The McNair Journal is the official journal of the Ronald E. McNair Scholars Program at the University of Nevada, Reno. The program is designed to provide research opportunities and other related academic experiences that promote the acquisition of the doctoral degree (Ph.D.) for first generation, low-income and underrepresented college juniors and seniors. The McNair program is federally funded at $220,000 per year. The program was created by Congress in an effort to increase the number of underrepresented persons pursing teaching, research and administrative careers in higher education.

*A very special thank you to the University of Nevada, Reno Graduate School for their generous & invaluable support of the McNair Scholars Program!
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The Fully-Extended Research Version of this Journal Can Be Found At:  
Foreword:
It is my great pleasure to introduce the University of Nevada, Reno McNair Scholars Journal. The University received its first federally funded McNair Scholars award on October 1, 2003 after successfully competing in a U.S. Department of Education request for proposal. The program is federally funded at $220,000 per year for four years with high potential for continued funding. We are very grateful for the additional support provided to our students from the graduate school. The program is named for astronaut and Challenger crew member Ronald E. McNair. The purpose of the program is to assist undergraduate students from backgrounds that are traditionally underrepresented in graduate school to prepare for doctoral study.

The National Academy of Sciences recently released a report called Rising Above the Gathering Storm. The report includes startling statistics about our county’s ability to remain competitive in the world economy. The study stated that in 2004 China had more than 700,000 students graduate with degrees in science, technology, engineering, and mathematics; India had 350,000; the U.S. had only 72,000 graduates in those fields. According to the NAS report, both corporate and scientific leaders predict major problems for our country’s economic future unless we are able to harness significantly higher rates of our country’s intellectual capital. Graduate education becomes ever more important for students from all socioeconomic and ethnic backgrounds. Our McNair Scholars are preparing to become part of a highly educated generation that will contribute to a prosperous future for our country. Our scholars will also serve as believable role models and mentors for those who follow in their footsteps.

Although many services are provided to McNair scholars, the heart and soul of the program is found in the relationship that scholars establish with their academic mentors. The research articles published in this inaugural journal are the product of that relationship. I would like to acknowledge the scholars whose papers were selected for publication and offer my most sincere thanks to our academic faculty who have given so generously of their time and talent to mentor our scholars. Congratulations to all who have contributed to the success of the emerging McNair Scholars Program.

Rita Escher, Director
Background:
The purpose of the Ronald E. McNair Post-Baccalaureate Program is to encourage undergraduates from backgrounds that have been historically underrepresented in university faculty and research professions to pursue doctoral degrees. The federally funded program is in its third year at the University of Nevada, Reno. Dr. Ronald McNair, whose journey to become an astronaut inspires all who seek to achieve ambitious dreams, is a fitting namesake for the program. Although Dr. McNair died in the explosion of the Challenger space craft, his strong message of self determination still resonates with those who strive for excellence:

"Whether or not you reach your goals in life depends entirely on how well you prepare for them and how badly you want them." -Ronald E. McNair, Ph.D.

Program Overview:
The foundation of the McNair Scholars Program is the summer research institute. For seven weeks, scholars engage in research projects closely guided by academic faculty mentors. For many students, the summer institute provides their first experience conducting original research and their first opportunity to work closely with a faculty mentor. The relationship forged between scholar and mentor can be the most significant academic connection that a scholar makes at the university.

In addition to conducting research, scholars also take part in GRE preparation workshops during the summer institute. During the academic year, scholars participate in McNair seminars that assist them to complete competitive graduate school applications and provide information related to financing graduate education. Scholars attend national McNair conferences where they present their research and connect with other scholars and faculty from across the country.

In addition to receiving $2,800 research stipends during the summer institute, scholars also benefit from waived application fees at many graduate schools. GRE fee waivers are also available to McNair Scholars. The greatest benefits, though, are not financial. The McNair program enables scholars to form lasting bonds with fellow scholars and with academic mentors. These relationships allow scholars to see themselves in roles they might not otherwise have considered possible such as professors, researchers, and administrators in institutions of higher education.

Eligibility:
Students are eligible for the McNair program if they have completed at least 30 credits, but not more than 92 credits and have a cumulative grade point average of at least 2.9. Students must also meet the federal criteria for selection: Neither parent has a bachelor's degree and the student demonstrates financial need OR the student is a member of a group that is traditionally underrepresented in graduate school: African American; Native American/Pacific Islander; Hispanic/Latino. Students must be U.S. citizens or eligible non-citizens (eligible for U.S. federal aid).

Application Process:
Applications are available on the McNair web site or from the McNair office located in suite 100 of the Thompson Building. [www.unr.edu/stsv/saos/mcnair](http://www.unr.edu/stsv/saos/mcnair).
Carol Bishop is a conservation biology major from Sun Valley, Nevada. She is a member of the Golden Key International Honor Society, Tau Sigma Academic Honor Society for Transfer Students – UNR charter member, and Phi Kappa Phi. She has worked as a field and lab assistant that provided an opportunity for her to collect water samples from the Truckee River, research information about the Lahontan Cutthroat Trout and examine soil samples of Yellow Star Thistle and participated in Cheatgrass experiments. Carol gave a poster presentation at the 2005 Rocky Mountain McNair Conference in Colorado. Carol has been accepted into the Resource Economics graduate school program for fall 2006 at the University of Nevada, Reno and has received a graduate assistantship.

**ABSTRACT**

*Atriplex confertifolia*, or shadscale, is an important shrub in salt desert areas of the Great Basin. There is recent evidence of extensive die-off, and many possible causes have been investigated. Previous research has not investigated whether there are shrub-shrub interactions that are further modifying its abundance and limiting its recruitment. By studying shadscale’s spatial relationships using size-specific analyses, we will be able to infer if these relationships are influencing its life cycle. Both grid and transect measurements were taken in four study sites: two in unburnt areas and two in burnt areas. All size classes of shrubs were significantly clumped under both fire histories. Hence, there is no evidence of negative shrub-shrub interactions detected using spatial analyses tested at multiple scales. Interestingly, the strong spatial aggregation of shadscale detected at all scales suggests positive interactions may be occurring, and this may be particularly important in burnt areas.
Mary Czerwinsky

Mentor: Dr. Margaret Ferrara
Major: Elementary Education

Research Topic: “Resiliency: Why Some Students Overcome Difficulty in Getting Through School and Others Don’t”

Mary Czerwinsky is an elementary education major from Sparks, Nevada. She maintained an overall 3.93 GPA, was on the dean’s list since fall 2002 and received several academic scholarships. Mary presented her research project at the 2005 Rocky Mountain McNair Conference in Colorado. She plans to teach one year before enrolling in graduate school.

ABSTRACT

Native Americans have the highest dropout rate of any ethnic or racial group in the United States, twice that of the national average. This is a case study on a Native American college student and a closer look at educational resiliency in the Native American community. The case told through the eyes of a Native American college student investigates the following questions: 1. What made this student more resilient than his counterparts? 2. Is resiliency promoted in Native Americans the same way that it is promoted in all students? 3. What can instructors do to better support Native Americans on their educational paths? The study will conclude with a comparison of data currently available on Native American resiliency and higher education.
Marti Howell

**Mentor:** Dr. Donica Mensing  
**Major:** Journalism  
**Research Topic:** “Letter to the Editor: Serial Killers and Their Correspondence to Newspaper Editors and Staff”

Marti is a journalism major from the Reno, Nevada, area. She has received numerous scholarships and awards including the Scripps Medal and the Warren Lerude First Amendment Award. She was selected to represent the Reynolds School of Journalism at the National Society of Professional Journalists Conference in Columbus, Ohio and at the Environmental Journalists Association in Washington, DC. She was the news editor for the university newspaper *Sagebrush*, has published articles in the *Lahontan Valley News* and several online publications including University of Nevada’s *Zephyr* and the Society of Environmental Journalists online publication. She presented her research project at the 2005 University of New York at Buffalo McNair Scholars Conference. She has been accepted into the Reynolds School of Journalism graduate school master’s program at the University of Nevada, Reno and has received a graduate assistantship. Her long-term goals include a career in academia and pursuing a Ph.D.

**ABSTRACT**

As journalists are attracted to stories of serial murder, so are some serial killers compelled to communicate with the media. This study will examine cases of newspapers in receipt of materials from alleged serial murderers. Using a qualitative approach to individual case studies, this paper will include cases spanning four decades. This paper will provide background information on standard editorial; policy and will note ethics theory pertaining to the receipt of materials sent to editors of American newspapers. In addition, this paper will look at publication decisions in each of the case studies and attempt to illustrate factors that dictate those decisions.

“Crime is something shameful, and it is highly dangerous to advertise criminals as if they were as interesting as Presidents or Prime Ministers or film stars or professional footballers.”

~ Honorable Robert Bernays, British MP, 1938
Ching was born in Pingtong, Taiwan. She is a management major with a minor in marketing. She has continuously been on the College of Business Dean's list by maintaining a 4.0 GPA. She has received several scholarships and was invited to be inducted into the Golden Key Honor Society. She has served as treasurer of the International Business Student Chapter Club and as a member of Phi Theta Kappa International Honor Society. She presented her research project at the 2005 Rocky Mountain McNair Conference in Colorado, before three upper division classes at the University of Nevada, Reno and at the 2005 International College Teaching Methods & Styles Conference held at The Silver Legacy Resort in Reno, Nevada. She has been accepted into the MBA program at the University of Nevada, Reno and was offered a graduate assistantship. Her future plans include pursuing a Ph.D. in an area of business so she will be able to teach at the college level.

ABSTRACT

While academic dishonesty is a widespread problem, past research has indicated that the problem is more severe in business schools and causes an adverse impact on the future of business. This study will focus on a comprehensive study of academic dishonesty among business students, concentrating on their beliefs, reasons, practices, and perceived solutions. To obtain special insights on issues concerning academic dishonesty among business students, ten in-depth interviews were conducted and a questionnaire drawn from the interviews and the literature was administered to 223 students in 11 undergraduate business classes at a middle-sized university. Results were analyzed by using SPSS application to show business students' views toward academic misconduct along with their rating, their level of practice in such misconduct, and their reason for it. In addition to quantitative questions, the survey includes three qualitative questions asking what instructors, administrators, and students can do to minimize academic dishonesty.
Steve is a mathematics major from Las Vegas, Nevada. He is interested in discrete mathematics, more specifically Combinatorics and Graph Theory. He has worked on campus as a math tutor and an Engineering Academic Support Experience (EASE) Supplemental Instruction Facilitator. He presented his research project at the 2005 Rocky Mountain McNair Conference in Colorado. Steve has been accepted into the graduate program at the University of Nevada, Reno for fall 2006 and has received a full teaching assistantship. He’s on his way towards achieving his ultimate goal of becoming a university professor.

ABSTRACT

Combinatorics, Graph Theory and Number Theory are littered with examples of problems that cannot be solved using ordinary analysis techniques. In these situations, probabilistic methods can be used to prove these elusive theorems. This study will investigate random arguments of several mathematical theorems, including Ramsey Theory and prime number counting. To study these arguments, discrete expectation and variance will be examined. Expectation determines what should happen in a given random environment. We use variance with certain inequalities such as the Markov Inequality and the Chebyshev Inequality to establish bounds on the tendency of the random variable to act in accordance with the expectation in general. The Cherinov Inequality will also be discussed; however, its use is limited due to the binomial distribution constraint.
Adriana is a biology major with a minor in Spanish. She was born in Cali, Colombia and moved to the United States at the age of sixteen. She has received certificates of superior achievement in Spanish and French from the Department of Foreign Languages and Literatures and has translated for the U.S. Immigration Office in Reno, Nevada. She has been on the Dean’s list, received the Gates Millennium Scholarship, Ronald McDonald Scholarship amongst other scholarships during her undergraduate school years. She has had two poems and a short story published in the Voces magazine. Adriana spent several weeks in Costa Rica to gather information for her research project and she presented her research at the 2005 University of New York at Buffalo McNair Scholars Conference. She’s planning to enter the Spanish graduate school program at the University of Nevada in fall 2006. She does desire to pursue a doctorate degree in marine biology in the future.

**ABSTRACT**

This research study involves traveling to Monte Alto Natural Reserve in Costa Rica to do an inventory of diurnal butterflies within a period of 16 days. This reserve did an inventory during the dry season of 2002 and found 91 species of butterflies. The objective was to see how many of those species were still there and if any new species could be found. Butterflies were captured using a net and/or by taking digital pictures. Thirty-nine species were found, including twenty-one new species that had not been previously recorded. This study will help the Monte Alto Natural Reserve shape its future conservation plans.
Aaron is from Oakland, California and is Sociology major. He is a former TRIO scholar (SSS) who has served as a mentor to Upward Bound Program students here at the University of Nevada, Reno. He presented his research project at the 2005 Rocky Mountain McNair Conference in Colorado. He was accepted into the sociology master's program at the University of Nevada and received a teaching assistantship. His plans include teaching and pursuing a doctorate degree in the future with an interest in Community Studies.

ABSTRACT

While U.S blue-collar manufacturing jobs continue to be sent overseas, the outsourcing of white-collar jobs has begun to draw concerns from professionals and politicians alike. This paper argues that the recent outsourcing trend of U.S service sector jobs in fields such as telecommunications and data processing, while qualitatively different from deindustrialization and the export of manufacturing jobs, is fundamentally similar in that it is a consequence of the search for cheaper labor and a more favorable investment climate overseas. This paper provides a brief discussion of the different approaches to understanding and explaining outsourcing and its relation to deindustrialization; a historical background of deindustrialization and the export of jobs; a discussion of current outsourcing of service jobs; and the role of the state in protecting outsourcing practices by large U.S Transnational Corporations.
Diego Pulido

Mentor: Dr. Michael Webster
Major: Psychology
Research Topic: “Correlation Between High Anxiety Levels and Face Perception”

Diego grew up in Colombia before moving back to the United States. His major is psychology but he is very interested in computers and foreign languages. He was inducted into the Golden Key International Honor Society and has worked towards receiving an honors diploma. Diego was the first McNair scholar to present his research at an open forum that was held on the University of Nevada, Reno campus. He is fluent in Spanish, English and French and he’s still learning Italian and Portuguese. His hobbies include playing football (aka soccer in the U.S.), running, playing the classic and electric guitar. He loves traveling to various countries. He plans to enroll in a cognitive science or cognitive psychology program in graduate school.

ABSTRACT

Previous research involving face perception indicates that there are special mechanisms for coding faces in our brain. This research project examined the level of trait anxiety of the participants and their classification of anger and fearful facial expressions. It is predicted that when confronted with an ambiguous face composed of two emotions (angry/happy or fear/happy) the more anxious the participant is, the more differently he/she will judge an ambiguous face than will a less anxious participant.
He grew up in the small town of Waukegan, Illinois, which is about forty miles north of Chicago. Eric is double-majoring in History and English Literature with a minor in Medieval and Renaissance Studies. He wants to become a university professor and one day plans to write books on fiction and on historical points of interest. He has received general and departmental scholarships during the time he’s been a student at the University of Nevada, Reno. He presented his research project at the University of Maryland – College Park 7th Annual McNair Scholars & Undergraduate Research Conference in spring 2006. In his spare time, he enjoys playing chess and competing in chess tournaments.

**ABSTRACT**

The Second Punic War begins in 219 B.C. with Hannibal's attack on Saguntum and ends with Hannibal's defeat at Zama against Scipio in 202 B.C. In their writings, the Roman historians are unanimous in their belief that Hannibal was ultimately responsible. Though they cite various reasons for this, they examined a few other causes for the war. The main primary sources for all historians are Polybius and Livy, but both have their biases, and there are still questions regarding their research methods and accounts. By examining these Roman, and some Greek, historians, this paper seeks to partially absolve Hannibal's responsibility.
Nhit was born in Vietnam and is of Chinese/Vietnamese descent. She is our first scholar that has participated in the TRIO Upward Bound, TRIO Scholars (SSS) Program and the McNair Scholar Program. She has received several scholarships during her years as an undergraduate student. She majored in international business and desires to one day teach environmental law. She presented her research at the 2005 Rocky Mountain McNair Conference in Colorado.

ABSTRACT

This is a qualitative research analyzing secondary data. The purpose of this paper is to examine the inflows of foreign direct investment (FDI) in China and attempt to answer three questions: Is there a shift in the inflows of FDI into China? What incentives does China offer to its foreign direct investors? And who benefits and loses from China’s inflows of FDI? In the first findings, my research suggested four changes took place in the inflows of FDI: China’s traditional FDI suppliers have shifted since 1979; the FDI types have also changed from Equity Joint Venture and Contractual Joint Venture to Wholly Foreign Owned Enterprises; and multinational corporations also began their investments with capital-intensive activities. The second findings suggested that China provides many incentives to foreign investors: a high GDP growth rate, a large pool of skilled labor, a large untapped market, low wages, and undeveloped industries that allow for potential profit. The last findings indicated that Chinese consumers, workers, and foreign invested enterprises benefit from the abundant inflows of FDI at the potential expense of its neighboring countries.