Systems.
- Kohlberg, L. (1969). Stage and sequence: The cognitive-development approach to socialization theory and research. New York: Rand McNally.
- Kuh, G. D. (1993). In their own words: What students learn outside the classroom. American Educational Research Journal, 30 (2), 277-304.

- Lamet, S. A., & Lamet, M. S. (1982, May). The effects of study abroad on students. Paper presented at the meeting of the National Association for Foreign Student Affairs, Seattle, WA.
- Laubscher, M. R. (1994). Encounters with difference: Student perceptions of the role of out-of-class experiences in education abroad. Westport, CT: Greenwood Press.
- Laubscher, M. R. (2000, March). A pedagogical model for achieving international competence through study abroad. Paper presented at the 2000 meeting of the Comparative and International Education Society, San Antonio, TX.
- Lundy Dobbert, M. L. (1998). The impossibility of internationalizing students by adding materials to courses. In J. A. Mestenhauser & B. J. Ellingboe (Eds.), Reforming the higher education curriculum: Internationalizing the campus, (pp. 53-68). Phoenix, AZ: Onyx.
- Marion, P. (1980). Relationship of student characteristics and experiences with attitudes changes in a program of study abroad. Journal of College Student Personnel, 21, 58-64.
- McCombie, R. P. (1988). Foreign study: An analysis of the long-term impact. Dissertation Abstracts International, 49 (02), 569. (UMI No. 8805554)
- McMillan, J. H., & Schumacher, S. (2000). Research in education: A conceptual introduction (5th ed.). New York: Longman.
- Miller, M. A. (1997). Foreword to AAHE Assessment Forum. Learning through assessment: A resource guide for higher education. In L. F. Gardiner, C. Anderson, & B. L. Cambridge, (Eds.), Washington, DC: American Association for Higher Education.
- Morgan, E. E. (1975). Study abroad: A process of adaptation and chance. International Review of Education, 21 (2), 207-15.
- Nash, D. (1976). The personal consequences of a year of study abroad. Journal of Higher Education, 47, 191-203.
- NASULGC Commission on International Affairs, Strategic Vision Committee. (2000). Expanding the international scope of universities: A strategic vision statement for learning, scholarship, and engagement in the new century. Washington, DC: National Association of State Universities and Land Grant Colleges.
- Pascarella, E. T., Edison, M., Nora, A., Hagedorn, L. S., & Terenzini, P. T. (1996). Influences on students' openness to diversity and challenge in the first year of college. Journal of Higher Education, 67, 174-195.

- Pascarella, E. T. & Terenzini, P. T. (1991). How college affects students: Findings and insights from twenty years of research. San Francisco: Jossey-Bass.
- Pfinster, A. (1972). Impact of study abroad on the American college undergraduate. ERIC Document Reproduction Service No. 063 882.
- Pickert, S. M. (1992). Preparing for a global community: Achieving an international perspective in higher education. ASHE-ERIC Higher Education Report #2. Washington, DC: The George Washington University, School of Education and Human Development.
- Pike, G. R. (2000, November). The relationship between residential living arrangement and learning to function effectively in a diverse society. Paper presented at the 2000 Annual Meeting of the Association for the Study of Higher Education, Sacramento, CA.
- Pyle, K. (1981). International cross-cultural service learning: Impact on student development. Journal of College Student Personnel, 22, 509-514.
- Rodgers, R. F. (1980). Theories underlying student development. In D. G. Creamer. (Ed.). Student development in higher education: Theories, practices, and future directions, ACPA media publication number 27. Cincinnati, OH: American College Personnel Association.
- Russow, L. C. (1998). Outcome-based higher education: Assessing the undergraduate international business major. Journal of Studies in International Education, 2 (2), 59-80.
- Sell, D. (1983). Research on attitude change in U.S. students who participate in foreign study experiences: Past findings and suggestions for future research. International Journal of Intercultural Relations, 7, 131-147.
- Seo, W., Teng, C, DeMicco, F. J., Wortman, T. I., & Martin, L. (2000). The international hospitality study abroad program: A strategy leads to future career success. Unpublished manuscript, The Pennsylvania State University.
- Sheehan, O. T. O., & Pearson, F. (1995). Asian international and American students' psychosocial development. Journal of College Student Development, 36, 522-530.
- Smelser, N. J. (1985). The personal global experience. In W. H. Allaway & H. C. Shorrock (Eds.), Dimensions of international higher education: The University of California Symposium on Education Abroad, (pp. 57-62). Boulder, CO: Westview Press.

- Stark, J. S., and Lattuca, L. R. (1997). Shaping the college curriculum: Academic plans in action. Boston: Allyn & Bacon.
- Stephenson, S. (1999, Fall). Study abroad as a transformational experience and its effect upon study abroad students and host nationals in Santiago, Chile. Frontiers, 1-31.
- Stimpfl, J. R., & Engberg, D. (1997). What to know before you go: Creating a basis of comparison for research on study abroad programs. International Education Forum, 17, 7-22.
- Stoecker, J. L. (1993). The Biglan classification revisited. Research in Higher Education, 34, 451-464.
- Stryker, R. E. (1997) The academic integrity of study abroad. Student Aid Transcript, 9, 6-8.
- Testa, A. M. (1994). A study of psychosocial development of African-American, Hispanic, and white university students: A comparison of scores between first year and upper division students on the Student Developmental Task and Lifestyle Inventory (SDTLI) at a western university. Unpublished doctoral dissertation, University of Nevada, Reno.
- The Schreyer Honors College. (Brochure). (1997). University Park, PA: The Pennsylvania State University, The Schreyer Honors College.
- Upcraft, M. L., & Schuh, J. H. (1996). Assessment in student affairs: A guide for practitioners. San Francisco: Jossey-Bass.
- Waldbaum, R. K. (1996). A case study of institutional and student outcomes of an educational exchange program: The University of Denver and the University of Bologna. Dissertation Abstracts International, 57 (07), 2908. (UMI No. 9639143)
- Weaver, H. D. (1989). Research on U.S. students abroad: A bibliography with abstracts. New York: Council on International Educational Exchange, Education Abroad Program - University of California, NAFSA - Association of International Educators, & Institute on International Education.
- Winston, R. B. Jr., (1990). The Student Developmental Task and Lifestyle Inventory: An approach to measuring students' psychosocial development. Journal of College Student Development, 31, 108-120.
- Winston, R. B. Jr., & Miller, T. K. (1987). Student Developmental Task and Lifestyle Inventory manual. Athens, GA: Student Development Associates.

- Winston, R. B. Jr., Miller, T. K. & Prince, J. S. (1987). Student Developmental Task and Lifestyle Inventory. Athens, GA: Student Development Associates.
- Wortman, T. I., & Upcraft, M. L. (2000). Internet based assessment. in J. H. Schuh, & M. L. Upcraft (Eds.). Assessment practice in student affairs: An applications manual, (pp. 101-125). San Francisco: Jossey-Bass.
- Yachimowicz, D. J. (1987). The effects of study abroad during college on international understanding, and attitudes toward the homeland and other cultures. Dissertation Abstracts International, 48 (10), 2561. (UMI No. 8729415)
- Ybarra, C. M. (1997). Kalamazoo College in Madrid: Study abroad as a rite of passage. Dissertation Abstracts International, 57 (12), 5206. (UMI No. 9714205)
- Zhai, L. The influence of study abroad programs on college student development in the College of Food, Agriculture, and Environmental Sciences at the Ohio State University. Dissertation Abstracts International, 61 (02), 461. (UMI No. 9962468)

## APPENDIX A: APPROVAL FOR USE OF HUMAN SUBJECTS

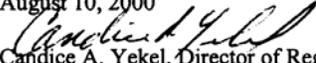
PENNSSTATE



Vice President for Research  
Office for Regulatory Compliance

The Pennsylvania State University  
212 Kern Graduate Building  
University Park, PA 16802-3301

(814) 865-1775  
Fax: (814) 863-8699  
www.research.psu.edu/orc/

Date: August 10, 2000  
From:   
Candice A. Yekel, Director of Regulatory Affairs  
To: Thomas I. Wortman  
Subject: Results of Review of Proposal - Expedited (IRB #00B0762-00)  
**Approval Expiration Date: August 10, 2001**  
"Psychosocial Results of Studying Abroad"

The Behavioral and Social Sciences Committee of the Institutional Review Board has reviewed and approved your proposal for use of human subjects in your research. **This approval has been granted for a one-year period.**

Approval for use of human subjects in this research is given for a period covering one year from today. **If your study extends beyond this approval period, you must contact this office to request an annual review of this research.**

Attached are confidential labels you can use to seal the envelopes that contain the original, signed informed consent forms obtained from the subjects of your study. These envelopes are then to be mailed to the address listed above. Contact this office if you need more labels.

Subjects must receive a copy of any informed consent documentation that was submitted to the Compliance Office for review.

**By accepting this decision you agree to notify the Compliance Office of (1) any additions or procedural changes that modify the subjects' risks in any way and (2) any unanticipated subject events that are encountered during the conduct of this research. Prior approval must be obtained for any planned changes to the approved protocol. Unanticipated subject events must be reported in a timely fashion.**

On behalf of the committee and the University, I thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human subjects.

CAY/bad

Attachments

cc K. English  
R. Henderickson  
E. Herr

An Equal Opportunity University

## APPENDIX B: PRETEST SURVEY

# The Pennsylvania State University *Study Abroad Survey*

### Contact Person

Thomas I. Wortman  
University Office of International Programs  
222 Boucke Building  
The Pennsylvania State University  
University Park, PA 16802-5900

Phone: (814) 865-7681  
E-mail: [twortman@psu.edu](mailto:twortman@psu.edu)

Dear Student,

I need your help. I work in the international programs office and am completing my Ph.D. research in higher education. You have been selected to participate in a study. Please complete the following survey to help me learn more about you as a Penn State student. The information you provide is important, and will also be used to help Penn State's International Education Programs and Studies to improve our services and programs.

It should take only about five minutes to fill out the survey.

Your participation is voluntary. All information gathered is strictly confidential and you cannot be identified by filling out the survey. If you do not wish to complete the survey, simply exit from this web page. You are also free to decline to answer any of the questions in the survey. I will ask you to complete another, similar (and shorter) survey at the end of the spring semester, 2001.

If you have questions, please contact me at the above e-mail, address, or telephone number. A paper copy of the survey can be mailed to you, if you wish.

In order to return a completed survey, simply click once on the *SUBMIT* button at the bottom of the survey.

Thank you for your help.

Thomas I. Wortman  
University Office of International Programs  
Doctoral Candidate, Education Policy Studies

## **ENTER THE LAST FOUR DIGITS OF YOUR SOCIAL SECURITY NUMBER HERE**

(Four numbers, no spaces)

***Please answer the following questions by clicking on the arrow and choosing the appropriate response.***

1	I enjoy having discussions with people whose ideas and values are different from my own.	<input type="text" value="Please Choose One"/>
2	The real value of a college education lies in being introduced to different values.	<input type="text" value="Please Choose One"/>
3	I enjoy talking with people who have values different from mine because it helps me understand myself and my values better.	<input type="text" value="Please Choose One"/>
4	Learning about people from different cultures is a very important part of my college education.	<input type="text" value="Please Choose One"/>
5	I enjoy taking courses that challenge my beliefs and values.	<input type="text" value="Please Choose One"/>
6	The courses I enjoy the most are those that make me think about things from a different perspective.	<input type="text" value="Please Choose One"/>
7	Contact with individuals whose background (e.g., race, national origin, sexual orientation) is different from my own is an essential part of my college education.	<input type="text" value="Please Choose One"/>
8	I enjoy courses that are intellectually challenging.	<input type="text" value="Please Choose One"/>

**9. Gender**

- Male
- Female

**10. College of enrollment**

**11. Residence**

- On-campus
- Private apartment/room off-campus
- At home with parent, spouse, or relative

**12. Ethnic category**

**13. Year of birth**

**14.. How many college semesters (excluding summers) will you have completed by the end of Fall 2000?**

**15. What is your current cumulative GPA?**

**16. Are you a member of a fraternity or a sorority?**

- Yes
- No

**17. Have you ever participated in a racial or cultural workshop, outside of class, while enrolled in college?**

- Yes
- No

**18. In your entire life to this point, about how many months have you spent outside of the United States?**

19. Of the time that you have spent outside of the United States, about how many months were in a country where English is *not* the primary language?

20. How many semesters of foreign languages have you studied since enrolling in college?

21. What is your father's highest level of education?

22. What is your mother's highest level of education?

23. Have you ever participated in a college or university study abroad program?

Yes

No

24. Are you enrolled in a Penn State study abroad program for the spring semester 2001?

Other, Please specify

***Thanks for your help!***

[Click Here to Submit Survey](#)

[Click Here to Clear Form and Start](#)

***Web Author: Thomas I. Wortman.***

***Copyright © 2000, Thomas I. Wortman. All rights reserved.***

## APPENDIX C: POSTTEST SURVEY

# The Pennsylvania State University *Study Abroad Survey*

### Contact Person

Thomas I. Wortman  
University Office of International Programs  
222 Boucke Building  
The Pennsylvania State University  
University Park, PA 16802-5900

Phone: (814) 865-7681  
E-mail: [twortman@psu.edu](mailto:twortman@psu.edu)

Dear Student,

I need your help. I work in the international programs office and am completing my Ph.D. research in higher education. You have been selected to participate in a study. Please complete the following survey to help me learn more about you as a Penn State student. The information you provide is important, and will also be used to help Penn State's International Education Programs and Studies to improve our services and programs.

It should take less than five minutes to fill out the survey.

Your participation is voluntary. All information gathered is strictly confidential and you cannot be identified by filling out the survey. If you do not wish to complete the survey, simply exit from this web page. You are also free to decline to answer any of the questions in the survey.

If you have questions, please contact me at the above e-mail, address, or telephone number. A paper copy of the survey can be mailed to you, if you wish.

In order to return a completed survey, simply click once on the *SUBMIT* button at the bottom of the survey.

Thank you for your help.

Thomas I. Wortman  
University Office of International Programs  
Doctoral Candidate, Education Policy Studies

## **ENTER THE LAST FOUR DIGITS OF YOUR SOCIAL SECURITY NUMBER HERE**

(Four numbers, no spaces)

***Please answer the following questions by clicking on the arrow and choosing the appropriate response.***

1	I enjoy having discussions with people whose ideas and values are different from my own.	<input type="text" value="Please Choose One"/>
2	The real value of a college education lies in being introduced to different values.	<input type="text" value="Please Choose One"/>
3	I enjoy talking with people who have values different from mine because it helps me understand myself and my values better.	<input type="text" value="Please Choose One"/>
4	Learning about people from different cultures is a very important part of my college education.	<input type="text" value="Please Choose One"/>
5	I enjoy taking courses that challenge my beliefs and values.	<input type="text" value="Please Choose One"/>
6	The courses I enjoy the most are those that make me think about things from a different perspective.	<input type="text" value="Please Choose One"/>
7	Contact with individuals whose background (e.g., race, national origin, sexual orientation) is different from my own is an essential part of my college education.	<input type="text" value="Please Choose One"/>
8	I enjoy courses that are intellectually challenging.	<input type="text" value="Please Choose One"/>

***Thanks for your help!***

Click Here to Submit Survey

Click Here to Clear Form and Start

*Web Author: Thomas I. Wortman.*

*Copyright © 2000, Thomas I. Wortman. All rights reserved.*

## VITA

### **Thomas Ildephonse Wortman**

Thomas Wortman was born on September 2, 1965 in St. Marys, Pennsylvania. He attended Catholic elementary and secondary schools, graduating from Elk County Christian High School in 1983. In 1987 he earned a Bachelor of Arts Degree from Edinboro University of Pennsylvania in Speech Communication and a minor in Sociology. He worked in college radio and in student residence halls. Immediately after graduating, he enrolled at Indiana University of Pennsylvania (IUP) where in 1989 he earned a Master of Arts degree in Student Personnel Services. While studying at IUP he held a graduate assistantship in the university's office of housing and residence life. In that period, he also worked as a private industrial safety and health contractor for two companies.

His post-Master's professional positions were at Duquesne University and at IUP, where he served in various student affairs capacities, primarily in university housing and residential programs. He was involved as a leader in the Pennsylvania College Personnel Association (PCPA), and attended and presented at several American College Personnel Association (ACPA) conferences. In 1997 he left his position at IUP to pursue doctoral studies in Higher Education at The Pennsylvania State University.

At Penn State, he worked as a doctoral assistant in the University Office of International Programs, where he had responsibilities for international students and study abroad programs. He was Penn State's representative to the Committee on Institutional Cooperation (CIC) for their alliance to share study abroad programs between the 13 institutions. He organized and directed a program for 65 undergraduate students to study in an academic program surrounding the 2000 Olympic Games in Sydney, Australia. He spearheaded two comprehensive international students needs assessments of Penn State and University of Iowa students. He was active in NAFSA: Association of International Educators and the Association for the Study of Higher Education (ASHE) and presented papers and chaired roundtable discussions at conferences of both organizations.

Since August 2001, he has been Special Projects Assistant to the Interim Provost and Dean at Penn State Erie, The Behrend College.