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Before and After the Attack: An Empirical Study and
Comparison of International Student Satisfaction Before and
After the 9/11/01 Terrorists' Attack

By

Gwendolyn Dianne Wilkes

A DISSERTATION

Submitted to
H. Wayne Huizenga School of Business and Entrepreneurship
Nova Southeastern University

In partial fulfillment of the requirement for the degree of
DOCTOR OF BUSINESS ADMINISTRATION/INTERNATIONAL MANAGEMENT
2006

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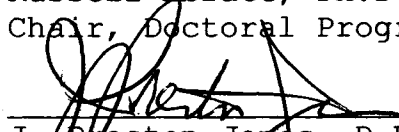
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Gwendolyn Dianne Wilkes

We hereby certify that this Dissertation submitted by Gwendolyn
Dianne Wilkes conforms to acceptable standards, and as such is
fully adequate in scope and quality. It is therefore approved
as the fulfillment of the Dissertation requirements for the
degree of Doctor of Business Administration with emphasis in
International Management.

Approved:

_____   31 May 2006
Charles L. Nieman, Ph.D.   Date
Chairperson

_____   24 May 2006
Edward W. Erickson, Ph.D.   Date
Committee Member

_____   May 25, 2006
Eden Martin, Ph.D.   Date
Committee Member

_____   6/9/06
Russell Abratt, Ph.D.   Date
Chair, Doctoral Programs

_____   6/9/06
J. Preston Jones, D.B.A.   Date
Associate Dean, H. Wayne Huizenga School of
Business and Entrepreneurship

Nova Southeastern University
2006

CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions or writings of another.

Signed _____
                Gwendolyn Dianne Wilkes

ABSTRACT

Before and After the Attack: An Empirical Study and Comparison
of International Student Satisfaction Before and After the
9/11/01 Terrorists' Attack

by

Gwendolyn Dianne Wilkes

This dissertation began as a study of international student satisfaction at the University of North Carolina at Wilmington, North Carolina. The population was from far reaching countries around the world and totaled just under 100 students.

Questionnaires developed by Dr. Charles Nieman for a study at Kent State University in Kent, Ohio were used to survey a population during the spring semester of 2001.

After the terrorists attack on the World Trade Centers in New York and the Pentagon in Washington, D.C. on September 11, 2001 an economic impact was felt both domestically and globally. Consideration of the global impact brought about further questions as to how this would impact international students studying in the United States. A negative impact might have far reaching economic consequences which could carry forward to business leaders of tomorrow in foreign countries; lessen U.S. global economic influence; and impact U.S. institutions of higher education.

Therefore, the study evolved into a comparative analysis to measure international student satisfaction before and after the attack and assess whether there was a difference. Therefore a second survey was taken in the spring semester of 2002 for comparison. In addition, regression analyses were used to determine which variables had a correlation to overall satisfaction.

The hypotheses for this study were that there would be a difference in international student satisfaction in the semesters before and after the terrorist attack and that the difference would be driven by relationship with others - staff, members of the community, fellow students, professors, etc.

ACKNOWLEDGEMENTS

For everything I have accomplished, for every blessing, for every ability – as always – I give thanks to God and my parents – intrinsically bonded – as God gave me my parents and my parents gave me God. Though all are now in heaven, they continue to guide my path. I have been blessed and am forever grateful.

On a more earthly plane, I wish to express my gratitude to and respect for Dr. Charles Nieman who patiently advised me through the dissertation process as chair of my dissertation committee. As a retired military officer he is officially a gentleman – by act of the U.S. Congress. However, with or without their lofty acclaim, he is truly a gentleman and a scholar. Through his past military career, he strategically planned with world armies. He now guides international students at Kent State University and represents that institution around the world. As such he continues to make a global difference. Through all he has done – and continues to do, it has been humbling and amazing that he has taken his valuable time to work with me – and for this I am ever in his debt as well as to Dr. Eden Martin from Duke University and Dr. Ed Erickson from North Carolina State University who also served on my dissertation committee and gave of their valuable time and advice. Dr. Martin has given her valuable time as she juggled her work on the Human Genome Project – including national and international travel – and other responsibilities at Duke University's School of Medicine and a young family. Dr. Erickson, likewise, is very busy with responsibilities as a Professor in the Department of Economics at NC State University. He continued to "be there" for me even as he faced major surgery and through the following recuperation. I am profoundly grateful to all three.

I also am indebted to Heather Smith in UNC-W's Office of International Programs for her assistance in getting questionnaires filled in and returned – and the approval of her department head, Dr. Jim McNab. Heather is truly an asset to UNC-W and both the statistics from this study and comments from the questionnaire prove her value. She was repeatedly praised by the international students she served. Some quotes from the students include, "No one on the planet is more helpful than Heather Smith."; "Wouldn't be the same without Heather Smith."; "Heather Smith does a fantastic job!!!"; "Heather! Heather! Heather! Nobody can make it here without her!"; "Heather Smith has been absolutely incredible throughout my entire four years here..."; "Heather Smith is Awesome!" From my experience working with Heather, I wholeheartedly agree with these students in their assessment.

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CHAPTER I

INTRODUCTION

This is a comparative study to determine the impact of the terrorist attack of 9/11/01 on international student satisfaction at a public institution of higher education in the United States. This study uses the North Carolina University system, which consists of 16 campuses. A campus in Wilmington, North Carolina – the University of North Carolina at Wilmington (UNC-W) – was used. The two semesters compared are the spring semesters of 2001 and 2002, six months before and six months after the terrorist attack on the World Trade Center in New York City and The Pentagon in Washington, D.C.

Purpose of the Study

This study is designed to compare differences in international student satisfaction at the University of North Carolina at Wilmington before and after the attack on September 11, 2001. Further, it is to provoke thought as to future implications to institutions of higher education, internationalization, globalization, and the world economy. The study should prove to be a useful tool for a variety of stakeholders as they reflect on future needs and

expectations. Those stakeholders may be especially related to institutions of higher education or economic studies. The potential impact may be far reaching.

Basis and Evolution of the Study

The study began as a single look in time at international student satisfaction at the University of North Carolina at Wilmington using as its basis three previous studies at other institutions of higher education. These included a study by Jawad Mahmoud Abadi (1999), "Satisfaction with Oklahoma State University Among Selected Groups of International Students"; Wen-Ih Hsieh (1999), "Exploration of a Graduate International Adult Higher Education Program in Management"; and Charles L. Nieman's (1998) "Web-Based Evaluation of Overall International Student Satisfaction: The Case of Kent State University". A survey instrument developed by Nieman was used and the initial questionnaires were returned in April/May of 2001.

After the United States sustained an egregious terrorist attack in which four aircraft were hijacked and used as airborne bombs on September 11, 2001, the study evolved into a comparative analysis in an effort to measure

the impact of this terrorist activity on the international student population at UNC-W.

Therefore, a second survey was conducted in the spring semester of 2002 using the same instrument. This second survey enabled an empirical analysis of international student satisfaction in which data in the semester immediately before and immediately following the terrorist attack were compared. No measurement was taken during the fall semester of 2001. Therefore "noise" from the immediate shock of the attack was hopefully avoided.

Statistical analyses of the data sets are used to determine variation between the two groups. Of particular interest are data related to total satisfaction and relationships with people – faculty, staff, fellow students, and members of the community.

The Changing Events

On September 11, 2001 at 7:59 AM, American Airlines Flight No. 11 took off from Logan Airport in Boston, Massachusetts, to fly to Los Angeles, California. Captain John Ogonowski and First Officer Thomas McGuinnes piloted the Boeing 767. Nine flight attendants and 81 passengers –

5 of which were terrorists – were on board. At 8:14 AM the last radio communication took place, and thereafter it is assumed that the takeover of the plane by the terrorists occurred. Five hijackers commandeered the plane and stabbed two unarmed flight attendants. They most likely used a spray irritant to force passengers and other flight attendants to the back of the plane. At 8:21 AM the transponder which tracked the plane was turned off. At 8:46 AM the plane, piloted by one of the hijackers, crashed into Tower No. 1 of The World Trade Center (the North Tower). (The 9/11 Commission Report, 2004)

At 8:14 AM, the same time that American Flight 11 was being hijacked, United Airlines Flight 175 was taking off – also from Boston's Logan Airport. The Boeing 767 was piloted by Captain Victor Saracini and First Officer Michael Horrocks. Seven flight attendants and fifty-six passengers were aboard – including 5 terrorists. At 8:42 AM, the flight crew completed their last communication with the ground in which the pilot reported hearing "suspicious communication". The radio transmission they had overheard was from American Flight 11 as it was being hijacked. Using knives, mace, and the threat of a bomb, the five terrorists took over the plane stabbing to death both the captain and

first officer and wounding or killing one other - either a passenger or flight attendant. United Flight 175 changed direction and headed for New York City at 8:58 AM. Minutes later - at 9:03 AM - United Airlines Flight 175 crashed into Tower No. 2 (the South Tower) of the World Trade Center. (The 9/11 Commission Report)

On that same day, at Washington, D.C.'s Dulles Airport, United Airlines Flight 77 was boarded by five additional terrorists. The Boeing 757 piloted by Captain Charles F. Burlingame and First Officer David Charlebois took off from the runway at 8:20 AM with four flight attendants and 58 passengers - including the terrorists. At 8:51 AM, United Flight 77 transmitted its last routine radio communication. By use of knives and box cutters, these passengers were also herded to the rear of the plane. At 8:54 AM the flight deviated from its flight plan, turning south. Two minutes later the transponder which tracked the plane was turned off. At 9:29 AM the autopilot on American 77 was disengaged while the aircraft flew at a mere 7,000 feet and only 38 miles west of the Pentagon in Washington, D.C. At 9:34 AM American Flight 77 began a 330-degree turn, descended to 2,200 feet, advanced the

throttles to maximum thrust and dove toward the Pentagon, crashing at 9:37 AM. (The 9/11 Commission Report)

The fourth plane that the terrorists also planned to use as a bomb was United Airlines Flight 93, which took off at 8:42 AM – approximately 25 minutes late - from Newark, New Jersey's Liberty International Airport bound for San Francisco, California. None of the crew was aware of the other hijackings. The Boeing 757 was piloted by Captain Jason Dahl and First Officer Leroy Homes. Five flight attendants were on duty to serve the thirty-seven passengers – which included 4 terrorists. (The fifth likely operative was denied entry into the U.S. by a suspicious immigration inspector at Florida's Orlando International Airport the previous month.) The four hijackers waited until 9:28 AM to take over the plane while it was flying at an altitude of 35,000 feet over eastern Ohio. At 9:32 AM the plane, under the control of the hijackers, turned around and headed east. At 9:57 AM a group of passengers began an assault in an attempt to wrestle control of the aircraft from the hijackers. As the assault continued and regaining control from the terrorists became imminent, the terrorist piloting the aircraft plowed into an empty field in Shanksville, Pennsylvania at 580 MPH – just 20 minutes

flying time from Washington, D.C. This plane had been destined either for the Capitol or the White House, symbols of the American Republic. (The 9/11 Commission Report)

Universities and International Student - A Symbiosis

All American universities are representatives and storehouses of information - values, ideals, and truths. Such examples are democracy, free enterprise, human rights, globalization and internationalization, in addition to more exact sciences such as Engineering, Chemistry, Medicine, etc. The mission of all universities is to teach and share this information. To accomplish this they need students; i.e. their customers.

On the other hand, international students want information, and universities likewise can be considered customers of these students. It is readily apparent that international students are customers of universities by the large dollars provided their coffers by this group (Open Doors). Therefore, the university/international student relationship should be a win-win situation, i.e. symbiotic.

Without some degree of respect, admiration, or expectation for future rewards, international students

would not choose to attend American universities. Yet neither they nor their host American universities expect international students to be completely changed by their experiences while enrolled; indeed, that would be contrary to the values of universities where cultural differences are accepted and frequently admired. The value of having international students attend American universities and of providing an opportunity for them to learn about American culture as Americans learn about theirs, is immeasurable domestically and globally. It is said that wars start in the mind; yet, the same can be said for peace.

Such a "merger of minds" as can happen when international students attend universities of higher education in the US, can have far reaching results related to understanding and acceptance. When positive, such results enable economies to prosper and peace to be more easily maintained due to improved communication, mutual respect, and understanding.

Such impacts can be felt at the global, national, and state levels where international students attend universities of higher education.

First, global economies are enhanced as international trade relations are established and exchanges of ideas occur more readily. Citizens from countries around the world aspire to have the goods and services available and a quality of life akin to Americans. This desire - when coupled with the proper economic infrastructure - can translate into global demand which creates jobs and an improved global quality of life. The role of future leaders is to develop such an infrastructure. The role of institutions of higher education is to prepare those leaders for their mission - both in terms of technical ability and cultural understanding.

Second, the U.S. national economy benefits from the billions of dollars of new money that international students contribute to the GDP annually (Open Doors). In addition, it also benefits from the far reaching and long-term impacts from the enhanced cross-cultural understanding and relationship-building between national students and international students.

Last, the state level economies benefit proportional to where international students prefer to study; that is, where they can be assured of a quality education and where

they are most comfortable and satisfied. The short-term economic impact is readily apparent as additions to local economies and gross state products. It is anticipated that the impact of long-term relationships established in those states will continue to enhance those state economies well into the future. It is therefore important that universities of higher education value the satisfaction of international students and that they encourage them to attend in the interest of both short-term and long-term economic advantage.

International student satisfaction at American universities is comparable with any group's consumer satisfaction and is, therefore, expected to have the same impact on a supplier - in this case, The University of North Carolina at Wilmington and its surrounds.

The responsibility of international students, as with all successful students, is that they come with the desire to learn and that they be open to new ideas. Creating an environment for learning should be the first priority of any teaching institution, and creating that environment becomes more complex with students from distant lands. It may be impacted by the classroom, the campus, the ability

to find food or a place to worship in the community, other students, professors, or the foreign students' ability to communicate verbally and read English with ease and comprehension.

The Variable of Cultural Differences

In accordance with Hofstede's (2002) accepted theories of cultural differences, it is acknowledged that there would be variation within the measurements of satisfaction among international student populations based on country of origin; however, the purpose of this study is not to address this variation as the international student population at UNC-W is small in each of the semesters studied and the representative samples from the various cultures are too small for comparison with statistical confidence. Further studies which follow international student satisfaction over a longer term or incorporate larger populations - such as the entire N.C. State University system - may provide valuable information related to variations in satisfaction resulting from cultural differences.

In addition to Hofstede's cultural differences, other variables which may impact the demand for services of U.S.

institutions of higher education by international students must be acknowledged. Many are related to homeland security, foreign policy and economic conditions. These may include, but are not limited to, monetary exchange rates, U.S. constraints limiting student visas, policies of foreign countries related to travel restrictions, and war. Such complexities are also beyond the scope of this study and must by necessity be left for further research. As this study began as merely a measure of international student satisfaction during one semester – not as a comparative study – the instrument used, while excellent – was not designed to measure the aforementioned variables.

Further, consumer confidence often drives our economy and just as consumer confidence of U.S. citizens was shaken as a result of the events of 9/11, so it is expected that the confidence and satisfaction of the International student population at University of North Carolina at Wilmington were shaken also.

Importance of the Study

Leaders in the US have understood the value and impact of foreign student exchange for some time. The Board of Governors for North Carolina's University system has

acknowledged as much in its long range plans for 2004 -
2009:

>UNC recognizes the importance of the global
>
>economy to North Carolina's economic vitality,
>
>and expanded opportunities will be sought for
>
>student and faculty exchanges and for ways to
>
>expand the knowledge of the state's citizens
>
>about international issues.

In addition, The National Association of Foreign
Student Advisers reported quotes from past Presidents
between the year 1951 and 1993. (NAFSA, 2005):

Bill Clinton - *"No one who has lived through the second*
1993
half of the 20th century could possibly be

blind to the enormous impact of exchange

programs on the future of countries..."

George Bush - *"International exchanges are not a great*
1989
tide to sweep away all differences, but they

will slowly wear away at the obstacles to

peace as surely as water wears away a hard

stone."

**Ronald Reagan
- 1**982

"There is a flickering spark in us all which, if struck at just the right age...can light the rest of our lives, elevating our ideals, deepening our tolerance and sharpening our appetite for knowledge about the rest of the world. Educational and cultural exchanges...provide a perfect opportunity for this precious spark to grow, making us more sensitive and wiser international citizens through our careers."

Jimmy Carter -
1977

"Only by knowing and understanding each other's experiences can we find common ground on which we can examine and resolve our differences....As the world becomes more and more interdependent, such mutual understanding becomes increasingly vital."

**Gerald R. Ford
- 1976**

"The spirit of seeking understanding through personal contact with people of other nations and other cultures deserves the respect and support of all."

**Richard M.
Nixon - 1970**

"This report...is largely devoted to an aspect of the program too often

overlooked...the extraordinary...cooperation and assistance...from United States private groups. This private cooperation...gives the program its essential character and effectiveness."

Lyndon B. Johnson - 1966

"International education cannot be the work of one country. It is the responsibility and promise of all nations. It calls for free exchange and full collaboration….The knowledge of our citizens is one treasure which grows only when it is shared."

John F. Kennedy - 1961

"I am delighted to sign the new Fulbright-Hays Act. This ceremony has historic significance because it marks full recognition by the Congress of the importance of a more comprehensive program of educational and cultural activities as a component of our foreign relations."

Dwight D. Eisenhower - 1958

"[T]he exchange of students…should be vastly expanded…Information and education are powerful forces in support of peace. Just as war begins in the minds of men, so does

peace."

Harry S.
Truman - 1951

"This program is vitally important in widening the knowledge and technical ability of the peoples of the twelve participating countries."

In spite of concerns of national security - and the potential of terrorists entering the U.S. under the guise of being an international student - U.S. institutions of higher learning are valued for their contributions.

As evidence, even after the attack of 9/11 in 2001 where many of the terrorists had entered on student visas, President George W. Bush acknowledged in his inaugural address on January 21, 2004 that our institutions - including educational - must be protected.

George W. Bush
-2004

We are living in a time of great change - in our world, in our economy, and in science and medicine. Yet some things endure - courage and compassion, reverence and integrity, respect for differences of faith and race. The values we try to live by never

change. And they are instilled in us by

fundamental institutions, such as families,

and schools, and religious congregations.

These institutions - the unseen pillars of

civilization - must remain strong in

America, and we will defend them. (State of

the Union Address, 2004)

The Problem - A Macro Perspective

International students generated almost $13 billion of

"new money" to the U.S. economy for the 2003/2004, and over

$195 million of that amount went to North Carolina (Table

3). For this reason, international student enrollment is

very important, and declining enrollment lessens the

economic benefit and the opportunity for our future leaders

to both learn about other cultures and to have a long-term

influence on these students from around the world as they

return to their home countries to become future leaders

abroad.

Therefore, it follows that international student

satisfaction is an important issue to both institutions of

higher education and their respective locales' economy, and

a comparison of satisfaction before and after the terrorist

attack is a natural barometer of how the phenomena of the terrorist attack of September 11, 2001 have impacted these opportunities for the US.

It was anticipated that the 9/11 attack impacted international student satisfaction at U.S. institutions of higher education in a negative way.

Historically, higher education has become increasingly entrepreneurial and although student satisfaction ratings have become almost essential to institutional success, studies of student satisfaction are mostly focused on domestic (or national) students. The international student has rarely been asked about satisfaction and beyond Nieman's study (1998), an evaluation of overall international student satisfaction does not appear to have been accomplished. At the University of North Carolina at Wilmington some attempts to determine components of international student satisfaction have been made; yet, a comprehensive study had not been accomplished.

Limitations of the Study

There are five limitations to this study.

First, the study was limited to one public university in one state. Although the location – Wilmington, North Carolina – is relatively close to the attack sites and surrounded by several major military facilities (Fort Bragg Army Base, Fayetteville, NC; Camp Lejeune Marine Station, Jacksonville, NC; Seymour Johnson Air Force Base, Goldsboro, NC; Pope Air Force Base, Fayetteville, NC; Charleston Naval Station, Charleston, SC; Norfolk Naval Station, Norfolk, VA), the international students polled and their community environment in Wilmington were not expected to have been as directly impacted.

Second, public and private institutions of higher education have had different marketing strategies for international students as a result of public funding. Therefore, private institutions may show different results.

Third, the return rates for each of the two studies were less than 100% and both evaluations were made at the end of semesters when the students were under more pressure than normal to complete assignments and final exams. The questionnaire, while extremely thorough, was somewhat time-consuming to complete. Many students were also preparing to return to their home country. And these, in conjunction

with English being a second language to most, probably
contributed to the lower return rates.

Fourth, the two studies were for short periods of
time, one semester each, as opposed to longer durations.

Last, questionnaires often were exchanged at the
International Department of the university and, therefore,
the students did not have the advantage of complete
anonymity.

A sixth limitation may have been imposed by
uncertainty or anxiety in the international student
population following 9/11. It is possible that some
responses may have been skewed positively.

Definition of Terms:

Internationalization: Exchanging ideas and information,
leading, motivating, negotiating, and decision-making based
on management from one culture communicating effectively
with managers and employees in other cultures. In an
American higher education context, internationalization is
the transformational process aimed at creating citizens who
are globally literate; i.e., competent in international

affairs, comfortable with cultural diversity at home and abroad, and are confident of their ability to cope with the uncertainties of a new age and a rapidly changing world. It includes, but is not limited to, international curricula, exchange programs, and research and development cooperation (ACE, 1997).

Globalization: Creating a world where producers of goods and services, exporters, and importers may conduct business with other countries in accordance with agreements ascribed to through negotiations of The World Trade Organization (WTO).

International Students: Students at institutions of higher education who are from any nationality other than that of the institution. They are unlimited as to curriculum, level, or duration of study. They are non-immigrant foreign students temporarily in the United States for the purpose of full-time study at an institution of higher education

Satisfaction: Contentment, pleasure, fulfillment or gratification, perception of value. The study of student satisfaction and reports of their perceptions has emerged as one of the most important outcomes of higher education

and can legitimately be subordinated to any other
educational outcome. (Li, 2005)

Summary

The study is presented in five chapters. Chapter I is
an introduction and includes, purpose, background, theory,
problem statement, importance, limitation and definition of
terms. Chapter II is a review of the literature. Chapter
III - Methodology - describes the population, research
design, research hypotheses, instrument, data collection,
and data analyses. Chapter IV - Analyses and Presentation
of Findings - is a presentation of the statistical analyses
of the data and interpretations of the findings. And
Chapter V - Summary and Conclusions - includes a summary of
findings, conclusions, and recommendations for further
research. References and Appendices are also presented.

Chapter II

LITERATURE REVIEW

Purpose

The purpose of this chapter is to summarize previous research on international student satisfaction and its link to consumer satisfaction; present key economic data related to international student enrollments; previous research related to psychological impacts of terrorism; and the psychological impact related to consumer behavior.

Consumer Satisfaction Challenges

Consumer satisfaction is the degree to which a consumer regards the service, product, and/or the manner in which it is delivered as useful, effective, or beneficial.

The complexities of services and ultimate potential outcome - both short-term and long-term - make consumer satisfaction a challenge to universities. American institutions of higher education have been confronted by a massive challenge of internationalization. They have had to become environments of teaching, learning, research, and service that reflect the growing interdependent nature of the world. (Hsieh, 1999) This internationalization process has included exchange programs, foreign students, global

issues, and overseas projects and research collaboration and is also helpful in preparing domestic students for challenges in the global marketplace. (Nieman, 1998)

Satisfaction Link to Students Success

Combined previous studies by Abadi, Hsieh, and Nieman provide a solid, comprehensive review of literature through the dates of their studies - 1999.

Abadi's description of satisfaction for the international student incorporates the academic, social, personal, and financial aspects of life in the United States and results from a sense of ease and accomplishment arising from successfully overcoming cultural hurdles, achieving academic success, and developing a network of associations and friendship within the local American community. As such, the international student's objectives are consistent with that of professors at the university they attend as an educator's dream is to teach a "shapeable" student who can contribute to his or her society. (Hsieh, 1999)

Satisfaction of international students is an important factor contributing to their success. This factor became

increasing important as a result of the growing number of
international students and their related economic impact.
It has been the responsibility of universities to
periodically examine the needs and attitudes of students in
order to facilitate the educational experience.
Researchers have agreed as to the stressful nature of
international students having problems in a foreign
country. (Abadi, 1999) The terrorist attack of 9/11 no
doubt exacerbated this condition.

Consideration of international student satisfaction is
of importance because, as a valued asset, both public and
private U.S. institutions of higher education have
encouraged and nurtured students from around the world, as
they have been recognized as vital instruments in the
exchange of ideas. International students learn from their
educational experience while faculty, students and local
citizens learn from them. In addition to the academic
benefits subscribed to in the classroom, cultural
differences and acceptance have resulted in many cases and
friendships have been established that will carry into the
future, having lasting impacts both personally and
professionally on both the current international student
and national student. International students learn from

Americans and teach Americans - formally and informally. Members of the institutions and communities alike are impacted through the exchange of ideas as well as economically. The presence of international students affects the classroom, the campus, the workplace, and the community and provides an opportunity to all Americans exposed to these students to become more globally literate. Greater knowledge about other regions of the world, international relations and strategies, and foreign languages and cultures are gleaned. In addition, this knowledge fosters a closer examination of common issues facing multiple cultures and countries as well as an appreciation of differences. (Nieman, 1998)

In spite of the recognized value of international students, according to Hsieh (1999), most public universities in the U.S. have been slow to react to changes in the outside world and educate the quality minds of international adult learners. Further, most of these public schools have not made a real effort to create a good model to fit international adult learners' needs either because they have not needed to, knew how, or they have been unwilling. This was in spite of the fact that the foreign student market has been important and potentially lucrative

for universities. Higher education has been a U.S. product
that always sold well abroad and has had a good return on
institutional investment as most international students
have paid full fare for tuition and fees without the need
for financial aid.

When international students are recognized to be of
value, programs for international student development at
American universities, private or public, must be in line
with institutional goals, missions, and market
opportunities. And they must be stated by top university
management - as is the case for all strategic planning.
Proponents of international programs within U.S.
institutions of higher education have encouraged directors
of these programs to have a global vision and understanding
of cultural differences. (Hsieh, 1999) To be successful,
international student needs and expectations need to be of
concern to U.S. institutions of higher education that are
interested in maintaining their international student
populations and supporting global competitiveness. (Abadi,
1999) Although most of the needs of international students
are common, meeting those needs require consideration of
the diversity of the cultures from whence they come. As
examples, many of these students wish to have a place to

worship and foods that are familiar. Supplying those needs vary considerably.

Business Most Popular Subject

Not surprisingly, business (19.0%) has been the most popular subject of study by international students followed by engineering (16.6%). (Open Doors, 2003-2004) Therefore, microcosms of future leaders of globalization and internationalism may be found at American universities where multitudes of studies by international students are fostered. As the world economy becomes even more global, it is expected that the major players - or leaders - in facilitating such change will be current students of business (planning and executing) and engineering (designing).

Qualifications of International Students

Those future leaders of increased globalization - current international students attending U.S. institutions of higher education - are likely to be, as a group, highly intelligent and motivated especially if they have received a bachelor's degree in their home countries and come to the U.S. for graduate school. This is because international students represent the best-educated groups from their home

country (Hsieh, 1999) and have even appeared in many cases to be better prepared for the college experience than national students. (Abadi, 1999)

Graduates of institutions of higher education both in the U.S. and around the world have changed. It is clear that the social and economic environments of today's university graduates have grown from the narrow confines of domestic and regional focus of the past, to a truly global prospective. This global environment and economy increasingly emphasizes the interdependence of the world's inhabitants and the need for different skill sets. Some of these skill sets include computer literacy; critical thinking and mental agility; interpersonal skills; cross-cultural communication; knowledge of foreign cultures and language; and a commitment to life-long learning as well as others. (Nieman, 1998)

Some stress can be alleviated with understanding. Developing relationships with national students has aided international students in their understanding of American culture and of national student attitudes toward them. This understanding has been one of the key factors in international student satisfaction. Studies have concluded

that close interaction with national students has led to a
positive attitude toward American culture. Communication,
and therefore relationship building, between international
students and national students, however, has often related
to the culture of the international student. (Abadi, 1999)

In addition to the cultural difference of the
international student sometime causing differences in
relationship building, previous studies have led to
contrasting views as to whether other factors may make a
difference. In some studies age, sex, and marital status
have impacted satisfaction ratings of international
students although maturity and clear goals appear to
contribute to higher rates of satisfaction. Clearly
different than national students, international students
have higher and different goals than their national
counterparts. (Abadi, 1999)

U.S. Economic Impact

The world that many Americans knew was turned upside
down with the terrorist attack of September 11, 2001. For
example, all leading U.S. economic indicators - GDP (Figure
1), stock markets, and unemployment (Figure 2) - showed a
tremendous downturn immediately afterward. To fully

appreciate the sudden economic impact caused by the terrorist attacks, it must be remembered that the 2001 annual numbers were skewed to the extent that they were primarily by the drastic changes between September 11 and the end of the year. Quarterly data, were they available, would more clearly depict the drastic plunge during the last quarter of 2001. However, the annual numbers referenced also show drastic change.

Figure 1

Per Cent Change in U.S. Total GDP and Service Portion of GDP
1995 to 2004
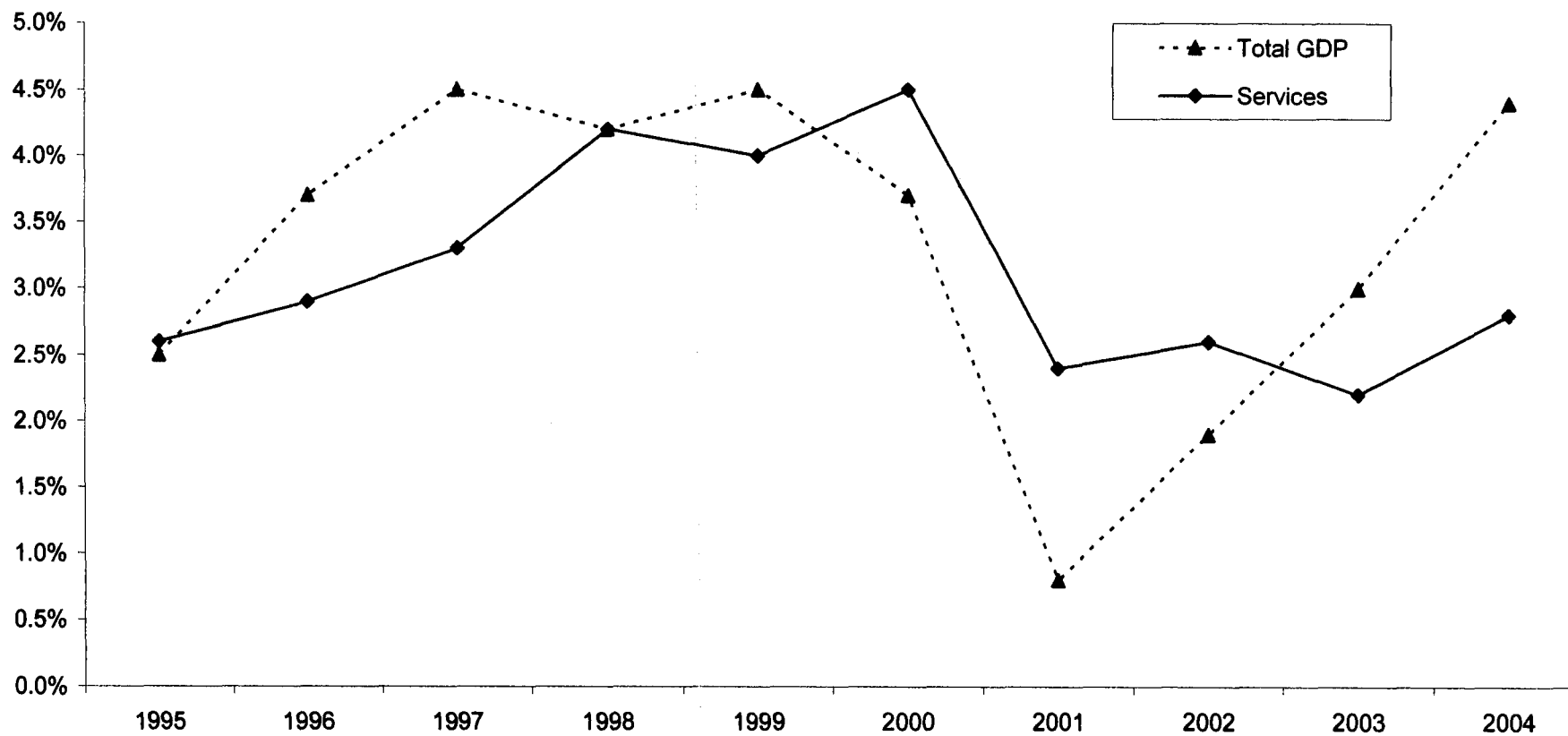
Source: Bureau of Economic Analysis, U.S. Department of Commerce. April, 2005

Figure 2

Per Cent Unemployed in the United States
Years 1995 Through 2004
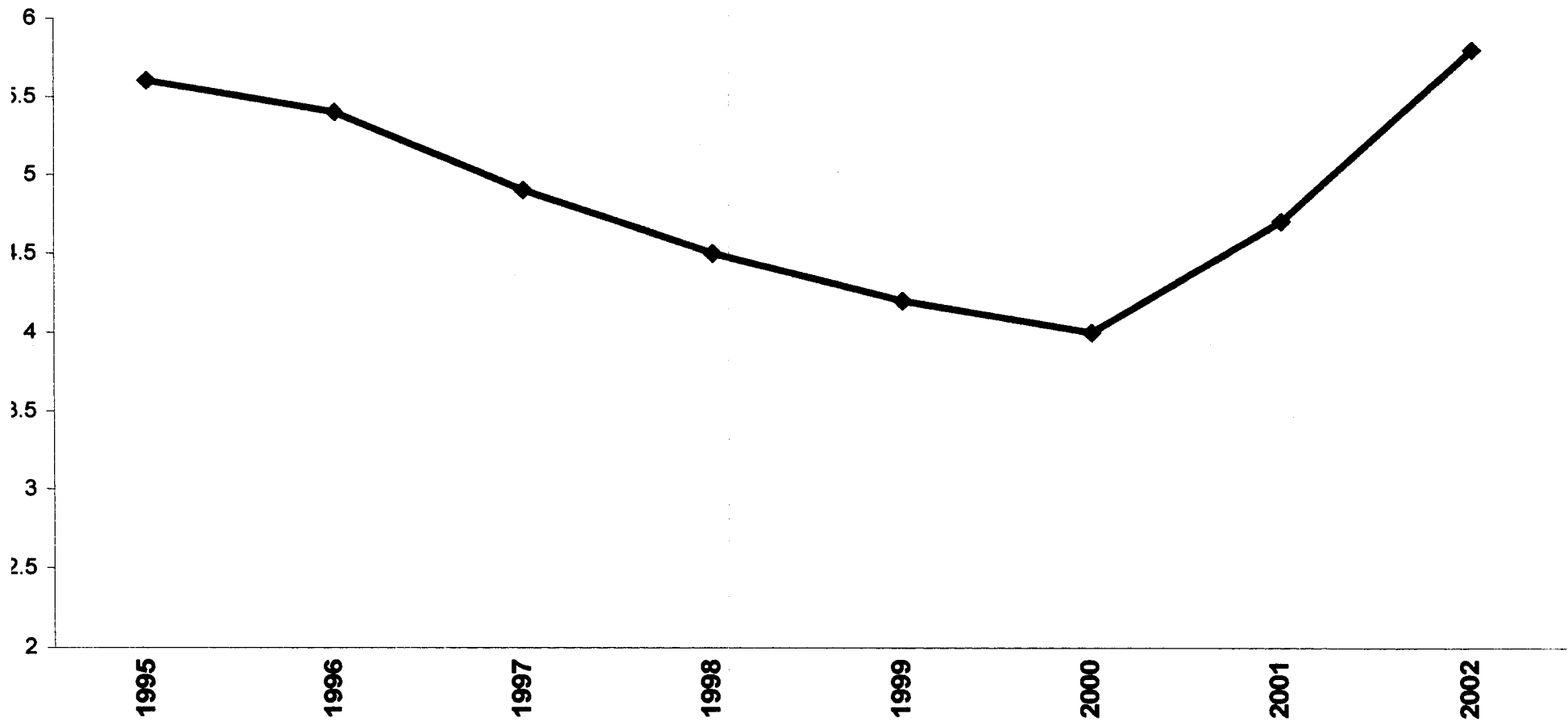
In the ten year period, 1995 to 2004, the Services
Sector has become increasingly important to the U.S.
economy as the Goods Sector declined. Within the Services
Sector, Educational Services have grown at a higher rate
than the sector as a whole (Figure 3). The growth of
Educational Services is likely a result of demographic
changes within the US population (i.e. 50 years after World
War II the grandchildren of baby boomers became of college
age) and appears to occur regardless of declining
international student enrollments resulting from the
terrorist attack in 2001. Therefore, improvement in
international student enrollment could increase the
contribution to Educational Services, The Services Sector,
and ultimately the total GDP.

International students studying in the U.S. bring in
"new money" (Figure 4) from outside the nation which also
helps to offset our troubling export trade imbalance.
(Figure 5)

Figure 3

Comparative Per Cent Change in U.S. Total GDP, Service Sector, and Educational Services 1995 to 2004

Figure 4

Contributions of "New Money" from International Students to U.S. GDP
(In Billions of Dollars)
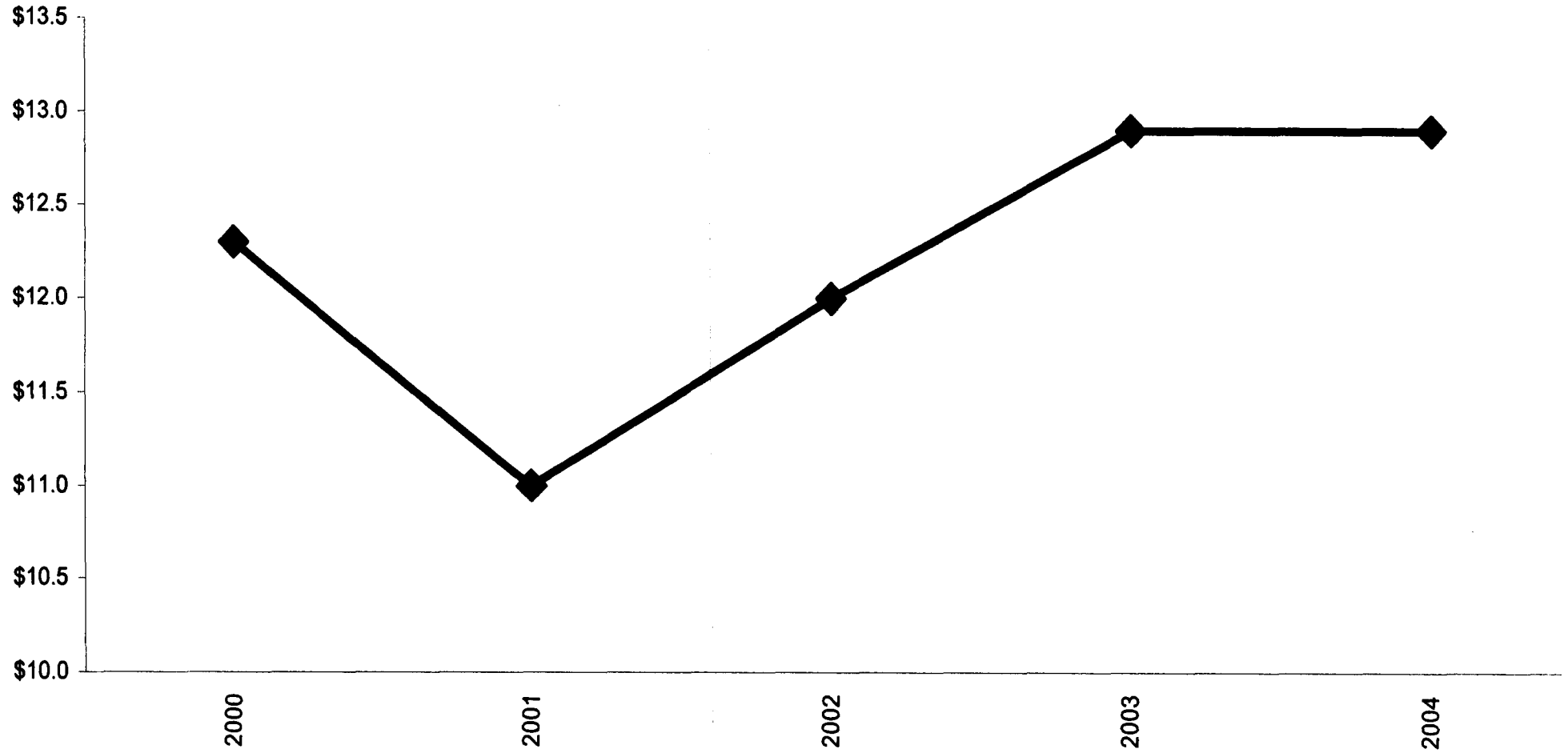
Source: Open Doors

Figure 5

**US Deficit in International Balance of Trade in Millions of Dollars
1992 Through 2004**
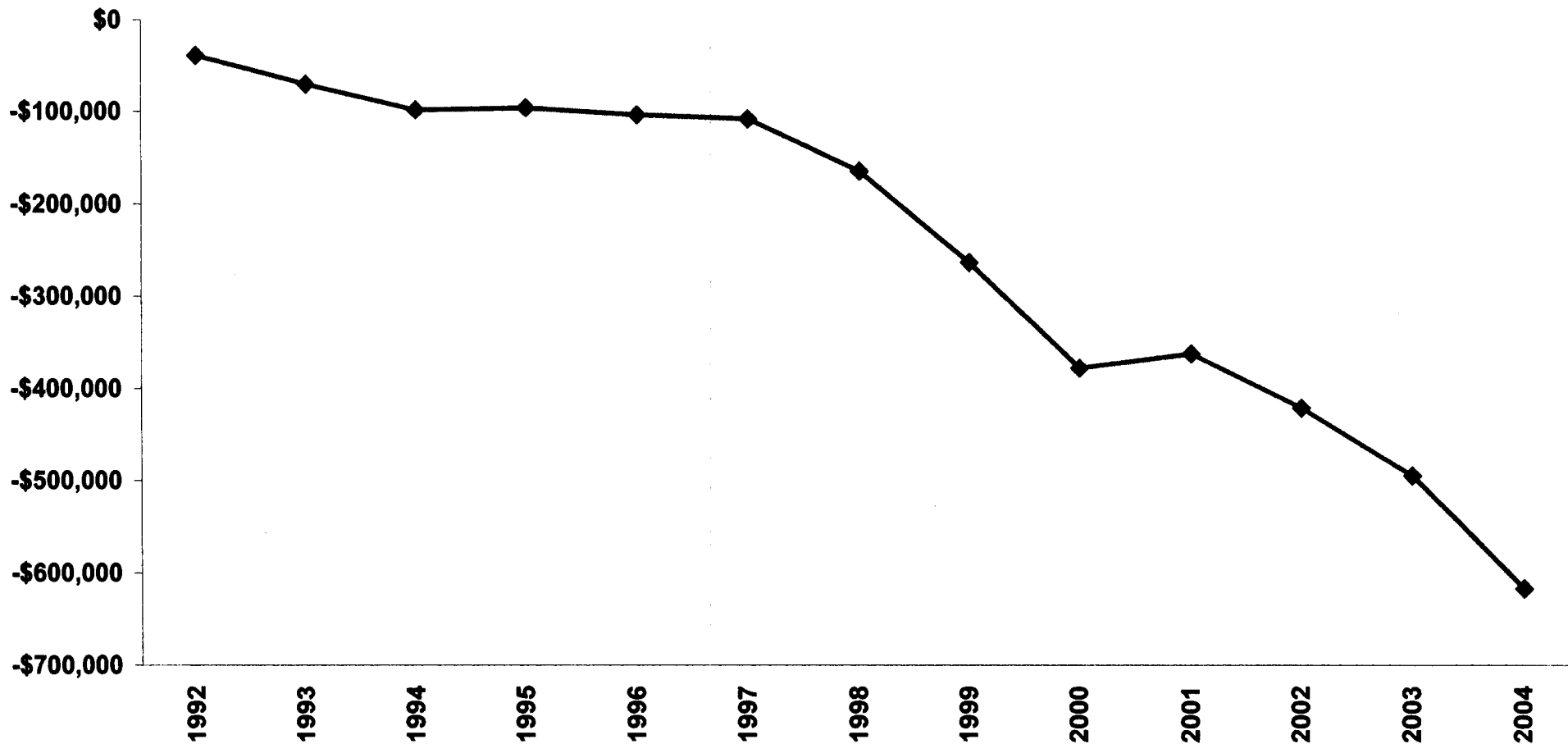
Source: Bureau of Economic Analysis

North Carolina Economic Impact

 The growth rate of North Carolina's economy – in decline since 1978 and struggling to compete within the southeastern region – suffered greatly from the downturn after the terrorist attack. As a result, the annual growth rate for 2001 was only 4.2% – reached only once in the period between 1978 and 2003 (Figure 6) although the GSP in millions of current dollars continued to rise (Figure 7).

 In the 12 year period from 1991 through 2002 the growth rate of North Carolina's educational services sector grew at a higher rate than the growth rate of the total state's Gross State Product (GSP) (Figure 8), except for 1997 and 2002 – the year following the terrorist attack on the US.

 Although a relatively low proportion of the total Educational Services Sector and GSP, international students have contributed substantially to North Carolina's economy. However, the year after the terrorist attack, as a result of a decline in international student enrollment, the contribution of "new money" dropped by $24.4 million from $179.2 million to $154.8 million. (Figure 9)

Figure 6

Per Cent Change in North Carolina GSP and Linear Trend Line
1978 Through 2003
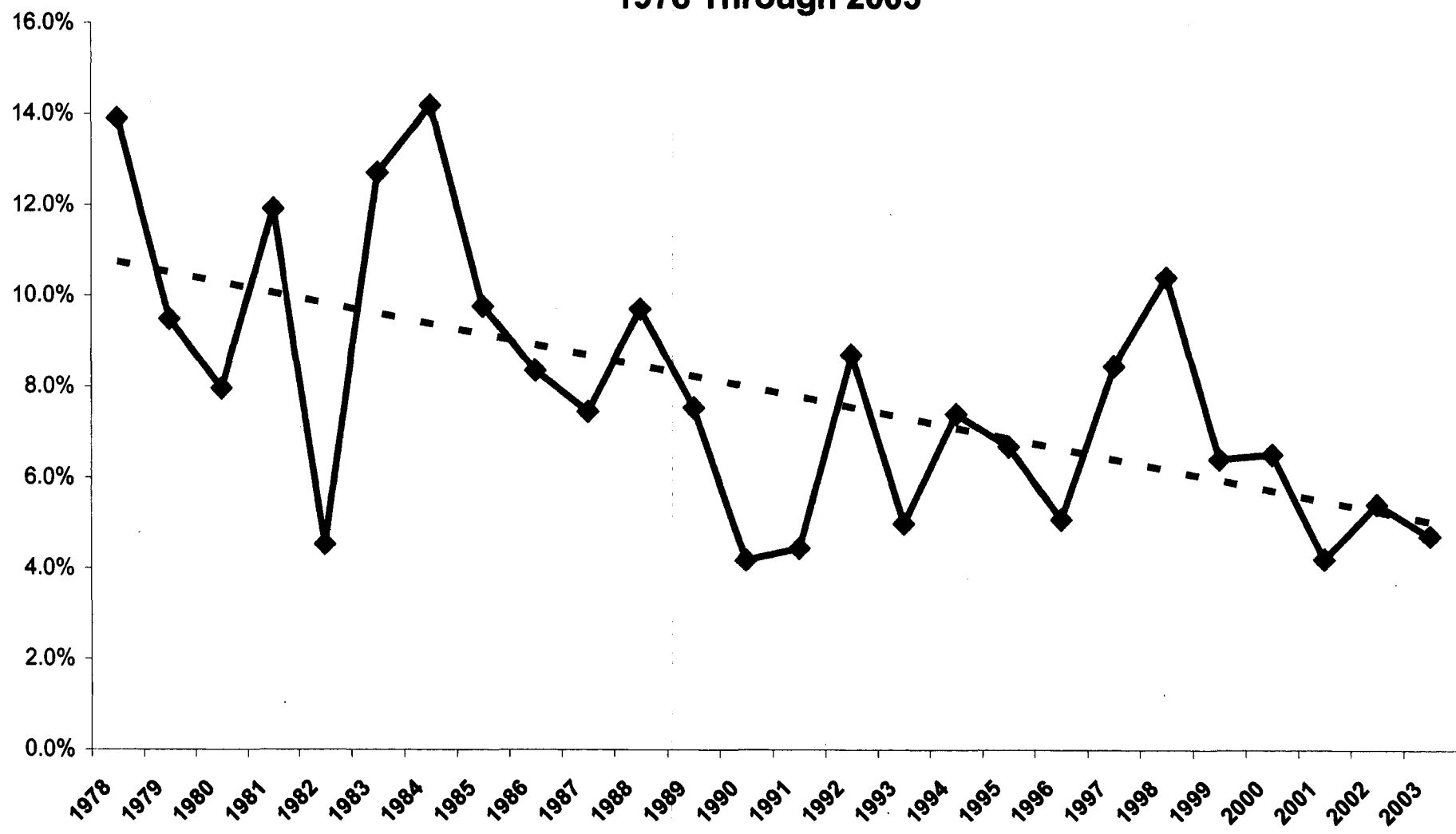
Source: Bureau of Economic Analysis

Figure 7

NC GSP in Millions of Current Dollars
1978 through 2003
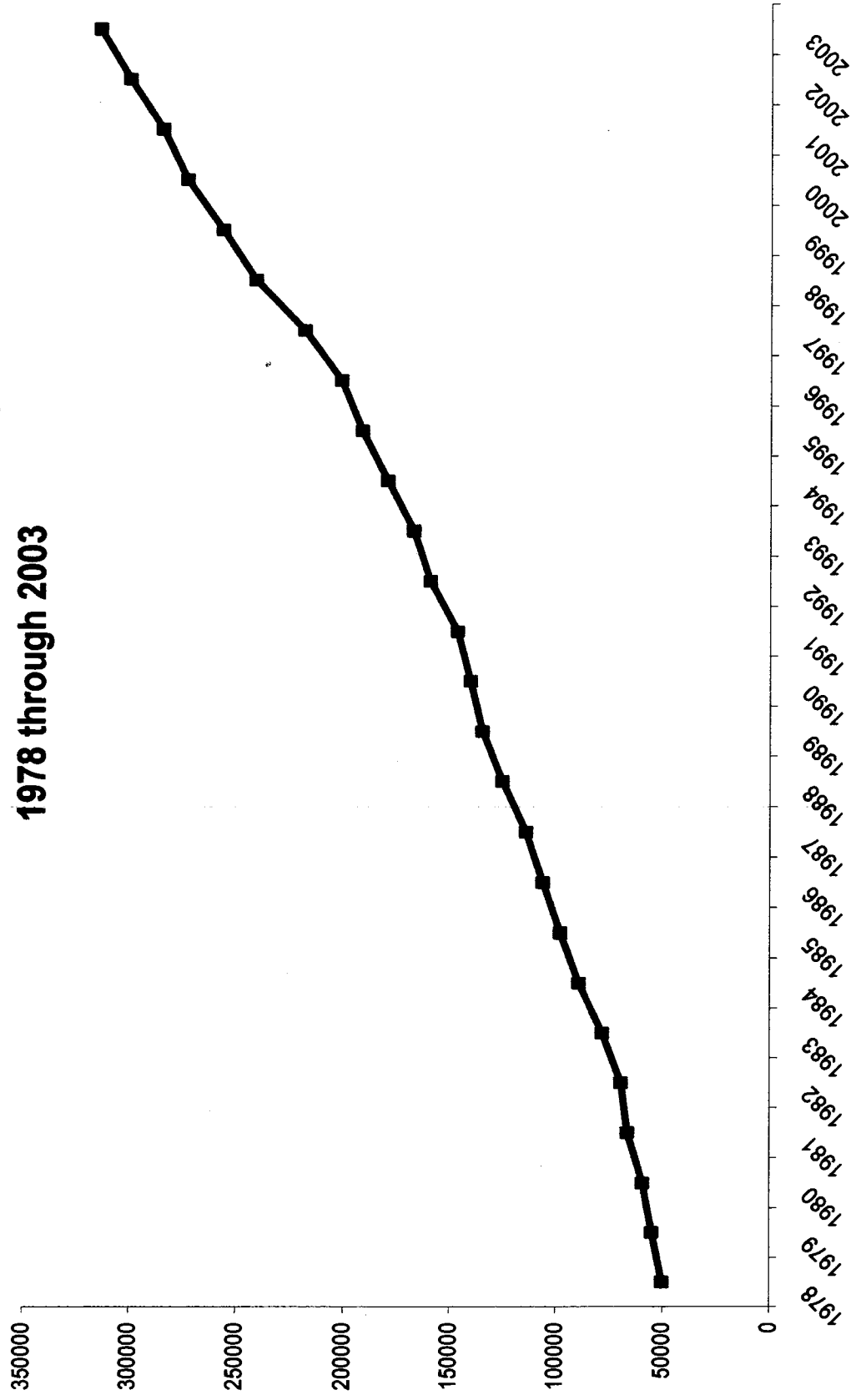
Source: Source: Bureau of Economic Analysis

Figure 8

% Change in North Carolina GSP and Educational Services 1991 Through 2002

Legend:
- - ● - % Change in GSP
- ■ % Change in Educational Services
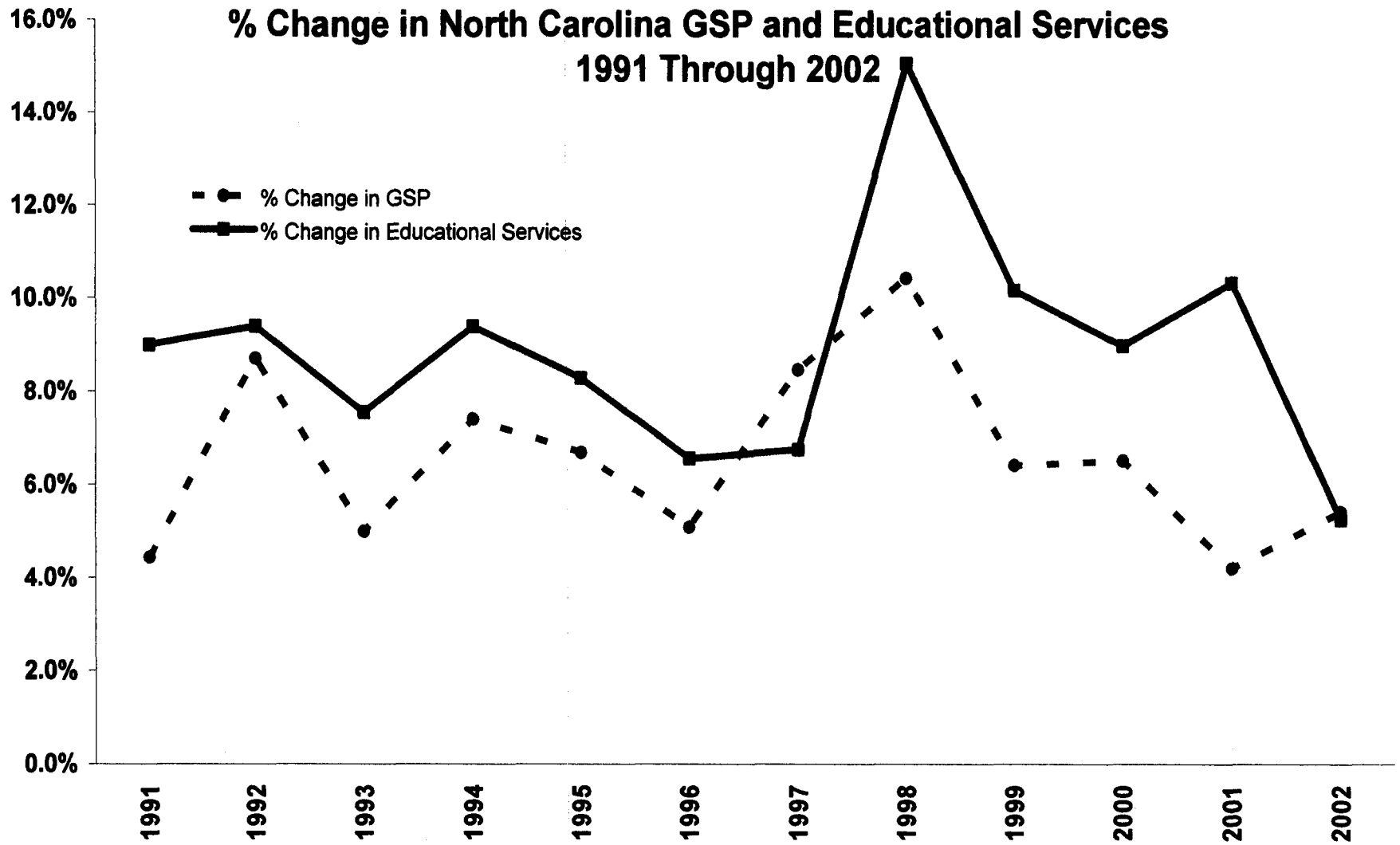
Source: Bureau of Economic Analysis

Figure 9

International Student Contribution to NC State's GSP in Millions of Dollars of "New Money" in Years 2000 - 2004
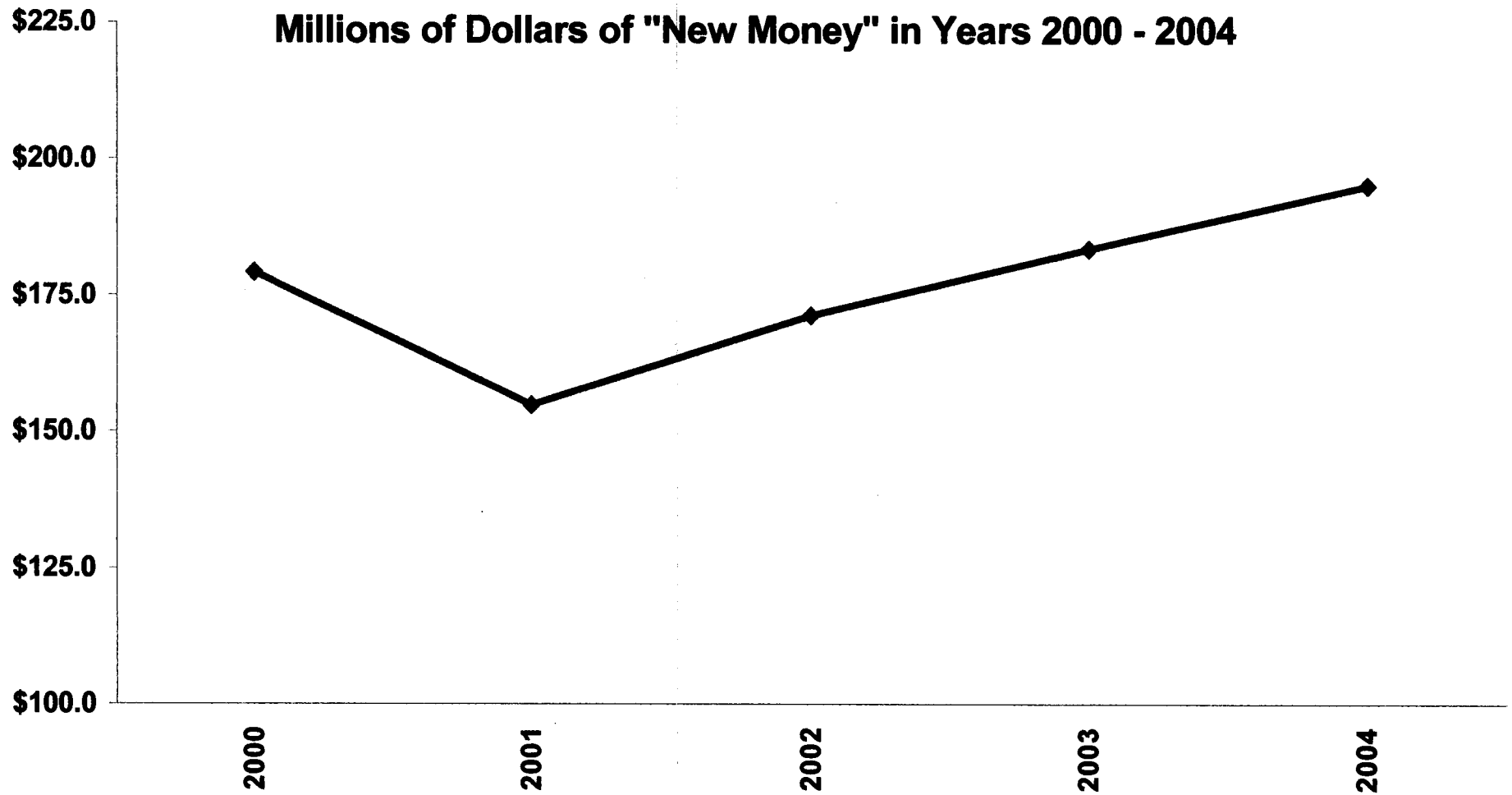
Source: Open Doors

The state economic environment in which the NC University System operates is within the range of the US national average. North Carolina's per capita income in 1997 was $23,468 and grew 16.83% to $27,418 in 2001 (Table 1). By comparison, the U.S. median per capita income in 1997 was $24,182 (3.0% above North Carolina's) and grew 18.52% to $28,493 (3.9% above North Carolina's) in 2001. In 2001, North Carolina's per capita income was $27,418 - 4.9% below the national average and 3.8% below the national median per capita income. As North Carolina falls within normal range of the median and average income for the nation, it may be considered representative of other states in our country.

Therefore, again, in addition to UNC-W being considered average within the state's university system, the economic impact of the terrorist attack on North Carolina may be indicative of that in other US states.

Table 1

State Economic Data – Per Capita Income 1997 and 2001

State	1997 Per Capita Income	2001 Per Capita Income	% Change	State	1997 Per Capita Income	2001 Per Capita Income	% Change
Alabama	$20,899	$24,426	16.88%	Montana	$19,920	$23,532	18.13%
Alaska	$26,898	$30,997	15.24%	Nebraska	$24,148	$28,564	18.29%
Arizona	$21,892	$25,479	16.38%	Nevada	$26,789	$29,860	11.46%
Arkansas	$19,628	$22,912	16.73%	New Hampshire	$27,238	$33,928	24.56%
California	$26,521	$32,678	23.22%	New Jersey	$31,720	$38,153	20.28%
Colorado	$27,067	$32,957	21.76%	New Mexico	$19,641	$23,162	17.93%
Connecticut	$34,759	$41,930	20.63%	New York	$29,670	$35,884	20.94%
Delaware	$26,807	$32,121	19.82%	**North Carolina**	**$23,468**	**$27,418**	**16.83%**
Florida	$24,869	$28,493	14.57%	North Dakota	$20,520	$25,538	24.45%
Georgia	$23,911	$28,438	18.93%	Ohio	$24,772	$28,619	15.53%
Hawaii	$25,765	$28,554	10.82%	Oklahoma	$20,739	$24,787	19.52%
Idaho	$20,534	$24,257	18.13%	Oregon	$24,385	$28,000	14.82%
Illinois	$27,950	$32,755	17.19%	Pennsylvania	$25,635	$30,617	19.43%
Indiana	$23,418	$27,532	17.57%	Rhode Island	$25,643	$29,984	16.93%
Iowa	$23,499	$27,283	16.10%	South Carolina	$20,998	$24,594	17.13%
Kansas	$24,182	$28,507	17.89%	South Dakota	$21,885	$26,301	20.18%
Kentucky	$20,979	$25,057	19.44%	Tennessee	$22,814	$26,758	17.29%
Louisiana	$20,874	$24,084	15.38%	Texas	$23,756	$28,486	19.91%
Maine	$22,134	$26,385	19.21%	Utah	$20,613	$24,202	17.41%
Maryland	$28,857	$34,950	21.11%	Vermont	$23,026	$27,992	21.57%
Massachusetts	$30,773	$38,845	26.23%	Virginia	$26,385	$32,295	22.40%
Michigan	$25,509	$29,538	15.79%	Washington	$26,469	$31,582	19.32%
Minnesota	$27,086	$32,791	21.06%	West Virginia	$19,351	$22,725	17.44%
Mississippi	$18,580	$21,643	16.49%	Wisconsin	$24,481	$28,911	18.10%
Missouri	$23,926	$28,029	17.15%	Wyoming	$23,360	$28,807	23.32%

Averages	$24,693	$29,226	(Increase Over 4 yrs. = 18.65%)
Medians	$24,182	$28,493	(Increase Over 4 yrs. = 18.52%)

Source: Bureau of Economic Analysis

<u>The Educational Services Sector in NC</u>

The Educational Services sector is important to the state of NC as it has steadfastly contributed toward the Gross State Product (Figure 8) as well as produced leaders better equipped for a future where cultural differences are expected be the norm and all business more global.

The proportion of North Carolina's gross state product derived from educational services, using 2003 current dollars, trended upward during the period of 1993 – 2001 but was relatively unchanged for the year 2002, after the terrorist attack (Figure 10). For the first time in the ten year period depicted – the proportion of North Carolina's GSP contributed by educational services did not grow as had been the trend in previous years.

Figure 10

Per Cent of NC State Gross Product Contributed by Educational Services
10 Year Period from 1993 to 2002
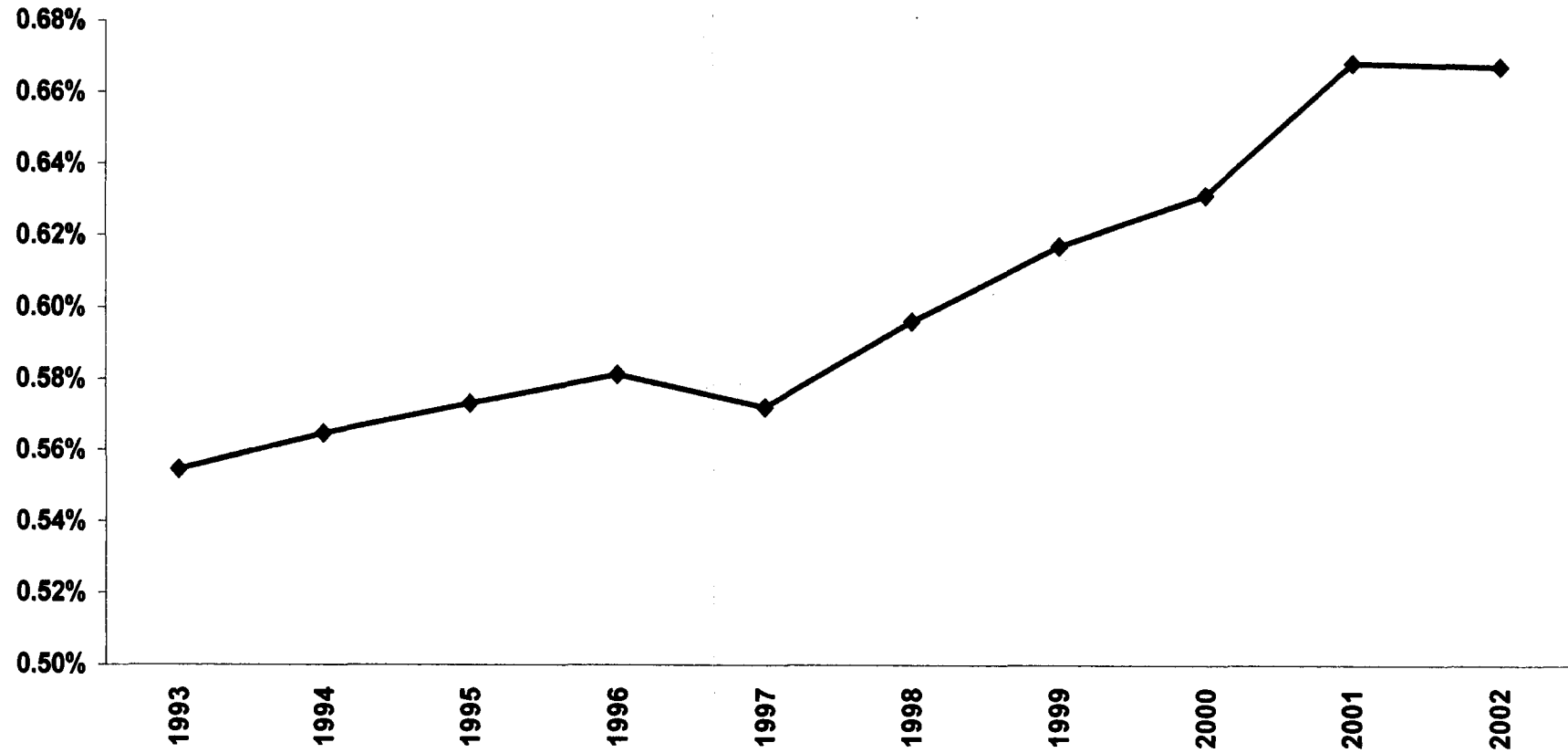
Source: Bureau of Economic Analysis

Impact to the NC University System

North Carolina's University System, currently having sixteen campuses, is well established. Chartered in 1789, it was the first public university in the United States, and has a rich heritage of academic excellence. It was the only public university to graduate students in the eighteenth century. (N.C. University website, 2005)

Long range strategic planning adopted in January of 2002 by the Board of Governors for the North Carolina University System included *Internationalization* as one of six strategic directions. That goal was stated to be:

> Promote an International perspective
>
> throughout the University community to
>
> prepare citizens to become leaders in
>
> a multi-ethnic and global society.
>
> (University of NC, 2005)

University of North Carolina at Wilmington

UNC-W is one of the sixteen campuses in the North Carolina University System. The campus in Wilmington (UNC-W) is not the largest by enrollment (Figure 8), nor is it the smallest. Its location in coastal North Carolina is neither the largest nor the smallest by median income

(Figure 12) or population (Figure 13). In addition, the State of North Carolina, which operates the university system, is neither the largest nor the smallest by population nor is it the most economically depressed or prosperous state in the United States.

The Wilmington campus is average in terms of enrollment (Figure 11), per capita income (Figure 12), and in population of the surrounding county (Figure 13).

The average demographic nature of the state and campus offer the potential for this study to be applicable to other states, universities and colleges.

Figure 11

UNIVERSITY OF NC ENROLLMENT BY CAMPUS (Fall, 2002)
Average=11,060   Median =9,115
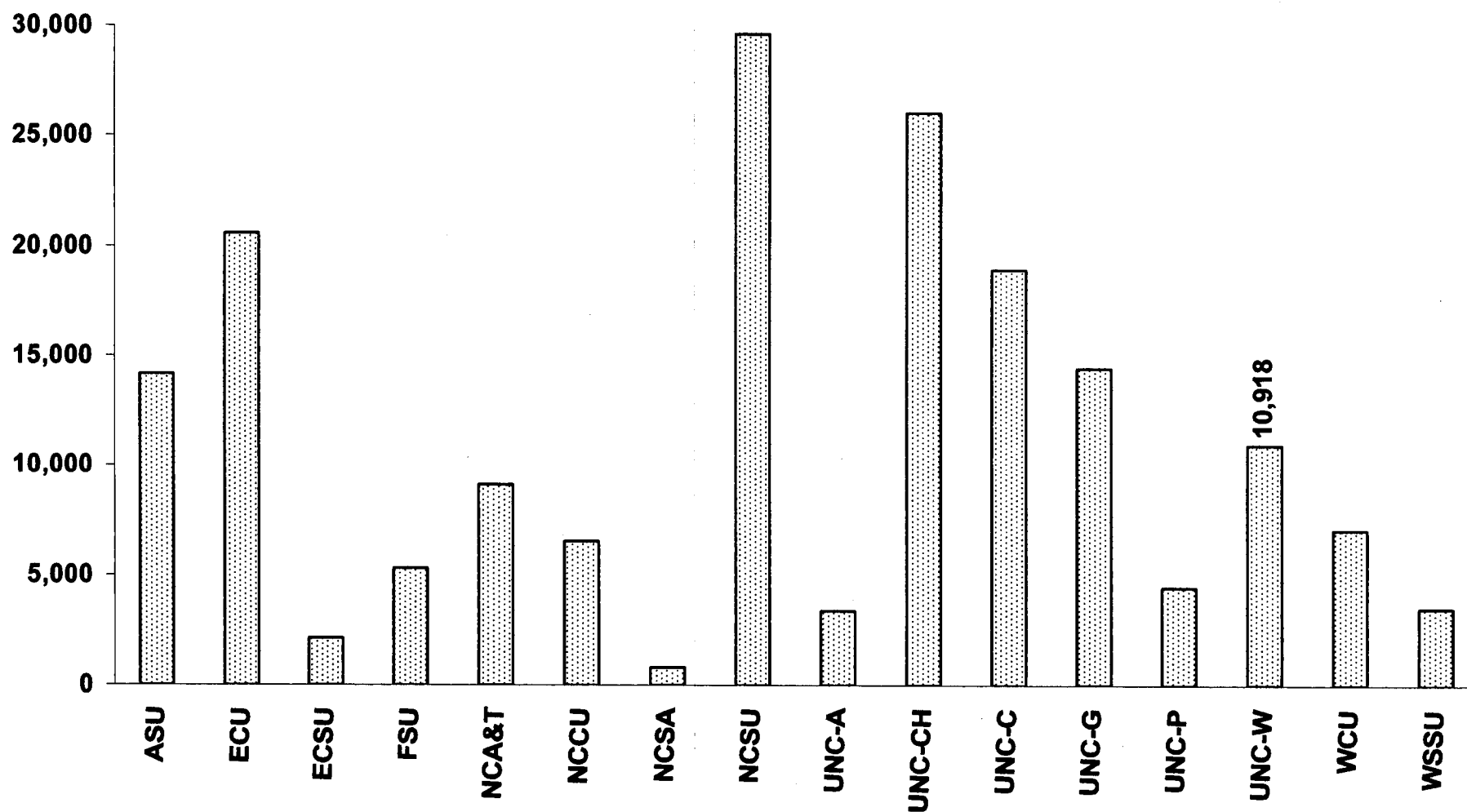
Source: N.C. University System

Figure 12

2001 County Per Capita Income By Campus Location
Average = $28,584   Median = $29,604
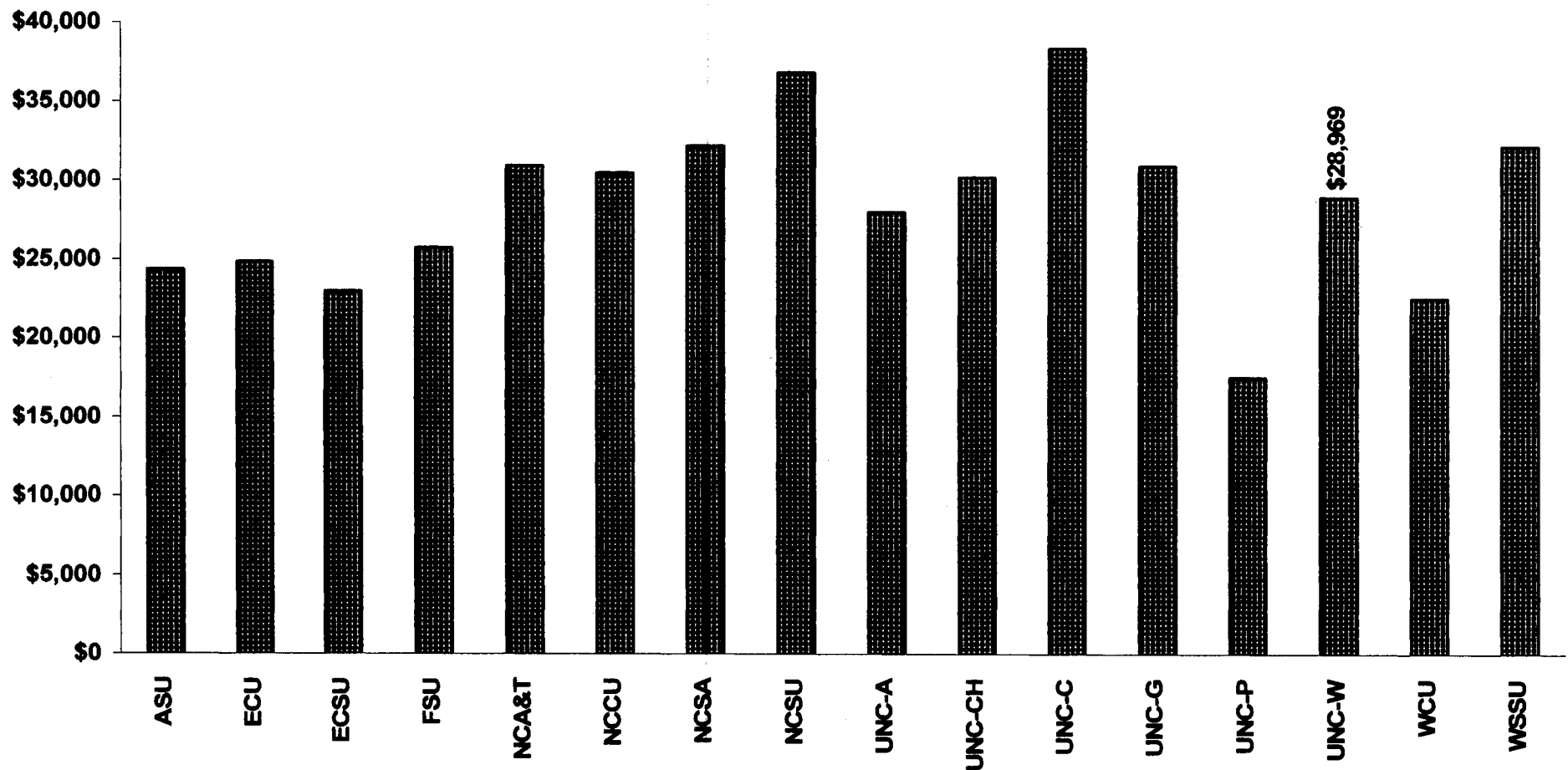
Source: NC Department of Commerce

Figure 13

2002 County Population By Campus Location
Average = 269,729   Median = 222,049
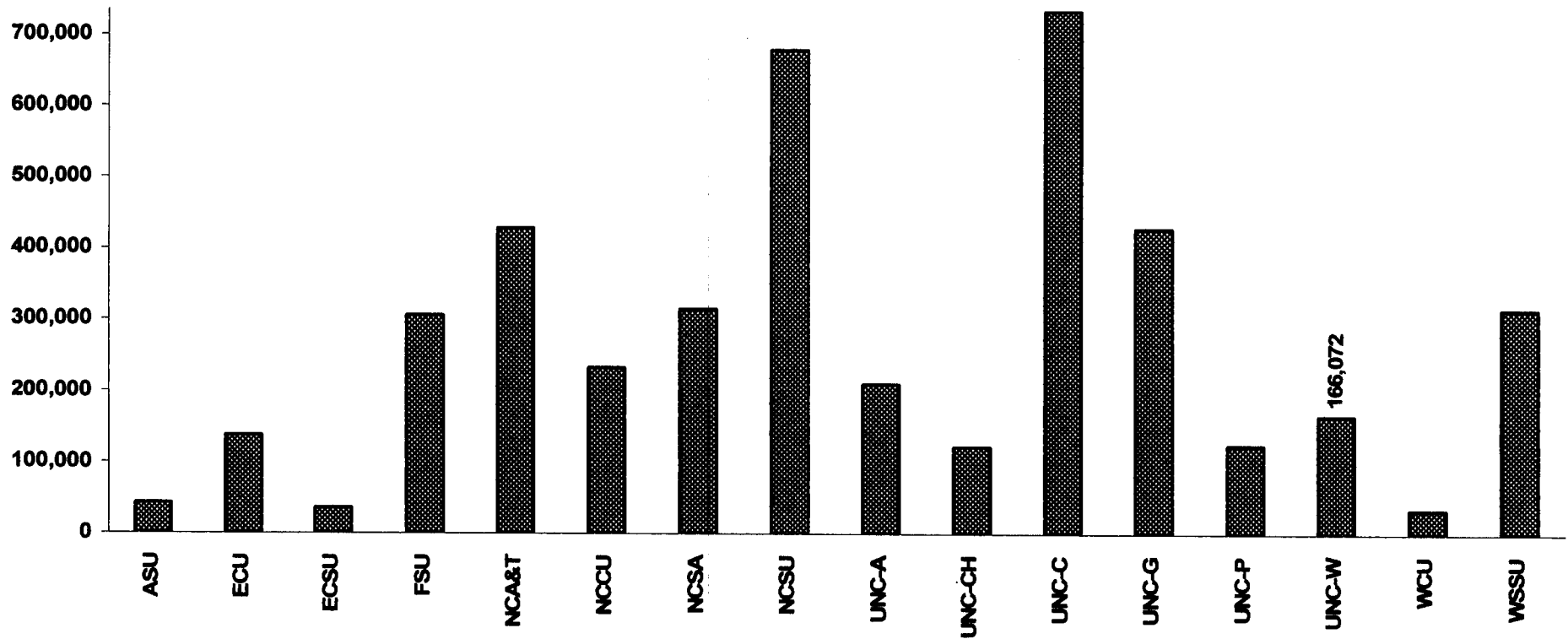
Source: NC Department of Commerce

International Student Enrollment

The International Student population at The University of North Carolina at Wilmington experienced a growing trend beginning with the fall semester of 1991. (Figure 14) However, it declined considerably after the fall semester of 2001, when the terrorist attack on the U.S. occurred. It then rose slightly in the fall semester of 2002 when it resumed a decline.

By comparison, the per cent of international students in the United States in the 2003/2004 enrollment period was 4.3% of the total enrollment in institutions of higher education. In Associate's programs 1.6% were international students; in Bachelor's programs 2.5% were international students; in Graduate and Professional programs 14.5% were international students. (Open Doors, 2004)

In the enrollment year 2003/2004, International Students contributed nearly $13 billion to the U.S. economy per analyses conducted by researchers at Indiana University for NAFSA: Association of International Educators. (Table 3) This contribution consisted of tuition, cost of living expenses, and for some students there were expenditures for dependents. These billions of dollars are net contributions

- after reduction of funds provided by U.S. entities - and reflect "new money" which can be considered an offset to the troubling U.S. trade imbalance (Figure 4) as previously stated. (Open Doors, 2004)

Table 2 Financial Contribution of International Students

State	International Students 2003/04	Tuition & Fees 2003/04	Living Exp. & Dependents 2003/04	Less U.S. Support 2003/04	Total Contribution 2003/04
Alabama	6,386	$49,729,588	$89,138,321	$41,493,690	$97,374,219
Alaska	427	$3,496,515	$7,564,724	$3,687,236	$7,374,003
Arizona	9,907	$94,049,499	$170,844,016	$69,643,454	$195,250,061
Arkansas	2,781	$24,516,691	$43,559,385	$19,793,998	$48,282,078
California	77,186	$955,231,094	$1,402,284,479	$551,287,776	$1,806,227,797
Colorado	5,960	$89,275,536	$108,250,909	$61,038,912	$136,487,533
Connecticut	7,655	$129,294,743	$163,394,279	$93,949,339	$198,739,683
Delaware	2,142	$25,457,957	$35,644,915	$16,329,865	$44,773,007
D.C.	8,532	$150,682,777	$182,317,493	$103,542,765	$229,457,505
Florida	25,861	$302,303,125	$465,341,735	$183,039,495	$584,605,365
Georgia	12,010	$149,265,898	$205,900,878	$100,361,102	$254,805,674
Guam	69	$387,990	$879,248	$132,603	$1,134,635
Hawaii]	5,371	$41,246,654	$97,849,584	$34,867,366	$104,228,872
Idaho	1,727	$14,371,330	$30,637,852	$10,785,905	$34,223,277
Illinois	25,609	$373,530,957	$526,336,575	$309,296,297	$590,571,235
Indiana	13,586	$204,650,494	$272,048,148	$146,716,614	$329,982,028
Iowa	7,699	$96,186,884	$147,440,972	$79,385,661	$164,242,195
Kansas	6,573	$53,226,055	$105,150,635	$39,830,770	$118,545,920
Kentucky	4,751	$43,818,403	$69,377,749	$31,800,265	$81,395,887
Louisiana	6,621	$72,593,059	$113,999,786	$54,393,774	$132,199,071
Maine	1,730	$20,432,422	$27,923,783	$16,236,156	$32,120,049
Maryland	12,633	$155,508,966	$240,349,159	$108,009,357	$287,848,768
Massachusetts	28,634	$559,051,051	$656,854,233	$371,638,798	$844,266,486
Michigan	22,277	$280,696,599	$358,332,721	$190,606,919	$448,422,401
Minnesota	9,143	$109,654,338	$151,460,516	$77,310,376	$183,804,478
Mississippi	2,280	$18,562,300	$35,591,574	$19,494,462	$34,659,412
Missouri	9,975	$136,565,472	$179,195,438	$86,809,550	$228,951,360
Montana	872	$8,589,832	$14,556,997	$5,085,515	$18,061,314
Nebraska	3,524	$31,006,627	$57,603,324	$22,060,131	$66,549,820
Nevada	2,743	$21,096,400	$52,908,235	$14,020,373	$59,984,262
New Hampshire	2,128	$32,281,619	$46,095,666	$18,140,908	$60,236,377
New Jersey	13,163	$153,657,668	$238,876,541	$98,416,135	$294,118,074
New Mexico	2,115	$20,620,044	$40,155,498	$20,269,813	$40,505,729
New York	63,313	$938,637,361	$1,218,420,495	$569,470,512	$1,587,587,344
North Carolina	**8,826**	**$130,633,859**	**$160,714,500**	**$96,214,579**	**$195,133,780**
North Dakota	1,595	$11,838,037	$24,618,348	$8,131,075	$28,325,310
Ohio	18,770	$267,472,147	$374,237,626	$212,160,326	$429,549,447
Oklahoma	8,764	$69,073,670	$153,783,411	$54,739,564	$168,117,517
Oregon	5,855	$73,617,803	$100,706,281	$44,080,548	$130,243,536
Pennsylvania	23,428	$432,659,771	$464,621,866	$267,197,379	$630,084,258
Puerto Rico	876	$3,370,469	$15,244,483	$7,025,067	$11,589,885
Rhode Island	3,337	$56,255,703	$59,943,997	$27,921,217	$88,278,483
South Carolina	3,919	$43,292,634	$73,727,831	$40,391,753	$76,628,712
South Dakota	715	$5,402,669	$9,825,867	$5,005,970	$10,222,566
Tennessee	5,846	$77,002,577	$94,357,807	$57,084,566	$114,275,818
Texas	45,150	$366,875,294	$738,269,198	$295,260,452	$809,884,040

Table 2 Financial Contribution of International Students - Continued

Vermont	835	$14,076,652	$13,958,773	$8,424,395	$19,611,030
Virginia	12,531	$146,975,377	$201,803,780	$92,768,460	$256,010,697
Washington	10,756	$119,128,045	$180,674,123	$62,862,286	$236,939,882
West Virginia	2,507	$24,121,212	$44,852,631	$22,929,062	$46,044,781
Wisconsin	7,142	$121,382,051	$122,063,407	$79,162,980	$164,282,478
Wyoming	493	$3,362,855	$8,830,814	$3,668,338	$8,525,331
Totals	572,509	$7,360,683,857	$10,500,615,729	$4,988,099,409	$12,873,200,177

Recap of International Student Contributions
To US Economy for Year 2003/2004
Total Number Studying in the U.S. = 572,509

Contribution from Living Expenses	$10,010,000,000
Contribution from Tuition and Fees	7,361,000,000
Total Contribution by Foreign Students	$17,371,000,000
Less U.S. Support	-4,988,000,000
Net Contribution to U.S. Economy	$12,873,000,000

Source: Open Doors

International student enrollment growth in the entire US, for the year following the attack of September 11, 2001 increased little (less than 1%). The rate of growth then began to decline in opposition to the previous trend. The culmination from the latest data available was negative growth of 2.4% in the 2003/2004 school year even though growth occurred in the service sector in which it belonged. (Figure 15) A majority of this decline may be the result of tougher requirements for student visas and/or stricter enforcement by the USCIS - U.S. Citizenship and Immigration Services (Formerly the INS - Immigration & Naturalization Service) related to the need for security in an effort to prevent future terrorist attacks.

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Figure 14

All International Students Attending UNC-W By Semester
Fall 1991 Through Spring 2005

Terrorist Attack on U.S.
September 11, 2001 (Fall Semester)
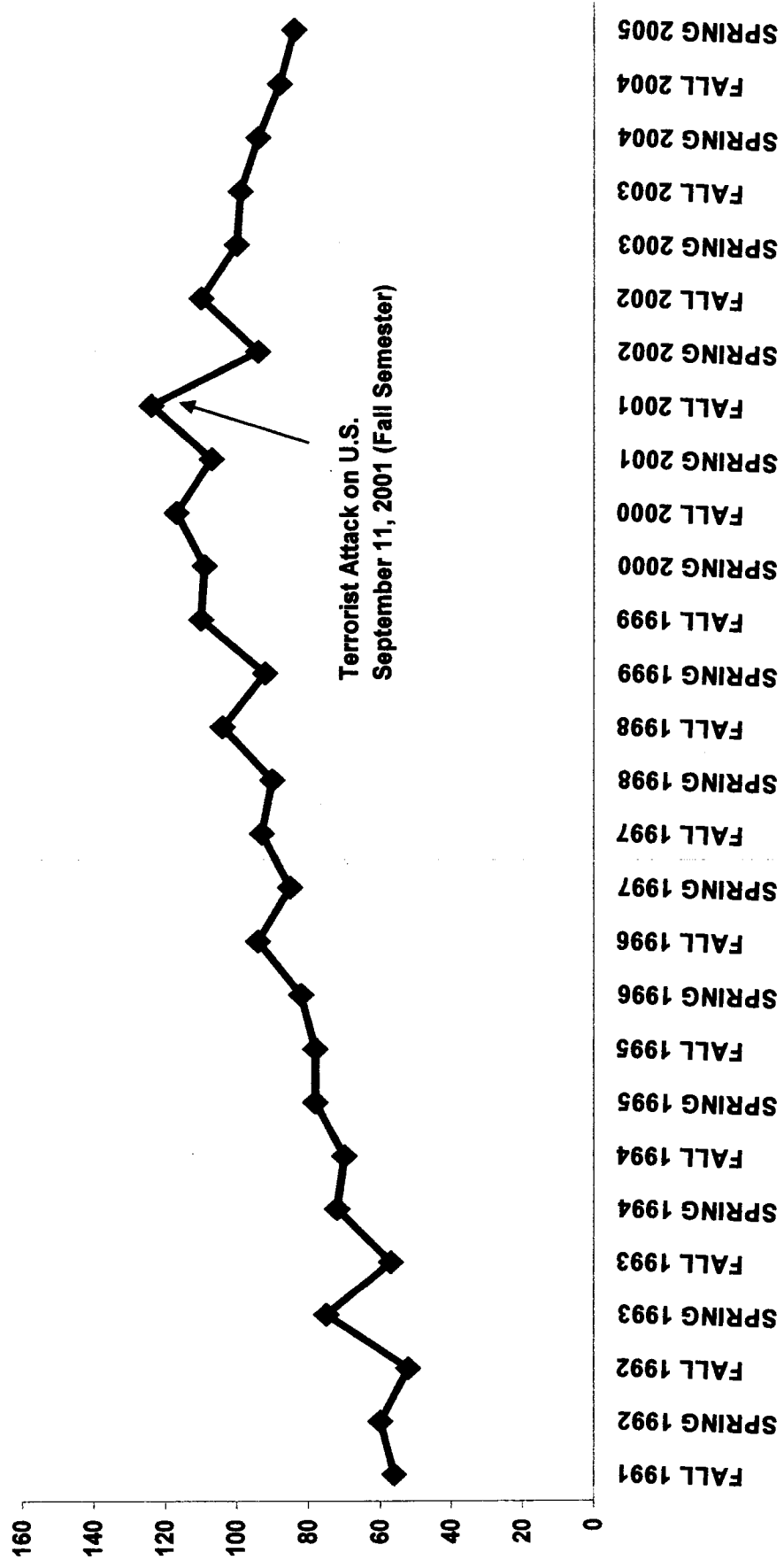
Source: University of North Carolina at Wilmington

Figure 15

Annual % Change in U.S. International Student Enrollment Number vs. % Change in Dollars in Total Services Sector of GDP

Services Sector % Change
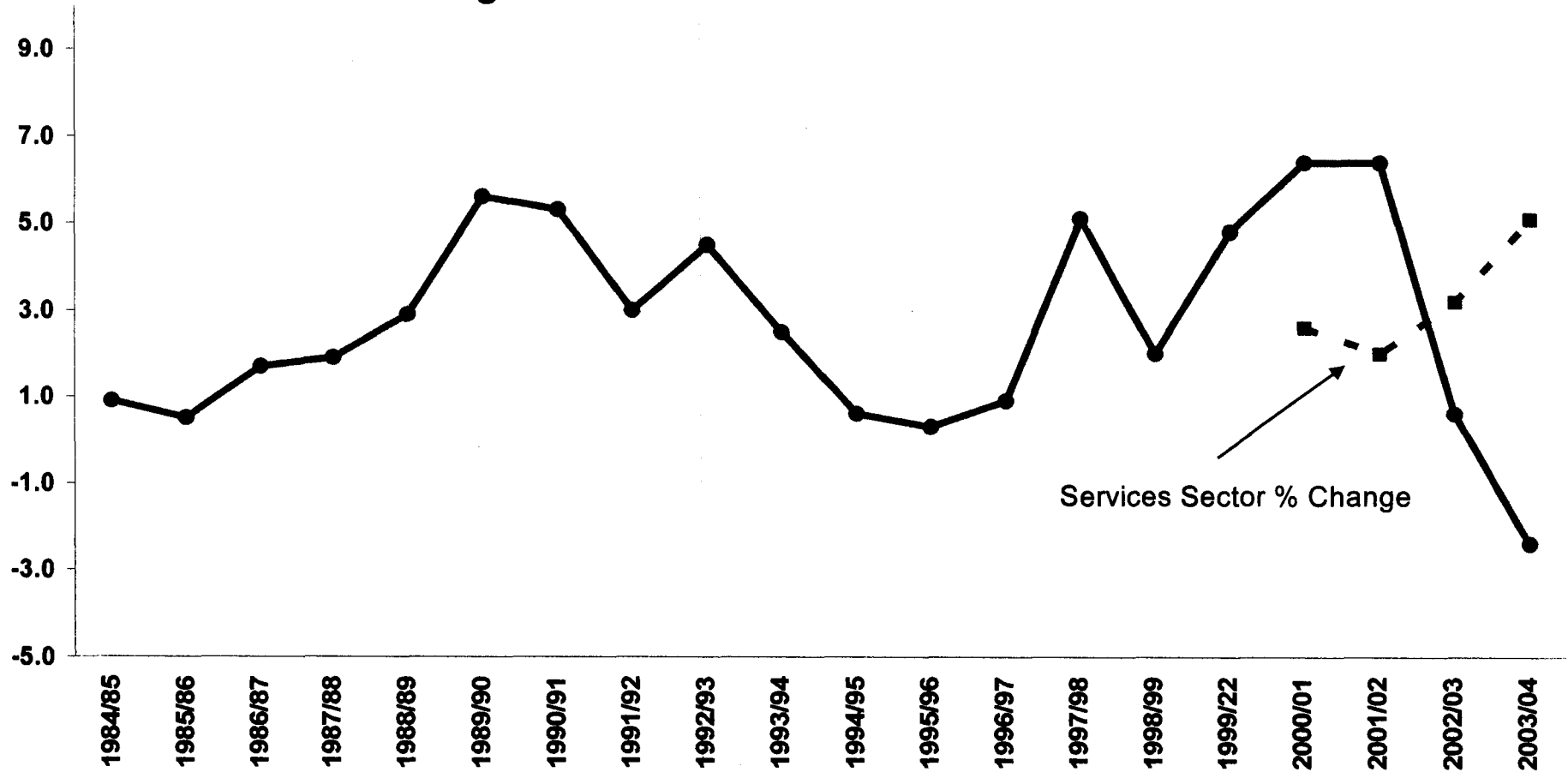
Source: Open Doors and Bureau of Economic Analysis

Globalization's First War?

The world-wide impact of the terrorist attack of September 11, 2001 was immediately recognized. Responses from the U. S. President and his staff confirmed that the impact would be international in scope. President George W. Bush told citizens that the country faced "the first war of the twenty-first century." This attack may also be considered the first major war in the age of globalism. (Campbell, 2002)

Vice President Dick Cheney vowed a few days later that the coming conflict would be "global in scope." Defense Secretary Donald Rumsfeld said that an international campaign would be waged on fronts ranging from military strikes, improved intelligence, stronger banking regulations, and more effective international cooperation in terrorist detection and prevention. In order to clarify who the terrorists were believed to be, National Security Adviser Condoleezza Rice made a clear distinction between Islam and "the terrorists who distort its peaceful message." (Campbell, 2001) However, a study of 222 British Muslims showed that after the terrorist attack of September 11th, levels of implicit or indirect discrimination rose by

82.6% and experiences of overt discrimination increased by

76.3% (Sheridan, 2006)

The terrorist attack left an incalculably negative

impression on the U.S. psyche and a deep blow against

consumer confidence which had already been sharply ebbing.

The economic impact to the U.S. caused a secondary economic

impact, particularly in Latin America and East Asia as a

result of a depressed U.S. capacity to absorb imports.

Considerations by international economists immediately

after the attack included whether the cures for

international terrorism - travel restrictions, border

searches, new immigration procedures, and new constraints

limiting business efficiency - would be more debilitating

for the economy than the disease of international

terrorism. (Campbell, 2001)

The terrorist attacks of September 11, 2001 evinced

parallels and connections between growth of globalization

and Osama bin Laden's al Qaeda movement. Both were at first

overlooked and then underestimated as they advanced

dramatically during the 1990's. Each touched many countries

throughout the world and functioned as a network of complex

connections imbedded in countries yet linked across

societies. World leaders tended to misunderstand the depth

to which the activities associated with globalization on

one hand and al Qaeda, on the other hand, could disrupt

their countries. Neither concept accepts the legitimacy of

any state or state system nor do they accept any state's

inexorable quest. (Campbell, 2001)

The World Trade Center was a target on U.S. soil, but

it was also a prime symbol of the influences of

globalization - a building with a large contingent of

international occupants and 24-hour operations reaching

every corner of the globe. The communications grid of

globalization carried the endless replay of the two planes

slamming into the towers. Global communications and

internet sites sent terror outward touching every part of

the interconnected system of global communications and

commerce. (Campbell, 2001)

Much that left Western societies vulnerable to

terrorist attacks in the past was our individual and

collective search for efficiency and maximum productivity.

These included curbside check-in and e-tickets at airports

and streamlined procedures for border crossings. In

addition, just-in-time delivery of international packages

and shipping were introduced to help improve productivity and advance competitiveness. Many such efforts became casualties of the war on terrorism, sacrificed in order to reduce U.S. vulnerability to terrorism. (Campbell, 2001)

Globalization's Future

The likely result of the collision of U.S. power - set out to destroy international terrorism - and globalization's quest for greater efficiency and fewer societal barriers could befall any of three possible fates. (Campbell, 2001)

One option is that forces favoring the continuation of unfettered globalization, after initial setbacks, will ultimately prevail. Campbell (2001) describes this scenario as being the best revenge - living well. The desire to return to "business as usual" is amply evident although terrorists may have other plans. Continued cataclysmic acts of international terrorism could make a return to a world of unfettered freedoms impossible. However, a shorthand formula is that U.S. impatience with inefficiencies caused by enhanced security measures will vary in direct proportion to the elapsed time between terrorist episodes. The longer the lapse, the greater the pressure to focus

once again on efficiency at the expense of safeguards against terrorism. (Campbell, 2001)

The second scenario suggested by Campbell (2001) is that international agents and institutions of globalization will adapt to heightened security and the inevitable disruptions that war brings and that the process of greater integration of trade and communications will continue with some modifications. Such modifications could include whole new lines of initiatives, companies, and innovations. For example, pharmaceutical companies may develop vaccines against biological and chemical warfare agents which would cause their stocks to skyrocket. Televideo and remote conferencing services could increasingly take the place of business travel.

The third scenario is that the "1990's go-go globalization" will be one of the first casualties in a sustained campaign against global terrorism. In this scenario, global prospects would remain gloomy, trade barriers and subsidies would rise, and investments in technologies would lag. As shown in the tragic lesson of 1914 and World War I, advances in globalization such as free and unfettered trade, rising productivity, open and

optimistic mind-sets, ease of travel, and global trust and
confidence are extremely difficult to regain once lost.
(Campbell, 2001)

Whereas a process of struggle and reconciliation is
necessary, an intellectual framework to aggressively pursue
the second option and to aggressively sustain the growth of
globalization is needed. Balance between competing demands
of enhanced security and prosperity must be sought.
However, certain characteristics of globalization may need
to be curtailed in the interest of security as other's are
intensified. For example, people and goods crossing borders
(including students from abroad) require a more efficient
tracking process and there is a need for more transparency
for movement of money as well as people and products in
order to advance the cause of globalization. (Campbell,
2001)

The economic dimensions of the campaign against
terrorism are ultimately as important as either military or
diplomatic efforts. It would indeed to tragic if efforts
to ensure domestic tranquility and prevent future terrorist
attacks inhibited or undermined the process of

globalization which has helped to bring U. S. prosperity to unprecedented levels. (Campbell, 2001)

After the Attack of 9/11

One nationwide response to the terrorist attack of September 11, 2001 was a posttraumatic stress reaction and attendance in religious services and practices as a method of coping with the stress. (Meisenhelder, 2002)

However, one study has shown that with the increased salience of terrorism, while religion as a coping mechanism was effective immediately after an attack, two months after an attack there were no differences in prevalence of PTSD between religious and non-religious participants. (Fischer et al, 2006).

The Psychological Impacts of Terrorism

Terrorism has the result of negatively impacting both those directly and indirectly impacted in terms of basic human needs of autonomy, competence, and relatedness. (Reis et at, 2000)

In addition to violence toward direct victims, terrorism has a primary goal of intimidating and creating

fear in the larger society where it is perpetrated.
(Pfefferbaum et al, 2002) Therefore logically, terrorism is
designed to cause shock and change behavior. Such shock
can continue after an attack and is recognized by
psychologists as a disability. Essentially, PTSD (Post
Traumatic Shock Disability) is a condition in which
emotional learning persists in the form of memories that
seize control of mental life and behavior. (LeDoux et al,
2001)

Terrorism is an integral component of low-intensity
wars and armed conflict, mass violence and human rights
violations (including torture) which have been occurring
with increasing frequency in parts of the world. Such
conflicts have long affected the lives of a large number of
people in various countries and regions of the world
including Algeria, Israel, Palestine, Spain, former
Yugoslavia, Ireland, Sri Lanka, India and Pakistan. (de
Jong, 2001)

More than 40% of people across the USA experienced
substantial symptoms of stress after the attacks of
September 11, 2001. Predictors of PTSD (Post Traumatic
Shock Disorder) were levels of pre-existing stressors,

levels of social support, female sex, and Hispanic ethnicity. (Lee et al, 2002)

In addition to findings by Lee (2002) that Hispanic ethnicity is a predictor of PTSD, at least one other study (de Jong et al, 2001) also found differences based on ethnicity in PTSD prevalence rates.

Using similar epidemiological assessments among survivors of war or mass violence, de Jong et al (2001) estimated the prevalence of PTSD in four regions to be 37.4% in Algeria, 28.4% in Cambodia, 15.8% in Ethiopia, and 17.8% in Gaza. The relatively high rate of PTSD in Algeria may have been the result of continuing and increased terrorist activities by certain armed groups in the country.

The Media's Impact After a Terrorist Attack

Media coverage of major terrorist events tends to be intense and shows extreme suffering, horror, and vulnerability. As horrific as these events are to watch on television and read about in newspapers and magazines, many people are unable to resist and find it nearly impossible to turn away. Some people say they are hoping for

information because they are afraid of additional attacks and want to be prepared; others say people can't turn away because they are trying to process and digest the event. Whatever the reason, it is important to understand the impact on the community that such exposure may have although most studies cannot answer the important question of whether watching television replay the event makes people worse or if people who have more severe stress reactions are those who choose to watch more. (Hamblen, 2006)

Hamblen reported that in a national survey conducted 3-5 days after the terrorist attack of September 11, 2001, adults averaged 8 hours of television related to the attack per day and children averaged 3 hours. Both adults and children who watched the most television had the most stress. This was in contrast to a similar study after the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City. In the Oklahoma study of 85 adults who sought mental-health related services six months after the bombing, the number of hours of bomb-related television watched did not correlate with increased PTSD symptoms. Similar results were discerned from a study of 2000 middle-school children in Oklahoma in that an increase in

television viewing did not correlate to an increase in PTSD. To the contrary interestingly, television exposure was directly related to PTSD only in children who did not see, hear, or feel the explosion or know anyone killed or injured.

Pfefferbaum (2002) agreed that intense media coverage causes many to suffer from intense feelings of fear, helplessness, or horror and tends to exacerbate the number of incidences of Post Traumatic Stress Disease, yet it is unclear if those impacted most by the terror are driven to repeatedly review the horror - or if the repeated review increases the stress. The way in which media coverage affects people differs based on direct or indirect victims (Pfefferbaum, 2002) as well as other demographics and prior life experiences.

Other professionals (Galea, 2005) concluded that the more visible a terrorist attack, the more likely to trigger psychiatric symptoms in the general public - and that it would be hard to imagine a more visible attack than bringing down the World Trade Center. Further, survivors, families, and friends of those killed or injured, people who lost homes or jobs, rescuers, and others directly

affected experienced higher levels of post-disaster trauma
than those without such direct exposure. However, though
affected at lower levels, the absolute number of those
without direct exposure suffering from PTSD may be greater
in a densely populated area after a high-visibility
terrorist attack.

Galea assessed the prevalence of PTSD and depression
in residents in Manhattan from data gathered 5-8 weeks
after the attack and then compared the results to
statistics from Madrid, Spain where terrorists had
detonated 10 bombs on four packed commuter trains on March
11, 2004. Although the attack in Madrid is widely held to
have altered the outcome of Spain's national elections four
days later and prompted the withdrawal of Spanish troops
from Iraq, it lacked the high visibility that characterized
the attack on the World Trade Center.

Galea's study from Madrid indicated that 2.3% of area
residents surveyed 5-8 weeks after their terrorist attack
reported PTSD symptoms - substantially lower than the 7.5%
of those surveyed from Manhattan. The prevalence of
depression between the two groups was similar.

Galea (2005) noted that mass terrorist events also prompt other changes in behavior that go beyond PTSD and which also negatively impact health. Cigarette smoking and the consumption of alcohol and marijuana use rose after September 11, 2001 and remained up for 6-9 months later. The overall increase in substance use was 9.7% for cigarette smoking, 24.6% for alcohol consumption, and 3.2% for marijuana smoking. (Vlavoh et al, 2001)

Galea's (2005) study found that 7.5% of the persons interviewed in Manhattan reported having symptoms in the previous 30 days consistent with a diagnosis of PTSD such as difficulty sleeping or concentrating and 9.7% had symptoms of depression.

In a study to determine the prevalence of traumatic stress and PTSD after 19 months of terrorism which began in September, 2000 in Israel, 76.7% had at least one symptom which measured self-reported feelings of depression, optimism, sense of safety, help-seeking, and modes of coping. Symptom criteria for PTSD were met by 9.4% of those studied. (Bleich, 2003) Since the beginning of the AL-Aqsa intifada in late September 2000, Israeli society was confronted by continual terrorism including knife or gun

attacks, drive-by shootings, intrusions into homes, and suicide bombings. By April 30, 2002, 472 persons (318 of which were civilians) had been killed and 3,846 persons (2,708 civilians) injured out of a total population of 6.4 million - .067% of the population. While gender, sense of safety, use of drugs (tranquilizers, alcohol, and cigarettes) to cope were associated with symptoms of PTSD, level of exposure and objective risk were not. Searching for information about loved one's and social support systems were the most prevalent coping mechanisms in Bleich's study.

Adaptive responses were seen in Bleich's study which had been also reported during the 1991 Gulf War as Israelis became habituated to repeated missile attacks. Adaptive responses were also recognized during the German blitz during World War II among Londoners who endured long and continued bombings. Interestingly, in contrast to other studies which found correlations between levels of exposure to levels of PTSD, none were found in this Israeli study. This anomaly may be accounted for as the result of people discounting their distress and continuing their lives or by recognizing that terrorism is a wide-ranging traumatic

reality in Israel which affects virtually the whole population.

Although sex bias can not be discounted, Bleich's study found that of all demographics, only female sex was significantly associated with negative outcomes such as PTSD and feeling depressed.

Psychological Impact on Consumer Behavior

Consumers in a positive mood perceive lower probabilities of incurring losses from purchasing a new product than consumers who are experiencing a negative mood. (Fedorikhin, 2004) This applies whether the product is a durable good or service such as education.

It is widely accepted that positive feelings (affect) plays a role in cognitive processes and that even mild positive affect influences thinking. Positive affect facilitates systematic, careful cognitive processing. This tends to make such cognitive processing more efficient and thorough as well as more flexible and innovative. (Isen, 2001). Therefore at least two psychological impacts of a terrorist attack have the propensity to impact international student enrollment. One impact may occur as

the decision to either enroll in a new program or to continue in a program. In addition, reduced affect (positive feelings) caused by a terrorist attack may cause a diminished ability to successfully fulfill the requirements of a study program. As a result of this diminished ability, those students may also withdraw from their program of study.

An additional consideration related to the psychological impact of terrorism on international students is related to the theory of terror management. Human beings do not readily accept that they will eventually die and are therefore averse to anything which reminds them of their mortality. (Goldenberg, 2000) Given this theory, international students may flee from the U.S. if they perceive another place to be safer.

Chapter III

RESEARCH METHODOLOGY

This chapter describes the methodology used to conduct the comparative research measuring satisfaction of international students at the University of North Carolina at Wilmington before and after the terrorist attack of September 11, 2001.

Unit of Analysis

Units analyzed were two social groups - each comprised of all international students attending the Wilmington campus of the University of North Carolina - regardless of program of study, level (undergraduate, graduate, or ESL, etc.), whether the students resided on-campus or off-campus, or any other demographic. As such, it is social scientific research - a comparative study of these two populations. The populations were composed of international students who studied at UNC-W prior to and after the terrorist attack of September 11, 2001. These semesters were approximately six months before and six months after - not inclusive of the semester in which the event occurred.

A limitation of this type of study is that it may not capture all variables – even given the comprehensiveness of the questionnaire used in this study. (Babbie, 1992)

Context

It was determined early on that Nieman's (1998) survey would be adapted to reflect department names, etc. at UNCW and used to capture data for the study. Although as acknowledged by Nieman, the survey is very long, it is comprehensive in that it considers numerous measures of satisfaction. Those include in-depth psycho-social needs such as educational goals, financial support, mentoring, keeping up with news from home, homesickness, relationships with Americans, meeting fellow countrymen, recreational opportunities, ability to find a place to worship, and stores that carry familiar foods. In addition are extensive questions related to the campus, class room, department of study, classmates, quality of program of study, faculty, and staff. Nieman's questionnaire also measures satisfaction with the community, transfer credits, ease of the admissions process, support related to student visas, tax law orientation, International Student Affairs office, financial aid, on-campus housing, on-campus bus and health

services, on-campus recreational opportunities, as well as many others.

Because the initial intent was to evaluate international students' satisfaction at the University of North Carolina at Wilmington, Nieman's questionnaire was expected to be a useful and comprehensive instrument.

The first survey was conducted in the spring semester of 2001. During that semester UNC-W had a total of 99 international students on campus and the entire population was surveyed.

Forty-eight questionnaires were completed which resulted in a 48.5% response rate. The good response rate is largely due to the solid support of the International Department at the university which encouraged students to complete the survey.

Initially, questionnaires were offered to the students as a URL to a web site, through email correspondence. The email addresses were supplied by the International Department. The students could respond electronically. However, this method proved to be unsuccessful in getting

the necessary rate of return. Therefore, an alternate method using paper (hard copy) questionnaires was used to complete canvassing during that semester. The paper questionnaires were distributed by International Student Department staff as students visited their office. The last questionnaires were filled out by students at an ice cream social celebrating the end of the semester which was held in the international Students dormitory.

The time, place, and media may have had an impact of this survey. Timing during a semester, for example, determines the over-all mood of students. They may begin a semester feeling "cool, calm, and collected" only to feel more pressured as time progresses. The semester may culminate with students feeling greatly pressured with the advent of final exams, projects that must be turned in, and in the case of international students, possibly preparing to return to their homeland.

The place that the survey was filled out may have an impact on the survey. As an example, a student may have been more relaxed and take the necessary time to consider each question at home or in the library. On the other hand, if a student were in the international office with a time

constraint, yet wishing to please the office staff, the answers may have been hurriedly filled in with little thought to each question.

The media – whether filled out online or by a paper/hard copy of the questionnaire – may impact this study as a result of individual student's abilities related to the use of computers and English language comprehension.

After the terrorist attack of September 11, 2001, the economic impact was immediate and obvious to the US and world economies, triggering questions about short- and long term effects. There were news stories of expatriates from abroad being treated badly by American citizens. This resulted in questions as to how international students were being treated as well as their perception of their treatment. It was thought that poor treatment or the perception of poor treatment could negatively impact the way current international students felt about Americans as they returned to their homes to become leaders in their communities and businesses. In addition, such treatment – or perception of treatment – has the potential to lessen the demand for education at US institutions of higher

learning as well to diminish the positive economic

advantage that these students bring to our country.

Therefore, the study evolved into an assessment of the

effect of the terrorist attack on international students'

satisfaction at UNCW. A second survey, using the same

questionnaire, was conducted after the attack (spring 2002)

in order to determine the effect of the attack.

Research Hypotheses

- H_{A1}: There will be a statistical difference in the

overall student satisfaction comparing data six months

before and six months after the terrorist attack of

September 11, 2001.

- H_{A2}: This overall difference will be driven by actual

or perceived differences in relationships with and

treatment by fellow students, faculty, staff, and citizens

of the community.

These hypotheses are based on extensive prior

empirical research which supports universal beliefs that

either negative or positive moods which are created by one

event can impact unrelated consumer judgments. Some of

these studies include studies by Barone et al, 2000;
Gardner, 1985; Gorn et al, 2001; Isen, 2001 as cited in
Fedorikhin et al (2004) and studies by Isen et al, 1985;
Dovidio et al, 1995; Isen , 1984; Isen et al, 1992; Murray
et al, 1990; Kahn et al, 1993; Hirt, 1996 as cited by Isen
(2001).

Operationalizations of the Concepts

As a result of confidence in Nieman's questionnaire
and its comprehensiveness, it was determined that this
instrument could readily be used for a comparative analysis
of the impact of the terrorist attack and that such a study
would be of even greater value than the originally planned
study.

In order to analyze the before and after satisfaction
levels, the same questionnaire was used in the spring
semester of 2002 using paper copies only. The population of
international students at UNCW during that semester dropped
to a total of 94 – 6.1% less than in the spring semester of
2001. This decline may have been the result of fear in the
minds of either the student or parents. It also may have
been the result of the global economic impact felt after
the terrorist attack.

The number of surveys returned for the spring 2002 semester was 34 – i.e. 36.2% of the population filled out questionnaires. Some students may have participated in both surveys. However, many did not provide their names (the questionnaire gave them the option), thus preventing comparisons of change in satisfaction for the same students.

Data from each questionnaire were coded and entered into an Excel spread sheet by the researcher. All data in the spread sheet were then verified with the assistance of two external individuals. Each spread sheet entry was checked against each question on every survey in order to ensure data purity.

After cleaning the data, initial basic statistical analyses for each question will be run including the number of data points for each question, standard deviations, means, and range. The data will be coded as a reflection that they are either "before" or "after" the terrorist attack.

Concepts

To test the hypothesis that the satisfaction of international students at UNCW declined after the terrorist attack of 9/11/01, statistical comparisons of total satisfaction ratings were made. The mean and standard deviation of answers to question 157 (appendix A) will be used to conduct such tests as a t-test with 95% probability. This question was chosen as its wording specifically addressed the issue, "Overall, I would rate my satisfaction with UNCW as_____". In addition, as a result of the placement of this questions – at the end of the survey – the student had been immediately lead through a process of considering individual aspects of the total experience which impact overall student satisfaction – Psycho-Social needs, Student Support Services, International Student Affairs Office, Financial Aid Process, On Campus Housing, On Campus Health Center, Campus Life, and Academic.

To test the second hypothesis, that satisfaction was negatively impacted as a result of relationships with Americans (real or perceived), regression analyses will be used. One analysis will use ratings such as result from question 157 (appendix A) as the dependent variable and

questions about relationships with fellow students, members of the community, faculty, or staff as independent variables. Another consideration is to use a dummy variable for before and after the attack. A comparison of the regression analysis of the two data sets should then show if there is a change between the data before and after the terrorist attack.

Chapter IV

RESULTS AND FINDINGS

This chapter summarizes the results of the data analyses relative to the hypotheses:

➤ H_{A1}: There will be a statistical difference in the overall student satisfaction comparing data six months before and six months after the terrorist attack of September 11, 2001.

➤ H_{A2}: This overall difference will be driven by actual or perceived differences in relationships with and treatment by fellow students, faculty, staff, citizens of the community, etc.

Analysis of the First Hypothesis

The first hypothesis, that there is a statistical difference in the overall international student satisfaction when comparing data before and after the terrorist attack, was tested using simple regression analysis. The data used was from responses to question 157 of the questionnaire. (157.Overall, I would rate my satisfaction with UNCW as:)

Table 3

Regression Analysis Overall Satisfaction

Parameter	Estimate	Standard Error	T Statistic	P-Value
Intercept	5.10417	0.126302	40.4124	0.0000

Table 4

Analysis of Variance for Overall Satisfaction

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	0.965928	1	0.965928	1.26	0.2647
Residual	62.022	81	0.765704		
Total Correlation	62.988	82			

Correlation Coefficient = -0.123835
R-squared = 1.53351 percent
Standard Error of Est. = 0.875045

Since the P-value in the ANOVA table is greater or equal to 0.10, there is not a statistically significant relationship between OverAllSatisfaction and NumBeforeOrAfter (whether the data was from before or after the terrorist attack) at a 90% or higher confidence level.

The R-Squared statistic indicates that the model as fitted explains only 1.53351% of the variability in OverAllSatisfaction. The correlation coefficient equals minus 0.123835, indicating a relatively weak relationship between the variables.

Distribution of Data

Summary statistics for overall student satisfaction before and after the terrorist attack showed that the data was not normally distributed.

The standardized skewness and kurtosis was outside the range of -2 to +2 for data after the terrorist attack (assigned a value of 1). This indicates some significant non-normality in the data, which violated the assumption that the data came from normal distributions.

Table 5

Skewness and Kurtosis for Overall Satisfaction

Overall International Student Satisfaction	Standard Skewness	Standard Kurtosis
Before	-6.10283	12.6294
After	-1.52616	0.0860609

In an attempt to normalize the data, it was transformed using log, log 10, and square root with no success.

In addition, an analysis of fitting several curvilinear models to the data showed that the linear model originally used yielded the highest R-Squared value with 1.53351%. Therefore further attempts to transform the data

would have been of no value as shown on the following

Comparison of Alternative Models Table.

Table 6

Comparison of Alternative Models

Model	Correlation	R-Squared
Linear	-0.1238	1.53%
Square root-X	-0.1238	1.53%
Square root-Y	-0.1042	1.09%
Exponential	-0.0745	0.56%
Reciprocal-Y	-0.0006	0.00%
Reciprocal-X	(no fit)	
Double reciprocal	(no fit)	
Logarithmic-X	(no fit)	
Multiplicative	(no fit)	
S-curve	(no fit)	
Logistic	(no fit)	
Log probit	(no fit)	

Therefore a comparison of the medians (more

appropriate for a Poisson distribution) of the two

populations - overall international student satisfaction

before and overall international student satisfaction after

the terrorist attack - was used. This comparison of the

two data sets - a Kruskal-Wallis test - compares the

medians rather than a Student T test where the means would

have been used with an assumption of normal distribution.

The Kruskal-Wallis test tests the null hypothesis that

the medians for data of Overall International Student

Satisfaction within each of the 2 levels of data – before and after the terrorist attack – are the same. The data from both levels are first combined and ranked from smallest to largest. The average rank is then computed for the data at each level. Kruskal-Wallis results were:

Table 7

Kruskel-Wallis Test

Before/After Data	Average Rank	Sample Size
Before	44.6875	48
After	38.3143	35
Test Statistic 1.7115		
P-Value 0.190788		

Since the P-value for the Kruskal-Wallis test is greater than or equal to 0.05, again there is not a statistically significant difference in the medians at the 95.0% confidence level. This is graphically depicted in the following Box and Whisker Plot of the median data.

Figure 16

Box and Whisker Plot of Median Overall Satisfaction Data

Box-and-Whisker Plot
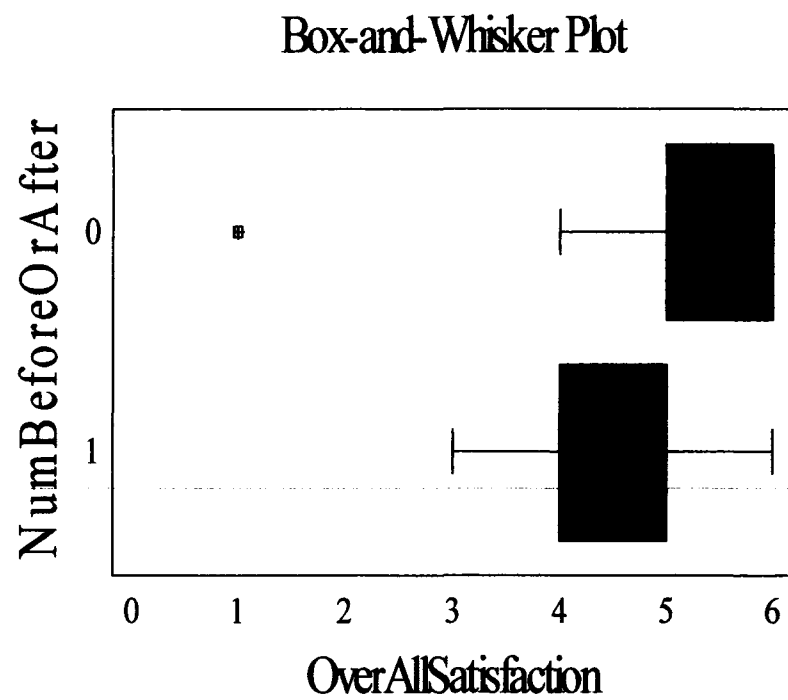
Power Curve

In answering whether the analysis would have adequately measured any difference in data before and after the terrorist attack - given variances -the power curve of the hypothesis test must be considered.

The Power Curve is graphically displayed (see figure 17) showing the probability of the null hypothesis being rejected - believing there is a difference in the data sets when there is not - versus a range of values for the parameter being testing for data with a Poisson distribution. The vertical axis of the Power Curve shows the probability of detecting a difference; the horizontal axis represents the size of the effect.

Figure 17

The Power Curve for Comparison of Overall International

Student Satisfaction Before and After the Terrorist Attack

Power Curve
alpha = 0.05, mean rate = 1.0
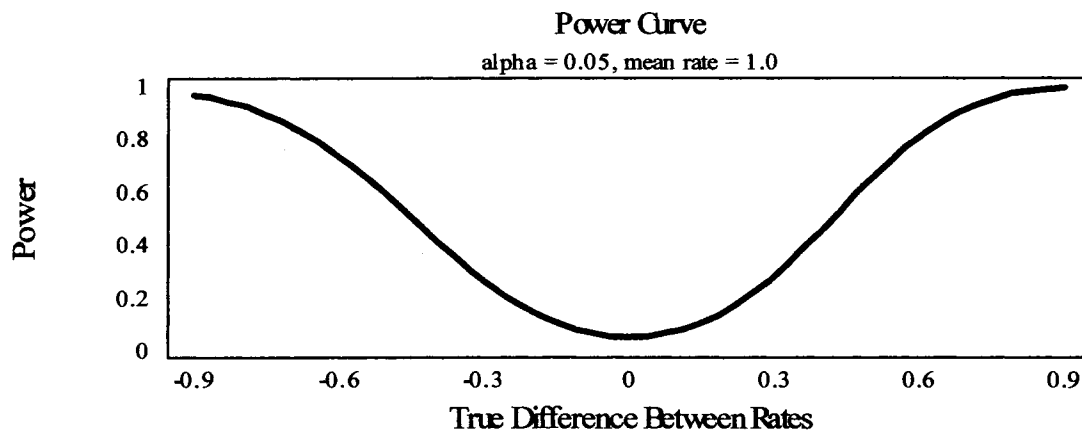
Independent Variables

Statistical comparison should be made where samples

are completely independent. Therefore, it must be

acknowledged that there is some question related to the

data compared from the semester before and the semester

after the terrorist attack. This concern is because it is

impossible to know whether one or more of the participants

were students during both semester and filled out the

questionnaire during both semesters.

Sample Size Consideration

In addition to the power curve for these data another statistical concern is sample size - especially given that the distribution is not normal.

Statistically for a two sided test of data with a Poisson distribution, 1,363 observations are required to have a 95.0% chance of rejecting the hypothesis that lambda = 1.0 when the true lambda is 1.1 - recognizing that there is a difference in the two data sets. Therefore, although the return per centage rate for questionnaires was good, the sample size was not adequate given the Poisson distribution for 95% confidence.

The Second Hypothesis

Multiple regression analysis was used to test the second hypothesis even though there was not an overall statistical difference proven in the first hypothesis.

Questions dealing with relationships as well as an independent numerical variable representing before or after the terrorist attack were used to analyze whether there was a statistical correlation with the dependent variable for Overall Satisfaction reflected in question 157.

<u>Relationship Questions</u>

A study of the questionnaire revealed nineteen

questions related directly with relationships with U.S.

citizens which would be used for analysis. These

relationships were varied including employees of the

university – service staff, employees within the department

of study including advisors and faculty, students, and

members of the community.

40.How satisfied are you currently with your ability to
make friends with Americans?

43.How satisfied are you currently with the process of
learning how to understand and respond to American
behavior?

61.How satisfied are you currently with being accepted
by your American neighbors?

74.Ratings for being treated with respect:

76.Having a spirit of cooperation and trust in my major
department.

85.Rating I would give UNCW for helpfulness of the
admissions staff.

89.Rating for the International Student Affairs Office
related to Reception upon arrival.

93.Rating for the International Student Affairs Office
related to helpfulness of staff.

107.Ratings for relationship with American roommates.

112.Helpfulness of residence services staff.

116.Ratings of on-campus health center related to
helpfulness of medical staff.

124.Ratings for helpfulness of campus life staff.

134.Rating for being able to get extra help with course requirements:

135.Rating for having faculty support and guide my research:

145.Relating to American students in my major department:

146.Relating to professors in my major department:

152.Rating for having an advisor who is interested in my success:

151.Rating for having an advisor who is available and accessible:

153.Ratings for having a departmental administrative staff that is helpful:

These relationships will also be divided into sub groups of citizens from the general population, employees of the department of study (other than faculty), staff from service sectors of the university, international affairs staff, and faculty. Further analyses using multiple regression identifies which of these groups has the most impact on international student overall satisfaction.

Table 8

Multiple Regression Model - All Relationship Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.26866	1.12607	1.12663	0.2776
NumBeforeOrAfter	-0.225042	0.235276	-0.956498	0.3540
AOQ40	-0.225042	0.156268	0.50367	0.6218
CitizensQ43	0.0390354	0.144729	0.269714	0.7911
AOQ61	0.315552	0.161805	1.95019	0.0701
CitizensQ74	0.169589	0.181464	0.934558	0.3648
DeptQ76	0.109889	0.142202	0.772765	0.4517
StaffQ85	0.0819793	0.189569	0.432451	0.6716
IntAffOffQ89	0.538801	0.258849	2.08153	0.0549
StaffQ93	-0.35957	0.243389	1.47734	0.1603
AOQ107	-0.529775	0.201371	-2.63084	0.0189
StaffQ112	0.0494157	0.115889	0.426405	0.6759
StaffQ116	0.306074	0.171416	1.78556	0.0944
StaffQ124	-0.203489	0.185176	1.09889	0.2891
DeptQ134	-0.027159	0.196177	0.138442	0.8917
FacultyQ135	-0.00164203	0.261126	-0.00628828	0.9951
DeptQ145	-0.0259391	0.149554	-0.173443	0.8646
FacultyQ146	0.141155	0.20881	0.675995	0.5093
FacultyQ151	0.101096	0.137289	0.736372	0.4729
FacultyQ152	-0.18079	0.152532	-1.18526	0.2544
StaffQ153	0.291829	0.128982	2.26255	0.0389

Table 9

Analysis of Variance Relationship data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	14.4423	20	0.722116	2.80	0.0232
Residual	3.86324	15	0.257549		
Total Correlation	18.3056	35			

R-squared = 78.8958 percent
R-squared (adjusted for d.f.) = 50.7569 percent
Standard Error of Est. = 0.507493
Mean absolute error = 0.268651
Durbin-Watson statistic = 1.85293

As the P-value in the ANOVA table is less than 0.05, there is a statistically significant relationship between the variables at the 95% confidence level.

The R-Squared statistic indicates that the model (Relationships) as fitted explains 78.8958% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 50.7569%. The standard error of the estimate shows the standard deviation of the residuals to be 0.507493.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

Several multiple regression iterations using backward selection were done – dropping out the least statistically significant variable with each pass – until all independent variables were statistically significant.

The final analysis resulted in the following order of

correlation with overall international student satisfaction:

Table 10

Final Relationship Regression Model

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	0.442624	0.64067	0.690877	0.4922
AOQ61	0.142161	0.0635041	2.23861	0.0288
IntAffOffQ89	0.459761	0.104852	4.38486	0.0000
StaffQ116	0.311164	0.091771	3.39066	0.0012

Therefore, in order of statistical significance, the following have the highest correlation to international student satisfaction:

1. Ratings for the International Student Affairs Office related to Reception upon arrival.

2. Ratings related to helpfulness of medical staff at on-campus health center.

3. Ratings for being accepted by American neighbors.

Table 11

Final Analysis of Variance for all relationship data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	24.6791	3	8.22635	17.43	0.0000
Residual	29.2603	62	0.471941		
Total Correlation	53.9394	65			

R-squared = 45.7533 percent
R-squared (adjusted for d.f.) = 43.1285 percent
Standard Error of Est. = 0.68698
Mean absolute error = 0.516183
Durbin-Watson statistic = 2.48294

Since the final P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

Relationships By Sub Group

After statistically showing that overall international student satisfaction was impacted by relationships, analyses were performed to determine which question(s) within a subgroup had the most impact. The subgroups divisions were:

1. Department: Employees of the department of study (other than faculty) using data from questions 76, 134, 145.

2. Citizens: General population, using data from questions 43 and 74.

3. Staff: Staff from service sectors of the university, using data from questions 85, 93, 112, 116, 124, and 153.

4. International Affairs: International affairs staff using data from question 89.

5. Faculty: Any faculty member, using data from questions 135, 146, 151, and 152.

6. All other: Students and/or members of the community using data from questions 40, 61, and 107.

There was a statistical correlation between overall international student satisfaction and questions related to the student's department of study with a 99% confidence interval. However, there was no correlation to data before and after the terrorist attack.

Table 12

Multiple Regression for Departmental Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.84384	0.518905	3.55333	0.0007
NumBeforeOrAfter	0.0241987	0.169909	0.142422	0.8871
DeptQ76	0.341955	0.0756566	4.51983	0.0000
DeptQ134	0.20125	0.0879713	2.28768	0.0249
DeptQ145	0.13581	0.0747985	1.81567	0.0734

Table 13

Analysis of Variance for Departmental Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	23.7185	4	5392964	1134	0.0000
Residual	39.2691	76	0.516699		
Total Correlation	62.9877	80			

R-squared = 37.6559 percent
R-squared (adjusted for d.f.) = 34.3746 percent
Standard Error of Est. = 0.718818
Mean absolute error = 0.538813
Durbin-Watson statistic = 2.03921

The above analysis shows the results of fitting a

multiple linear regression model to describe a relationship between OverAllSatisfaction and 4 independent variables. Three of the independent variables are from questions associated with the international student's department of study. The fourth variable is whether the data is from before the terrorist attack or after the attack. The fourth variable was proven not to be statistically significant.

Since the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 37.6559% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 34.3746%.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. As the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

It was determined that the model could be simplified, as the highest P-value on the independent variables was 0.8871, which belonged to the variable for data before or after the terrorist attack - labeled NumBeforeOrAfter. Since the P-value was greater or equal to 0.10, that term was not statistically significant at the 90% or higher confidence level. Consequently, that variable was removed from the model and the multiple regression analysis was repeated using backward selection with the following results:

Table 14

Final Regression for Departmental Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.8726	0.47495	3.94273	0.0002
DeptQ76	0.341801	0.0751661	4.54728	0.0000
DeptQ134	0.198024	0.084462	2.34453	0.0216
DeptQ145	0.135225	0.0742093	1.82222	0.0723

Table 15

Final Analysis of Variance for Department Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	23.7081	3	7390269	15349	0.0000
Residual	39.2796	77	0.510125		
Total Correlation	**62.9877**	**80**			

R-squared = 37.66392 percent
R-squared (adjusted for d.f.) = 35.2096 percent
Standard Error of Est. = 0.718818
Mean absolute error = 0.538891
Durbin-Watson statistic = 2.0353

As the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 37.6392% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, more suitable for comparing models with different numbers of independent variables, is 35.2096%.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. Since the DW value is greater than 1.4, there is no serious autocorrelation in the residuals.

The highest P-value on the independent variables is 0.0723, belonging to DeptQ145. Since the P-value was less than 0.10, that variable is statistically significant at

only the 90% confidence level - not 95% - and therefore

inclusion for correlation may be considered marginal.

Table 16

Multiple Regression Model Citizen Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	3.69701	0.468276	7389493	0.0000
NumBeforeOrAfter	-0.179916	0.18793	-0.957353	0.3413
CitizensQ74	0.277957	0.0893735	3.11007	0.0026

Table 17

Analysis of Variance for Citizens Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	7.7432	2	3.8716	5.54	0.0056
Residual	55.2446	79	0.699299		
Total Correlation	**62.9878**	**81**			

R-squared = 12.2932 percent
R-squared (adjusted for d.f.) = 10.0727 percent
Standard Error of Est. = 0.836241
Mean absolute error = 0.575686
Durbin-Watson statistic = 1.6381

The above table shows the results of fitting a

multiple linear regression model to describe the

relationship between OverAllSatisfaction and 2 independent

variables. Those independent variables are the results of

question number 74 and data from before or after the

terrorist attack of September 11, 2001.   The equation of

the new fitted model for overall international student satisfaction in relationship to citizen data and whether the data was from before or after the terrorist attack is the sum of the values of the estimate.

Since the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 12.2932% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 10.0727%. The standard error of the estimate shows the standard deviation of the residuals to be 0.836241.

The Durbin-Watson (DW) statistic is greater than 1.4; consequently there is probably no serious autocorrelation in the residuals.

The highest P-value on the independent variables is 0.3413, belonging to NumBeforeOrAfter. Since the P-value is greater or equal to 0.10, that term is not statistically

significant at the 90% or higher confidence level.

Table 18

Multiple Regression Model Staff Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	0.306001	0.948013	0.322781	0.7486
NumBeforeOrAfter	-0.00181231	0.238856	-.00758747	0.9940
StaffQ85	0.194332	0.151894	1.2794	0.2085
StaffQ93	0.353087	0.176522	2.00024	0.0527
StaffQ112	0.198513	0.108061	1.83705	0.0740
StaffQ116	0.0218613	0.157955	0.138403	0.8907
StaffQ124	0.0416244	0.144895	0.287272	0.7755
StaffQ153	0.139495	0.113826	1.22551	0.2279

Table 19

Analysis of Variance for Staff Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	22.0645	7	3.15208	5.73	0.0001
Residual	20.9137	38	0.550361		
Total Correlation	**42.9783**	**45**			

R-squared = 51.3388 percent
R-squared (adjusted for d.f.) = 42.3749 percent
Standard Error of Est. = 0.741863
Mean absolute error = 0.534414
Durbin-Watson statistic = 2.01076

Since the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 51.3388% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 42.3749%.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. As the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

Several multiple regression iterations using backward selection were done - dropping out the least statistically significant variable with each pass - until all independent variables were statistically significant.

The final analysis resulted in the following order of correlation with overall international student satisfaction:

Table 20

Final Regression Model for Staff Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.30554	0.700933	1.862357	0.0678
StaffQ93	0.536245	0.135449	3.95901	0.0002
StaffQ112	0.193952	0.0826716	2.34606	0.0225

Table 21

Multiple Regression Model for International Department Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	2.31079	0.571467	4.04361	0.0001
NumBeforeOrAfter	-0.172051	0.171221	-1.00485	0.3180
IntAffOffQ89	0.519698	0.104294	4.98302	0.0000

Table 22

Analysis of Variance for International Department Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	5.6567	2	7.82834	13.23	0.0000
Residual	47.3313	80	0.591641		
Total Correlation	**62.988**	**82**			

R-squared = 24.8566 percent
R-squared (adjusted for d.f.) = 22.978 percent
Standard Error of Est. = 0.769182
Mean absolute error = 0.598346
Durbin-Watson statistic = 2.15733

The output shows the results of fitting a multiple linear regression model to describe the relationship between OverAllSatisfaction and 2 independent variables – Ratings for the international affairs office and whether the data was from before or after the terrorist attack of 9/11.

Since the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 24.8566% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 22.978%. The standard error of the estimate shows the standard deviation of the residuals to be 0.769182.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. Since the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

The highest P-value on the independent variables is 0.3180, belonging to variable labeled NumBeforeOrAfter – an indicator of whether the data was before or after the terrorist attack of September 11th. Since the P-value is greater or equal to 0.10, that term is not statistically significant at the 90% or higher confidence level – a consistent finding.

Table 23

Multiple Regression Model for Faculty Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.67151	0.446309	3.74519	0.0004
NumBeforeOrAfter	-0.0374767	0.152407	-0.245899	0.8065
FacultyQ135	0.00869539	0.0948984	0.0916285	0.9272
FacultyQ146	0.443104	0.0830084	5.33806	0.0000
FacultyQ151	0.312987	0.0948609	3.29942	0.0015
FacultyQ152	-0.0809608	0.0874603	-0.925686	0.3577

Table 24

Analysis of Variance for Faculty Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	31.1784	5	6.23568	15.06	0.0000
Residual	29.8088	72	0.414011		
Total Correlation	60.9872	77			

R-squared = 51.1229 percent
R-squared (adjusted for d.f.) = 47.7287 percent
Standard Error of Est. = 0.643437
Mean absolute error = 0.485513
Durbin-Watson statistic = 2.51401

The analysis shows the results of fitting a multiple linear regression model to describe the relationship between OverAllSatisfaction and 5 independent variables. Four of the variables were related to faculty relationships at the University of North Carolina at Wilmington. The fourth variable designated the data to be from before the terrorist attack of September 11, 2001 or before that event.

Since the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 51.1229% of the variability in OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 47.7287%.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. Since the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

In determining whether the model could be simplified, it was noted that the highest P-value on the independent variables was 0.9272, belonging to FacultyQ135. Since the P-value was greater or equal to 0.10, that term was not statistically significant at the 90% or higher confidence level. Consequently, that variable – was removed from the model and a new multiple regression analysis was performed.

In two following iterations of multiple regression using backward selection for the faculty data, the variable designating whether the data was from before or after the attack and then data from question 152 continued to be not statistically significant.

Table 25

Final Regression Model for Faculty Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	1.54892	0.407696	3.79922	0.0003
FacultyQ146	0.451253	0.0670252	6.73259	0.0000
FacultyQ151	0.259586	0.0641182	4.04856	0.0001

The results indicate that international students at UNCW simply wanted faculty members that they could understand/relate to and that they wanted those faculty advisors to be available. There was no statistical

difference in this before or after the terrorist attack.

Table 26

Multiple Regression Model for All Other Relationship Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	4.30348	0.452503	9.5104	0.0000
NumBeforeOrAfter	-0.111537	0.183601	-0.607499	0.5465
AOQ40	0.281194	0.0818038	3.43742	0.0013
AOQ61	0.0394099	0.0972603	0.4052	0.6872
AOQ107	-0.11169	0.102141	-1.09349	0.2799

Table 27

Analysis of Variance for All Other Relationship Data

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	5.94426	4	1.48606	3.85	0.0088
Residual	17.742	46	0.385696		
Total Correlation	**23.6863**	**50**			

R-squared = 25.0958 percent
R-squared (adjusted for d.f.) = 18.5824 percent
Standard Error of Est. = 0.621044
Mean absolute error = 0.494759
Durbin-Watson statistic = 1.9225

Because the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variables at the 99% confidence level.

The R-Squared statistic indicates that the model as fitted explains 25.0958% of the variability in

OverAllSatisfaction. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 18.5824%.

The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in the data file. Since the DW value is greater than 1.4, there is probably no serious autocorrelation in the residuals.

The highest P-value on the independent variables was 0.6872, belonging to AOQ61. Since the P-value was greater or equal to 0.10, that term was not statistically significant at the 90% or higher confidence level. Consequently, the variable for AOQ61 was removed from the model (backward selection) and another analysis was conducted.

After three iterations of multiple regression analyses, none of the variables in the analysis of relationships with all others was statistically significant except question 40 which related with the ability to make friends with Americans.

Table 28

Final Regression Model for All Other Data

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	4.16639	0.394139	10.5709	0.0000
AOQ40	0.186778	0.0808379	2.31053	0.0235

Other Considerations

In addition to considerations addressed in the two

hypotheses, it must be acknowledged that certain other

factors may be important to consider relating to overall

international student satisfaction. As these factors are of

interest and the data available, a new model was developed

for exploration/analysis using these data.

Specifically, the following additional data from the

survey used are of interest:

62.Overall, I would rate the quality of my personal life as:

63.Overall, I would rate my satisfaction with the university
environment as:

64.Overall, I would rate my satisfaction with the local community
as:

86.Overall, I would rate my satisfaction with the admission
process as:

94.Overall, I would rate my satisfaction with the international
student affairs office as:

99.Overall, I would rate my satisfaction with the student
financial aid process as:

113.Overall, I would rate my satisfaction with on-campus housing
as:

118.Overall, I would rate my satisfaction with the health center as:

155.Overall, I would rate my satisfaction with my major as:

A multiple regressions analysis using overall international student satisfaction as the dependent variable and data from the above questions along with data indicating whether the data was before or after the terrorist attack was run yielding the follow results.

These data are representative of ratings which are beyond strictly relationship parameters.

Table 29

Multiple Regression Model – Data Beyond Relationships

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	-0.340697	0.572695	-0.594902	0.5571
NumBeforeOrAfter	0.0426351	0.137816	0.309364	0.7595
Q62	-0.0555226	0.0965417	-0.575115	0.5702
Q63	0.620598	0.0919683	6.74796	0.0000
Q64	0.00797986	0.0885284	0.090139	0.9289
Q86	0.183528	0.0896743	2.0466	0.0509
Q94	0.138621	0.132444	1.04664	0.3049
Q99	-0.115932	0.0513626	-2.25713	0.0326
Q113	-0.0068381	0.0783813	-0.0872415	0.9311
Q118	0.0562084	0.0827931	0.678902	0.5032
Q155	0.210497	0.0742963	2.83321	0.0088

Table 30

Analysis of Variance Data Beyond Relationships

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	36.8248	10	3.68248	30.15	0.0000
Residual	3.17522	26	0.122124		
Total Correlation	40.0	36			

R-squared = 92.0619 percent
R-squared (adjusted for d.f.) = 89.0088 percent
Standard Error of Est. = 0.349462
Mean absolute error = 0.217176
Durbin-Watson statistic = 1.77101

After several multiple regression iterations using

backward selection, the final analysis using the new model

(and data deemed to be beyond that of relationships)

resulted in the following order of correlation with overall

international student satisfaction:

Table 31

Final Multiple Regression Model - Data Beyond Relationships

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT (Overall Satisfaction)	0.499739	0.356137	1.40322	0.1655
Q63	0.465201	0.0634425	7.33264	0.0000
Q118	0.154189	0.0639964	2.40934	0.0190
Q155	.300328	0.0603544	4.97608	0.0000

Table 32

Final Analysis of Variance Data Beyond Relationships

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	P-Value
Model	41.2721	3	13.7574	62.76	0.0000
Residual	13.5916	62	0.219219		
Total Correlation	54.8636	65			

R-squared = 75.2267 percent
R-squared (adjusted for d.f.) = 74.0279 percent
Standard Error of Est. = 0.468208
Mean absolute error = 0.352313
Durbin-Watson statistic = 2.47389

As the P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between the variable with 99% confidence.

The R-Squared statistic indicates that the final model as fitted explains 75.2267% of the variability in overall international student satisfaction (Question 157). The adjusted R-Squared statistic which is better for comparing models with different numbers of independent variables is 74.0279%.

As the Durbin-Watson statistic is 2.47389 – greater than 1.4 – there is no significant correlation based on the order in which the data occurs in the data file.

Chapter V

CONCLUSIONS

Without doubt, the egregious terrorist attack of September 11, 2001 had economic and psychological impacts around the world. However, a statistical comparison of overall satisfaction using survey data from international students at the University of North Carolina a Wilmington one semester before and one semester after the attack, could prove no impact on this measure for this population.

A dummy variable was assigned for indication of whether data was from before (assigned as 0) or after (assigned as 1) the terrorist attack. This dummy variable was used in each of several regression models where overall international student satisfaction was the dependent variable. Whether the data was from before or after the attack was not a factor in any model and in fact was removed through backward selection in early regression iterations for each model. Therefore, the data strongly indicates that there was no difference in overall international student satisfaction as a result of the terrorist attack.

Hypothesis No. 1

Hypothesis number one was that there would be a statistical difference in international student satisfaction at the University of North Carolina at Wilmington before and after the terrorist attack. However, based on data analyses, a difference could not be proven largely because the data was not normally distributed. It was a Poisson distribution. Therefore, a larger sample size - in fact greater than 1300 - would have been required to determine if there was a statistical difference. As the international student population was only approximately 100 in each semester, a comparison of the semester before the attack and after the attack could not be made with statistical confidence. This Poisson distribution was only discernable after the fact through an analysis of the data. Although representative samples are important based on per centage of survey returns, total sample size is also an important factor. In this analysis, as a result of distribution, the sample size was not large enough for comparison with statistical confidence. Therefore, it is concluded that hypothesis number one - that there was a statistical difference in international student satisfaction before and after the terrorist attack - could not be proven.

Hypothesis No. 2

The second hypothesis of this study built on the first being true. It stated that the difference in satisfaction before and after the attack would be driven by relationships.

Three Additional Models

Although the analyses of the data could have stopped at this point, it continued as there was potentially other worthwhile information to be gleaned from the data. Therefore, three additional models were developed for study using multiple regression analyses.

First Additional Model

The first model used overall international student satisfaction as the dependent variable. Independent variables based on various relationships were chosen from the questionnaire in addition to whether the semester was before or after the attack. After backward selection, there was no correlation in whether the data was from before or after the attack. The relationships with the highest correlation were ratings for the International Student Affairs office related to Reception upon arrival, ratings related to helpfulness of medical staff at on-campus health

center, and ratings for being accepted by American neighbors.

Second Additional Model By Subgroup

The second model grouped the relationship data into six subgroups for analyses and used multiple regression analyses for each to determine which question within the subgroup showed the most correlation. The subgroups identified were: 1.Department - Employees of the department of study (other than faculty) 2.Citizens - General population 3.Staff - from service sectors of the university 4.International Affairs - International affairs staff 5.Faculty - Any faculty member 6.All other - Students and/or members of the community.

None of the subgroup analyses showed a correlation to whether the data was from before or after the terrorist attack.

Department data showed that the highest correlation with overall international student satisfaction was with questions related to questions 76 and 134 with 95% confidence and question 145 with 90% confidence. Questions 76 and 134 were related to a spirit of trust and

cooperation within the student's major department and being able to get extra help with course requirements. Question 145 dealt with relating to American students within the major department.

Regression analyses of citizen's data showed that the highest correlation with overall international student satisfaction was question 74 which rated whether they felt they were treated with respect.

The analyses of data related to relationships with staff showed the highest correlation with questions 93 and 112. These questions dealt with relationships with staff in the International Affairs office and staff in Residence Services.

Multiple regressions showed that there was a high correlation between overall international student satisfaction and question 89 which was related to the International Affairs Office. That question rated the reception of students upon arrival.

The subgroup of data for relationships with faculty showed the highest correlation to overall international

student satisfaction with questions 146 and 151. These questions rated whether the students could relate to the faculty and whether faculty advisors were available when needed.

The last subgroup, labeled "all other", showed the highest correlation to international student satisfaction to be with question 40 which rated the ability to make friends.

Third Additional Model

The third analysis model recognized that factors other than relationships can impact international student satisfaction. This model used multiple regressions to measure the correlation of overall international student satisfaction with satisfaction related to personal life (Question 62) , university environment (Question 63), local community (Question 64), admission process (Question 86), international student affairs office (Question 94), student financial aid process (Question 99), on-campus housing (Question 113), health center (Question 118), and major (Question 155) - in addition to whether the data was from before or after the terrorist attack.

Results of this multiple regression again showed no correlation with whether the data was from before or after the terrorist attack. The highest correlation with other factors in this model were related to questions 63 (university environment), 155 (major), and 118 (health center).

Psychological Impact

Given that an estimated 5.2 million American adults ages 18 to 54, or approximately 3.6 percent of people in this age group in a given year, have PTSD (Post Traumatic Stress Disorder), no doubt after the terrorist attack upon the United States on September 11, 2001, the rates were exorbitantly higher. (National Institutes of Mental Health, 2001).

Many American citizens were shaken by the attack on symbols of their country, including university students, faculty, and staff – and international students. The condition known as Post Traumatic Stress Disorder (PTSD) commonly occurs when people are exposed to such horrific events as the terrorist attacks. While people vary to the extent they are affected by anxiety associated with such a condition, emotional responses including emotional

numbness, sleep disturbances, depression, anxiety, and irritability or outbursts of anger are common. (National Institutes of Mental Health, 2005) International students who may already be experiencing adjustment difficulties and/or feelings of homesickness may have been impacted even more than national students.

Given this, the perception of change in Americans with whom they came in contact - or changes in their own comfort level - could potentially lead to a measurable difference in satisfaction levels of international student populations, such as that at the University of North Carolina at Wilmington, before and after 9/11/01. Regardless of whether changes in relationships with Americans were real or not - though no doubt they may have been real in some cases - a difference in satisfaction levels could result - even though this was not proven statistically in this study.

Study Conclusion

Relationships are extremely important to overall international student satisfaction at the University of North Carolina at Wilmington. And a critical relationship

is that which is established initially - and continues -
with the international department.

This finding - while verified statistically - was also
demonstrated in the many, many favorable comments about
Heather Smith - the foremost and most visible contact who
worked in the international office during the time of this
study.

Managerial Implications for Universities

While increased scrutiny of students from abroad is
necessary to ensure national security, the potential impact
they bring to the future world economy and improved world
peace must not be ignored or forgotten.

In the past, although universities - with the
complicity of the U.S. government - may have been somewhat
overzealous in encouraging students to study on their
campuses while student visas were not properly being
monitored, it is important not to "throw the baby out with
the bathwater". It is important that the exchange of ideas
and cultural acceptance and understanding continue in order
to build the global economy and enhance future world peace
initiatives. In today's world where some extremist groups

harbor a dire – yet blind – hatred of Americans, an exchange of ideas and acceptance of cultural differences is of the utmost importance. Where fear of the unknown, hate, and distrust persist, enlightenment must be nurtured and shared.

Further, U.S. universities have a greater responsibility than ever to international students to recognize both the potential assets that international students bring – and the possible discrimination they may face, both on campus and in the community. Universities must become more proactive in fulfilling their responsibility to educate – not just in the classroom – but in reaching out to the community in order to ensure that a sense of enhanced safety and acceptance can be felt by international students who have the potential to be future ambassadors of our country. This could serve both to allay a fear of the unknown within the student body and the community on the local level – and promote a more robust future economy globally.

However, as enhanced awareness is important to our national safety and security, university personnel and students may be considered a first line of defense against

terrorism. While recognizing the value of international students, they must also have a heightened awareness of those who would - under the guise of serious students - wish to do harm. In this effort, U.S. universities must continue to work with government agencies in a cooperative effort to ensue that universities are not duped into being a refuge for terrorists.

Finally, the terrorist attack of September 11, 2001 makes it clear that universities must ensure that staffing is well trained in order to recognize special needs which arise as a result of such traumatic events.

Personnel in university international offices must be highly trained and recognize the value of international students - based on present economic impact to the university and community as well as future potential global impacts. These international office personnel must also recognize the special needs and psychological pressures of students studying in this country from abroad. In the case of this study at UNC-W, the international office was clearly staffed with highly qualified personnel during the time data was collected.

Additionally, counseling services must be available to both domestic and international students and those services must be readily open, recognized, and accepted by students with no negative reflections on those who opt to use their services. These services should be marketed to the student population in order to give a higher profile and level of acceptability in order to ensure that students avail themselves when needed. Whether traumatic events are on a national scale, or individual, they have a negative impact which hampers every university's ability to achieve their primary goal – to teach. Stressed out students have damaged cognitive abilities.

Counselors must be trained to recognize that international students are likely to suffer PTSD to a greater degree than domestic students as a result of pre-existing stress related to being away from home, lack of support systems, and potential discrimination. In addition, those students who have experienced higher degrees of stress from their homeland have a higher propensity for PTSD and depression as will some ethnic groups and female students.

The Need for Further Study

Either fear or the economic impact of the terrorist attack may have been responsible for the 6.1% drop in international student enrollment at UNC-W in the semester following the attack.

Future studies may reveal the cause of the enrollment decline as well as whether growing hatred of America and Americans resulting from controversial political dogmas will impact international student satisfaction and subsequently international student enrollment in U.S. institutions of higher education. In addition, a future study comparing international student enrollment in U.S. universities to U.S. economic influence globally would be beneficial.

Although previous studies have been done to determine international student satisfaction at universities across the United States, there does not appear to exist a study which compares international student satisfaction with that of national students within the same university environment. Such a study would be beneficial and as the world becomes more global differences – such as those

discovered by Hofstede related to country of origin - may diminish over time.

Such a leveling of expectations, needs, and understanding has far reaching connotations not only for universities, but also the world economy and world peace.

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APPENDIX A

UNCW International Student Survey

Appendix A

UNCW International Student Survey

<u>**Instructions:**</u>
Answer questions as they relate to you. For most, check the answer(s) most applicable to you or fill in the blanks.

Please provide the following:

First name: _____ Last name: _____ Email: _____

Demographics:

1. What is your Gender?   _____Male _____ Female
2. Which of the following does your age fit into?
   _____18 or Under _____19-24 _____25-34   _____35-44 _____45 and Over
3. From what part of the World do you come?
   _____Africa - South of the Sahara
   _____Middle East and North Africa
   _____Asia (South/West)
   _____Asia (East)
   _____Europe (West)
   _____Europe (East)
   _____Caribbean and Latin America
   _____Canada
   _____Oceania
4. Marital Status:
   _____Single
   _____Married (Skip to Q. 5)
   _____Divorced
   _____Widow
5. If married, is you spouse with you in the U.S.?
   _____Yes
   _____No
6. How Many Children do you have?
   _____None
   _____1
   _____2
   _____3
   _____4
   _____More than 4
7. Level of Study:
   _____ESL Program
   _____Undergraduate Degree (Skip to Q. 8)
   _____Graduate - Non-Degree
   _____Master's Degree
8. If Undergraduate, what year are you classified as?
   _____Freshman
   _____Sophomore
   _____Junior
   _____Senior

9.College or School for your major program of study:
  (Select all that apply.)
  ____Cameron School of Business - Undergraduate Studies
  ____Cameron School of Business - Master's Degree
  ____College of Arts and Sciences - Undergraduate Studies
  ____College of Arts and Sciences - Master of Arts
  ____College of Arts and Sciences - Master of Science Degree
  ____College of Arts and Sciences - Master of Fine Arts
  ____College of Arts and Sciences - Certificate Program in Gerontology
  ____School of Nursing - Undergraduate Studies
  ____School of Nursing - Master's Degree
  ____Watson School of Education - Undergraduate Studies
  ____Watson School of Education - Master's Degree
10.I Rate my ability to speak English as:
  ____Native or almost Native
  ____High
  ____Moderate
  ____Low
  ____Very Low
11.How long have you been in the U.S.?
  ____Less than one year
  ____1-3 years
  ____4-5 year
  ____More than 5 years
12.How long have you been at UNCW?
  ____Less than one year
  ____1-3 years
  ____4-5 years
  ____More than 5 years
13.Have you attended other colleges or universities in the U.S. before
coming to UNCW?
  ____Yes(Skip to Q. 14)   ____No
14.If yes, did you attend an English Language program?   ____Yes
____No
15.You reside in:
  ____Residence Hall/Dorm
  ____Apartment on Campus
  ____Rent a room or apartment off-campus
  ____Parent's Home
  ____Other
16.What is the primary reason you chose to study at UNCW? (Check only
one)
  ____To learn about the culture and people of the U.S.
  ____Academic Quality of the University
  ____Availability of fellowship or assistantship
  ____UNCW was the first to accept me for admission
  ____To gain specific skills not available in my home country
  ____Spouse attends UNCW
  ____Friends or relatives attend UNCW
  ____Affordable cost of living and studying
  ____Research opportunities
  ____To perfect my English language skills
  ____Exchange program
  ____Campus Safety
  ____Other

Psycho-Social Factors:

Instructions: 1. Please read each item carefully. 2. After reading the item, indicate: a) How important it is to you b) The level of your expectation for that item when you began your studies c) Your current level of satisfaction

17.The importance of meeting my educational goals is:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

18.What level of expectation did you have about meeting your educational goals when you
first came to UNCW?
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

19.How satisfied are you currently related to meeting your educational goals?
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

20.How important is it to you to have sufficient financial support?
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

21.What level of expectation did you have related to having financial support when you first came to UNCW?
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

22.How satisfied are you currently with financial support?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

23.How important is it to you to find a Mentor?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

24.What level of expectation about finding a mentor did you have when you first came to UNCW?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

25.How satisfied are you currently about finding a mentor?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

26.How important to you is keeping up with news from home?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

27.What level of expectation did you have about keeping up with news from home when you first came to UNCW?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

28.How satisfied are you currently with your ability to keep up with news from home?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

29.How important to you is maintaining contact with your family back home?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

30.What level of expectation did you have related to maintaining contact with your family back home when you first came to UNCW?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

31.How satisfied are you currently with your ability to maintain contact with your family back home?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

32.How important to you is coping with homesickness?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

33.What level of expectation did you have about coping with homesickness when you first came to UNCW?

    _____6 - Very High
    _____5 - High
    _____4 - Slightly high
    _____3 - Slightly low
    _____2 - Low
    _____1 - Very Low
    _____0 - Does not apply

34.How satisfied are you currently with your ability to cope with homesickness?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

35.How important to you is meeting others from your country?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

36.What level of expectation about meeting others from your country did you have when you first came to UNCW?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

37.How satisfied are you currently with your ability to meet others from your country?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

38.How important to you is making friends with Americans?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

39.What level of expectation did you have about making friends with Americans when you first came to UNCW?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

40.How satisfied are you currently with your ability to make friends with Americans?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

41.How important to you is learning how to understand and respond to American behavior (e.g., assertiveness and competition)?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

42.What level of expectation did you have about learning how to understand and respond to American behavior when you first came to UNCW?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

43.How satisfied are you currently with the process of learning how to understand and respond to American behavior?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

44.How important to you is recreational opportunities in the local community?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

45.What level of expectation did you have about recreational opportunities in the local community when you first came to UNCW?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

46.How satisfied are you currently with recreational opportunities in the local community?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

47.How important to you is finding a place to worship?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

48.What level of expectation did you have about finding a place to worship when you first came to UNCW?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

49.How satisfied are you currently with your ability to find a place to worship?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

50.How important to you is meeting the social needs of your spouse ?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

51.What level of expectation did you have about meeting the social needs of your spouse when you first came to UNCW?

    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

52. How satisfied are you currently with the social needs of your spouse being met?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

53. How important to you is finding affordable, quality childcare?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

54. What level of expectation did you have about finding affordable, quality childcare when you first came to UNCW?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

55. How satisfied are you currently with the affordability and quality of childcare?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

56. How important to you is finding stores that carry familiar foods?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

57. What level of expectation did you have about finding stores that carry familiar foods when you first came to UNCW?

```
____6 - Very High
____5 - High
____4 - Slightly high
____3 - Slightly low
____2 - Low
____1 - Very Low
____0 - Does not apply
```

58.How satisfied are you currently with finding stores that carry familiar foods?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

59.How important to you is being accepted by your American neighbors?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

60.What level of expectation did you have about being accepted by your American neighbors when you first came to UNCW?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

61.How satisfied are you currently with being accepted by your American neighbors?

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

62.Overall, I would rate the quality of my personal life as:

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

63.Overall, I would rate my satisfaction with the university environment as:

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

64.Overall, I would rate my satisfaction with the local community as:

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

65.Comments?_____

66.Rating for understanding academic program degree requirements:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

67.Rating for having a logical progression of courses in my major.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

68.Ratings for having a flexible structure in my degree program:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

69.Ratings for my being allowed to participate in creating my academic plan:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

70.Scheduling required courses when I need them:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly higl
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

71.Understanding course requirements.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

72.Understanding the grading system.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low

73.Having my work evaluated in accordance with course objectives.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

74.Ratings for being treated with respect:

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

75.Having faculty take into consideration student differences as they teach a course.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

76.Having a spirit of cooperation and trust in my major department.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

77.Academic department's commitment to quality teaching.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

78.Having professors who are knowledgeable in their field.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

Student Support Services:

79.Rating I would give UNCW for the processing of my application for admission.

     ____6 - Very High
     ____5 - High
     ____4 - Slightly high
     ____3 - Slightly low
     ____2 - Low
     ____1 - Very Low

80.Rating I would give UNCW for keeping me informed of the status of my application.

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

81.Rating I would give UNCW for pre-arrival information.

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

82.Rating I would give UNCW for the evaluation of my transfer credits

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

83.Rating I would give UNCW for the timely notification of my admission.

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

84.Rating I would give UNCW for pre-arrival information.

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

85.Rating I would give UNCW for helpfulness of the admissions staff.

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

86.Overall, I would rate my satisfaction with the admission process as:

   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

87.Rating I would give UNCW for the processing of my application for admission.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

88.Comments on the admission process?

_____

_____

International Student Affairs Office:

89.Rating for the International Student Affairs Office related to Reception upon arrival.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

90.Rating for the International Student Affairs Office related to orientation for new international students.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

91.Rating for the International Student Affairs Office related to availability of information for student visa.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

92.Rating for the International Student Affairs Office related to assistance with my visa and other immigration matters.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

93.Rating for the International Student Affairs Office related to helpfulness of staff.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

94.Overall, I would rate my satisfaction with the international student affairs office as:

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

95.Comments on International Affairs office?

_____

_____

Student Financial Aid Process:

96.Ratings for the Student Financial Aid Process related to availability of an assistantship/fellowship.

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

97.Ratings for the Student Financial Aid Process related to availability of financial aid opportunities other than an assistantship or fellowship.

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

98.Ratings for the Student Financial Aid Process related to financial support in emergency situations.

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

99.Overall, I would rate my satisfaction with the student financial aid process as:

_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 -Very Low

100.Comments on student financial aid?

_____

_____

On-Campus Housing:

101.Ratings for On-Campus Housing related to pre-arrival information
about residence halls.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
102.Ratings for On-Campus Housing related to new student orientation to
the residence halls.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply
103.Ratings for On-Campus Housing related to availability of living
arrangements during breaks.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply
104.Ratings for On-Campus Housing related to housing arrangements on-
campus.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply
105.Ratings for special programs/activities for students in on-campus
housing.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply
106.Ratings for maintenance of on-campus housing.
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low
_____0 - Does not apply

107.Ratings for relationship with American roommates.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

108.Ratings for security of my room and personal belongings.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

109.Ratings for acceptable noise levels.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

110.Ratings for reasonable cost.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

111.Range of facilities in your residence hall (e.g., kitchen, recreation, etc.)
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

112.Helpfulness of residence services staff.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply

113.Overall, I would rate my satisfaction with on-campus housing as:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply
114.Comments related to on-campus housing?

_____

_____

On-Campus Health Center:

115.Ratings of on-campus health center related to treatment.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply
116.Ratings of on-campus health center related to helpfulness of medical staff.
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply
117.Ratings of on-campus health center related to providing health information (conferences, brochures, videos, classes, etc.).
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 -Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply
118.Overall, I would rate my satisfaction with the health center as:
    ____6 - Very High
    ____5 - High
    ____4 - Slightly high
    ____3 - Slightly low
    ____2 - Low
    ____1 - Very Low
    ____0 - Does not apply
119.Comments about the on-campus health center?

_____

_____

Campus Life:

120.Ratings for Campus Life related to recreational opportunities.
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
121.Ratings for student organizations.
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
122.Ratings for host family program.
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
   ____0 - Does not apply
123.Ratings for special seminars (e.g., employment, taxes, etc.)
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
   ____0 - Does not apply

124.Ratings for helpfulness of campus life staff.
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
   ____0 - Does not apply
125.Overall, I would rate my satisfaction with the Office of Campus Life as:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low
   ____0 - Does not apply
126.Comments related to Campus Life?

_____

_____

127.Overall, I would rate my satisfaction with the Office of Campus
Life as:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
　　　＿＿＿0 - Does not apply
128.Ratings for Campus Bus Service:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
129.Ratings for General Appearance of the Campus:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
130.Ratings for Campus Safety:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
131.Overall, I would rate the quality of the student support services
as:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
132.Overall, I would rate my satisfaction with the student support
services as:
　　　＿＿＿6 - Very High
　　　＿＿＿5 - High
　　　＿＿＿4 - Slightly high
　　　＿＿＿3 - Slightly low
　　　＿＿＿2 - Low
　　　＿＿＿1 - Very Low
133.Other Comments about the Campus?

_____

_____

Academic Programs:

134. Rating for being able to get extra help with course requirements:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

135. Rating for having faculty support and guide my research:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

136. Ratings for having an internship or opportunity for practical training:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

137. Ratings for classrooms and laboratories that facilitate learning:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

138. Rating for the variety of resource material in the library:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

139. Rating for having access to on-line resources for research:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

140. Ratings for having international research available through the campus library:
_____6 - Very High
_____5 - High
_____4 - Slightly high
_____3 - Slightly low
_____2 - Low
_____1 - Very Low

141.Ratings for having academically challenging courses in my major:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
142.Content of courses within my major is valuable:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
143.Having an appropriate level of course workload:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
144.Having prompt feedback on class assignments and work:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
145.Relating to American students in my major department:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
146.Relating to professors in my major department:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
147.Having department social activities:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low
148.Theory is relevant to practical work:
  _____6 - Very High
  _____5 - High
  _____4 - Slightly high
  _____3 - Slightly low
  _____2 - Low
  _____1 - Very Low

149. Ratings for including examples or applications from developing nations in my major courses:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

150. Ratings for having an advisor who is knowledgeable of discipline and degree requirements:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

151. Rating for having an advisor who is available and accessible:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

152. Rating for having an advisor who is interested in my success:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

153. Ratings for having a departmental administrative staff that is helpful:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

154. Overall, I would rate the academic quality of my major/program as:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

155. Overall, I would rate my satisfaction with my major as:
   ____6 - Very High
   ____5 - High
   ____4 - Slightly high
   ____3 - Slightly low
   ____2 - Low
   ____1 - Very Low

156. Comments related to academic quality?

_____

_____

Final Rating, Comments, and Thank You:

157. Overall, I would rate my satisfaction with UNCW as:
     _____ 6 - Very High
     _____ 5 - High
     _____ 4 - Slightly high
     _____ 3 - Slightly low
     _____ 2 - Low
     _____ 1 - Very Low

For questions 158-163, please rank, from 1-6, the following items in relation to your overall satisfaction. "1" is low, and "6" is high. Use each number only once.

_____ 158. Satisfaction with the university environment
_____ 159. Satisfaction with the academic program
_____ 160. Satisfaction with student support services
_____ 161. Satisfaction with the local community environment
_____ 162. Attaining educational goals
_____ 163. Quality of your personal life

164. Overall, I would rate the completeness of this questionnaire as:
     _____ 6 - Very High
     _____ 5 - High
     _____ 4 - Slightly high
     _____ 3 - Slightly low
     _____ 2 - Low
     _____ 1 - Very Low

165. Overall, I would rate the degree to which this questionnaire measures my satisfaction as:
     _____ 6 - Very High
     _____ 5 - High
     _____ 4 - Slightly high
     _____ 3 - Slightly low
     _____ 2 - Low
     _____ 1 - Very Low

166. Overall, I would rate my experience with using computers as:
     _____ 6 - Very High
     _____ 5 - High
     _____ 4 - Slightly high
     _____ 3 - Slightly low
     _____ 2 - Low
     _____ 1 - Very Low

167. Overall, how easy was the questionnaire to read on your computer screen?
     _____ 6 - Very High
     _____ 5 - High
     _____ 4 - Slightly high
     _____ 3 - Slightly low
     _____ 2 - Low
     _____ 1 - Very Low

168. Overall, how easy was the questionnaire to answer using your computer?

       _____6 - Very High
       _____5 - High
       _____4 - Slightly high
       _____3 - Slightly low
       _____2 - Low
       _____1 - Very Low

169. Please add any comments you feel would help in this study:

_____

_____