DISCIPLINARY

Undergraduate Research in Anthropology

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When I heard about undergraduate research opportunities being available in college, I automatically thought of science-related studies. As a history major, I was initially concerned that there weren't many opportunities for research within my field of study. Somehow, though, before I knew it, I was sitting in an archaeology lab analyzing lithic, or stone, artifacts. Participating in undergraduate research in anthropology has been the most rewarding experience of my college career.

My passion for history led me to discover anthropology. While there are many facets to the field, I was immediately drawn to archaeology, the study of the material remains of past societies. When I was searching for a challenging research opportunity, I imagined myself participating in an excavation, but I was excited when the chance arose to analyze lithic artifacts from a Native American site in a Mississippi river valley. I initially was hesitant about my role, though, because I knew little about Native American tools. The amount that I had to learn to understand the project seemed daunting. With an abundance of reading materials and help from the professor I was working with, however, I learned what characteristics to look for in an artifact in order to determine what type of tool I was analyzing.

Participating in archaeological research is entirely different than observing scientific occurrences or crunching numerical data. Anthropological research is a study of the past, rather than a gateway toward the discovery of new things. Holding and interpreting an artifact that was once an integral part of somebody's life never ceases to impress me. I try to envision myself as one of the Native Americans; I speculate as to what my life would have been like. The lithic artifacts that I was studying were once used as tools and, without those tools, a society would never have been able to survive.

At the end of the semester, I had the opportunity to present my research at the Undergraduate Research & Creative Activity Conference, an annual event at the University of Alabama. I prepared a poster compiling data, photos, and analysis of the artifacts and created a research report detailing my work, which I shared and discussed with judges, professors, and other students. Presenting findings is an essential component of participating in undergraduate research, as it offers the chance to receive feedback on your work and to further understand your project as you respond to questions.

By the end of the semester, the knowledge that I had accumulated vastly surpassed my expectations. Participating in undergraduate research as a freshman is an opportunity that many students should pursue. Research offered me a great chance to apply my anthropological studies and interests in a professional setting, and this is an aspect of college that I would encourage every student to pursue.

A Rehearsal in Research

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I feel as though actors in academia are rarely given their due. While some majors require many hours in the library researching the Founding Fathers or standing in a lab examining a petri dish, actors face very different challenges in conducting research.

Plays are microcosms unto themselves. In order to properly perform a role, actors must first understand the rules of the "world" they will inhabit on the stage, because they must simultaneously perceive and create that world for an audience. Doing this takes no small amount of skill. When performing a period piece—a play that strongly evokes a historical era—it is essential for an actor to research the year or period in which the play is set. Questions that have to be asked include: What was the political climate of the time? What were the social norms for both men and women? What did class divides look like?

These questions are very important because they do not simply affect the world of the play; they also influence one's character a great deal. To embody a role, an actor must know every part of the character he or she is playing—the "back story," the character's mental state, and the character's opinion on any given action in the play. Research into the world and period of the play are helpful in determining these things. However, an immense amount of creativity also must go into "role" research. It's very rare that characters are given a complete "back story" by a playwright. It is essential, however, for actors to fill in missing details for themselves.

As an example, in Shakespeare's *King Lear* we know almost nothing of Lear's youngest daughter, Cordelia, at the start of the play. During the "love test," arguably the most important and iconic scene in the play, Lear asks each of his daughters to tell him how much she loves him; in exchange he gives them land. While Cordelia's sisters, Goneril and Regan, flatter Lear, Cordelia refuses to do so; this results in Lear disowning her. Refusing to flatter Lear is an incredibly strong action for a character we know relatively little about. As an actor going into this scene, it is important for the person playing Cordelia to determine what her relationships are like with both her sisters and with Lear himself. Why does she publicly humiliate Lear? Why doesn't she simply "go along" with the "love test" like her sisters do?

The beauty of theatre is that these questions don't have solid, objective answers. The answers will be different for each person who plays the role, and that's what gives us diversity and keeps plays that are centuries old, fresh. Leaving such questions unanswered, however, would be devastating to the role. While the research required to answer these questions doesn't always involve hours at a library pouring through multiple resources, it is just as crucial to a good performance as that library time is to a successful thesis.

Student Research: The Rewards and Responsibilities

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Research is an essential part of every field's ability to develop a greater knowledge base, investigate questions, and promote personal and professional development. It leads to better treatment, education, understanding, and applications to daily life. While this endeavor is a big time commitment, undergraduate research allows students to become involved in the practical aspects of their fields and provides students the opportunity to make unique contributions to them.

For undergraduate students considering participating in research, understanding the responsibilities involved is a crucial first step. In preparation, students need to set time aside with their mentors, develop an agenda, and follow through accordingly. This involves weekly or bi-weekly meetings, a plan for when work will be submitted, and a thorough literature review.

A great project can arise from an idea, a passion, or a topic in need of further study. Research begins when a student has questions and takes the initiative to find the answers. Answering these questions can make significant contributions to, for example, the health-sciences fields and the well-being of others. In the field of speech-language pathology or any medically based field, it is vital to answer questions that will be beneficial to clients and will help provide them with more accurate, evidence-based practice.

After the student researcher poses a question, it important to find a mentor who is well-versed in the topic to be studied. The mentor will help the student through the entire research experience—from formulating a question to presentation and publication. It is vital for the student to keep open lines of communication with the mentor because the student-mentor relationship will quickly become a team of two equals working together to answer and solve the underlying question. Working with a professor who is doing research in the student's area of interest provides the student researcher an opportunity to obtain research experience without having to take exclusive responsibility for each aspect of the study. This model of apprenticeship leads students through the research process and allows students to use the knowledge, guidance, and support of their mentors to progressively increase their own skills.

The research question directs the review of literature. The student and mentor then develop the methodology. The student researcher may need to ask several questions, such as, are the resources needed to complete this project readily available? How many subjects will be used? Answering questions such as these before beginning data collection will help set the stage for a well-organized and balanced project.

Once data collection begins, organization and time management are key. Working with human subjects can be time-consuming and difficult due to the fact that the subjects may have different schedules and priorities than those of the researchers. Recruitment of subjects also takes time. Following data collection, the student can analyze and interpret the results. This is an exciting part of the project because everything begins to come together.

One of the most exhilarating experiences that student research offers is the ability to share the results, whether in a journal article, a research exposition, or a presentation at a statewide convention. Communicating your results to other professionals in the field is vital. It allows others to provide feedback on the study, give suggestions for future research, and discuss how the findings may be useful in the field. Although this may be an intimidating aspect of student research, it is an experience that will allow the student researcher to grow personally and professionally.

Over all, the experience of undergraduate research can be very rewarding, allowing students to expand their knowledge base outside of the classroom and gain crucial experiences that will give them a head start for all future endeavors.

SITUATIONS

Conducting Research While Studying Abroad: Lessons from Central Asia

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Conducting undergraduate research in a study-abroad program presents students with a unique set of demanding challenges. While abroad, undergraduates are not only removed from on-campus research support and mentoring, but also must learn to balance their research project with the constant tug of exotic distractions. In the summer of 2011, I contended with such challenges while studying and researching abroad in the Central Asian state of Kyrgyzstan. The trip itself focused primarily on intensive study of the Russian language. However, in my time outside of class I also chose to pursue a political-science research topic. Reflecting on this research experience, four critical practices bore me successfully to the study's conclusion. Thus I urge other undergraduates to:

Prepare and decompress: Schedule time dedicated purely to research. Before departure, use such time to solidify your research question and methodology, complete a literature review for the selected topic, and devote extensive thought to developing a timeline for research activities during your time in-country. Ideally, your limited time abroad should be solely occupied by the study's fieldwork. After returning from study abroad, allot time for decompression, analysis, and synthesis of findings. Including these periods of preparation and decompression in the scheduled research timeline allows in-country time to be used most effectively and lends you breathing room to identify the strongest conclusions from the work completed abroad.

Engage with the local environment: No matter how much you have read about your intended destination, there is no substitute for first-hand experience to acquire local knowledge. Therefore, participate in local daily life, verify the conclusions put forth in other publications, if possible travel within the country itself, and ask research-related questions even outside the context of formal interviews.

Communicate with your research mentor and program leaders: Study-abroad programs often employ local guides and translators who can be integral to a student's ability to complete a research project because they offer logistical knowledge and helpful perspectives. Make sure your study-abroad program is aware of any research plans. Communication with your mentor can be critical to keeping research progress on track. A regular check-in, whether via email or video conference, lends accountability to your research timeline and grants you the opportunity to get answers to your pressing questions.

Break the foreign student bubble: Foreign students in an unfamiliar environment often form a tight-knit community. While this community can be helpful for support and camaraderie, it is important to remember the overarching purpose of your time abroad. Therefore, strive to make social inroads with local peers, teachers, or administrators. These in-country contacts can be tremendously useful for later consultation and verification of facts.

By following the suggestions above, the exciting experience of studying abroad can also allow you to complete a research project. Given the largely independent nature of research during study abroad, the intimate engagement with real-world phenomena can instill an unmatched sense of empowerment and achievement in undergraduate students. In the long run, this feeling of accomplishment will improve the education and confidence of participating students.

Undergraduate Research Abroad: A World of Opportunities

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Imagine that you are a student living far from the university at which you study, that you are, in fact, in a foreign country with different people and surroundings,—and that you are engaged in cutting-edge research. For many undergraduate students, the opportunity to conduct research in an international context is one that should not be missed. Developing research skills, experiencing a different culture first-hand, and discovering the sights of another country are just a few of the several benefits that accompany a research experience abroad. The following are tips for succeeding in an undergraduate research experience in a foreign country, while thriving as an active member of a research group.

Stand out by getting involved. Lend a helping hand and volunteer to take on extra tasks whenever the opportunity arises. Being involved in many areas of research is one of the best ways of creating a positive and lasting impression on a supervisor or professor, in addition to enhancing one's critical-thinking abilities and learning new practical skills. While abroad, take advantage of the chances to learn about research being conducted at other institutions by attending symposiums and lectures by guest speakers, and, if possible, present your own research at a seminar or poster competition.

Create a global picture of the project. Take a step back after learning the specific aim of your own project to see where it fits into the long-term goal of your group's project. Being aware of the small portion that one's research will contribute to the overall project's goal helps put one's work into perspective.

Learn things right the first time. Mistakes will be allowed the first time you do most things, but you should try your best not to repeat them, as this would demonstrate you did not take the time to learn the procedure correctly. If you are unsure or feel that you do not adequately understand a certain aspect of a procedure, you should not hesitate to ask for clarification from someone who has the relevant experience and knowledge.

Generate your own deadlines. Get the paperwork necessary for traveling and living abroad, as well as reports and presentations, finished as early as possible by setting your own deadlines. Creating deadlines encourages you to prioritize, ultimately allowing you more time to appreciate the research experience.

Say "Yes" to (nearly) everything. Remain open-minded, including towards the new research environment, cuisine, music, and cultural practices. You certainly will be offered novel and rich experiences. Do not forget to travel around and enjoy your host country: You may not have the chance to do so again anytime soon.

Conducting research in another country is a unique and unforgettable experience, one that can be extremely rewarding, particularly using the tips outlined above. The opportunities to learn new things, create new experiences, and explore new cultures are endless, so learn, create, explore—and imagine.

Tips for a Successful Conference Poster

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I presented my research on mesenchymal stem cells for the first time at the New England Science Symposium (NESS) held at Harvard University in March of 2011. This symposium hosts undergraduate students, along with doctoral candidates, postdoctoral researchers, doctors of osteopathic medicine, and MDs.

As the setting for my first research and presentation experience, this was a daunting venue. I would like to help other undergraduates preparing to present their research to benefit from my experience. Thus, I offer several tips and explain my rationales.

Tip #1: *Don't let the size of the conference overwhelm you; let it motivate you.*

My very first science conference was held at Molloy College, and I was nervous because of the number of students who were presenting their research—although the number now seems tiny compared to NESS. Most of the students around me had previous experience with presenting their research. However, I was determined to present my research as if I had presented multiple times before and was just as experienced as all the other students. At the end of the day I found out that I was one point away from getting third place in my

category. Although I did not receive an award that day, I felt like I earned first place!

Tip #2: *Keep in mind that you know your research better than anyone else.*

My mentor, Dr. Jodi Evans, gave me that advice because, initially, whenever I practiced my presentation in front of her, I would become frustrated and panicky because I couldn't remember every bit of information in my research. She would always tell me the judges don't care about every little detail and that I had to focus on mentioning key points. She reminded me that the judges weren't the ones in the lab for hours doing my research and that I knew my information better than anyone else, because I was the one who had done all the work. I went to my conferences with that mentality, and it truly helped.

Tip # 3: *Take comfort in knowing that you are not the only one who is nervous and new to the experience.*

Although it felt like I was surrounded by students who had extensive experience with presenting their research, I found that just as many students were first timers who were just as nervous as I was. You should always remember that even the students who have previous experience were once nervous first-timers like you.

Tip #4: *Take time to look around and see all of the interesting work being presented.*

Whenever I had any free time at a conference, I always walked around and looked at what others presented. Seeing what other students are interested in can give you great ideas to expand your own research.

Tip #5: *Don't be afraid of the judges. They don't bite—at least they didn't bite me.*

The most intimidating part of conferences for me was always the judges. Yet they weren't the mean judges I sometimes envisioned. They were all extremely friendly and even gave me advice on what I could do to improve my presentations in the future.

Tip # 6: *If the first run-through before a judge goes poorly, don't give up. Use it as a warm-up for the second judging.*

I remember at NESS when my first judge approached me my mind went completely blank! I couldn't seem to remember anything and jumbled up all of my information. I kept forgetting to mention certain things that were key points in my research. It was a perfect example of what not to do during a presentation. When my judge asked me if that was my first time presenting because he said it showed, I was mortified! He told me not to worry, that everyone has one of those moments and that I could only get better.

When my second judge came up to me, I nailed it! He even complimented me, with the following exact words that I will never forget: "It's great to see a student doing such noble work!" I was thrilled and so proud of myself that I didn't care that I didn't get an award. I proved to myself that I was capable of presenting my research and that I could rebound from doing so poorly on my first try to explain my project.

Tip #7: *Enjoy yourself!*

Research presentations can be a great experience, and you will do much better with a positive attitude.

How to Succeed in a Summer Research Program

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During the summer between my junior and senior years of college, I participated in The College of New Jersey's Mentored Undergraduate Summer Experience (MUSE), which allows undergraduates to conduct research with professors during the summer. By participating in this type of program, students are able to focus on building specific research skills without other academic obligations. These programs often focus on the students' ability to construct, conduct, and present research projects. Additionally, many summer programs focus not only on goals that can be achieved during the program, but also strive to prepare students for continued research and education.

To make the most of this opportunity, there are some key steps that students can take. First, it is important to have an initial student/faculty meeting before the start of the summer program. This meeting will allow mentors and mentees to discuss the details of the program and mutually agree upon goals and objectives. While the faculty members can discuss the schedule and what they expect to accomplish throughout the program, students can also help shape the summer session by providing input about personal goals they want to achieve or skills they hope to improve on. In most cases, it is possible for faculty mentors to tailor the program to students' needs. By having this initial meeting,

students and faculty can work together to ensure that the program is mutually beneficial.

Another great aspect of summer research programs is that they often include students conducting research in a variety of disciplines. During the academic year, it is easy for students to become deeply entrenched in their own work and lose sight of how much can be learned from other fields. The diversity of projects that can be found in summer research programs enables students to learn not only from their faculty mentors, but also from fellow students. Some programs have open research talks in which students can present their work and learn from each other. I highly encourage students to attend these sessions in order to capitalize on these opportunities.

Finally, students will inevitably find themselves with some free time outside of the working hours set by their programs. Some programs have scheduled activities for students after hours such as sports, trips, movie nights, or other social gatherings. Participating in these events will help students meet new people with similar interests. Additionally, students should take advantage of being in the academic environment over the summer by preparing for the graduate school application process and/or any standardized tests that are required. I was able to complete the majority of my graduate school prep work during my program and was grateful when I had less stress about applications during the school year. Overall, summer undergraduate research programs are great opportunities for faculty and students alike.

Presenting Undergraduate Research at National Events

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At any educational level, developing motivation for learning is just as critical as comprehension of information. The undergraduate level provides the most opportune time for developing students' intrinsic curiosity and intellectual hunger since this is the time students are able to choose the direction of their education on their own. This opportunity manifests itself most fully in undergraduate research, in which students communicate their unanswered questions to their professors, collaborate to form hypotheses, and, finally, complete and present the research.

We think that interactions between students and professors foster not only curiosity, but also important relationships. There is nothing quite like the experience of mutual discovery under the guidance of a professor who is as passionate about the research topic as the student is. Thus, undergraduate research cultivates a community of people who are personally invested in the success of a project.

Events such as the National Conference on Undergraduate Research (NCUR), the Faculty for Undergraduate Neuroscience (FUN) poster session, and the Posters on the Hill (POH) event sponsored by the Council on Undergraduate Research provide real and meaningful opportunities for students to share their research with others and to explore research conducted by their peers. These events function as a material finish line—a common goal—toward which students and professors unite their efforts. For the authors, engaging in events such as NCUR, FUN, and POH has resulted in a strong sense of reward and accomplishment, both educationally and personally. The different events provide different benefits to presenters.

At NCUR, students discover a large number of student researchers involved in a broad variety of projects. Following acceptance to NCUR, presenters also have the opportunity to submit a paper to the *NCUR Proceedings*. If published (the fortunate outcome for one of us), the paper adds an important element to one's research portfolio that can be viewed and appreciated by anyone, including prospective graduate school professors and employers.

The FUN poster session, though focused on neuroscience, shows the student the striking variety within this interdisciplinary area, especially in the context of the vast Society for Neuroscience conference of which it is a part.

POH provides yet another perspective on undergraduate research, involving a much smaller, select group of students. Students at POH also learn about federal funding of research, advocacy for science and higher education, and careers in government agencies.

We both learned from these conferences that "research" doesn't necessarily involve laboratory coats and goggles; instead, we found that, at the undergraduate level, research

can stem from any basic question and be followed by creative methods to answer this question.

The work leading up to the conferences was demanding, but we feel that the enthusiastic response to our posters by attendees at the conferences made the effort worthwhile. The curiosity that led us to these conferences was rewarded in a way that makes us eager for similar opportunities in the future.

Trapped Between Learning Paradigms: The Psychological Challenges of Transitioning to Research

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The intellectual demands of research pose formidable challenges for young students. However, the psychological challenges—feelings of frustration, of being overwhelmed, doubt, and even stupidity—can be even more detrimental to the educational nature of undergraduate research partnerships when they lead to unproductive expenditure of valuable time and early burnout. Though many of students' frustrations are related to the technical and theoretical aspects of research, based on my experience and on anecdotes related by peers across the social sciences, an underlying cause of these psychological stresses appears to be the transition itself from classroom learner to learning through research.

When undergraduates participate in research for the first time, they are accustomed to the process of classroom learning in which passing one course indicates a certain level of accomplishment, as indicated by one's grade. A lifetime in research is not necessary for one to realize that, in contrast to this short-term, merit-based experience of learning, the process of developing the skills needed to conduct meaningful, interesting projects is a continual experience throughout one's career. Moreover, research lacks the structure of classroom learning. Students find themselves, often for the first time, without the safety net of textbooks, study guides, and, particularly in the social sciences and humanities without a solid footing based on equations, laws, and accepted theories. This ambiguity can be a primary source of anxiety, frustration, and hours wasted attempting to wade through pages of journal articles without the skills needed to determine the most useful source material.

Even the system of measuring one's progress is not straightforward. Unlike classroom learning in which progress is easily accessed through homework assignments and exams with letter grades determined by faculty and teaching assistants, assessing progress and level of proficiency on a research paper or project is subjective and based more on feedback actively solicited from the academic community. Lacking a clear measure of progress and not knowing to continually seek feedback from peers and more experienced researchers, young researchers can become anxious and fail to make meaningful progress; they may become either over-confident or constantly second-guess their abilities.

Thus there are aspects of research that are not only technically challenging but that also are distinct and incompatible with the classroom-learning paradigm. As a result, recognizing that students are transitioning to a new style of learning is key to assuaging some of the mental stumbling blocks that arise. To assist students with the transition, it would help if mentors and programs added more emphasis on developing a skill set over time, encouraging students to seek out others with research expertise to help them fill in the gaps when they find their skills lacking. Students also should be encouraged to actively solicit feedback, beyond set times for conferences, when a project is near completion so they have realistic expectations. These steps can improve the educational experience of undergraduate researchers and better prepare future generations of scholars.

POPULATIONS

Five Ground Rules of Research for First-Generation Students

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After spending three years at a public land-grant research university, it is easy to name the many initiatives in place to get undergraduates involved in research and research programming. However, as the first in my family to attend college, I was not very knowledgeable about them during the first months of my undergraduate career.

In the beginning, I understood research as a lofty notion that only an elite few of the student body participated in.

It involved safety goggles, lab benches, and countless hours of hard work. This somewhat misguided understanding of what undergraduate research is arose from images in movies, television, and university-made paraphernalia.

Whether they realize it or not, first-generation students and their families rely solely on public opinion and popular media for a glimpse of what undergraduate life is like prior to experiencing it first-hand. From my experience, the only aspect of my initial idea of research that has survived until today is this: hard work. Based on what I've learned, I suggest the following ground rules for undergraduate researchers—whether or not they are first-generation college students.

First and foremost, understand that research can be done by anyone who is willing to do it. First-generation students should know that they should not be intimidated by research. As long as there is a willingness to commit to a common goal, there will be an available position on a project.

Second, research is a respectable career. At most universities, faculty members are called not only to teaching, but also to research and service. Academic research is also a key tool utilized by many private firms and organizations. As with any career choice, there are certain benchmarks that, if reached, can jump-start a career in research.

Third, research extends beyond the fields of the hard sciences, engineering, and math. Anyone with any major or any interest can perform research, which can also take the form of creative activities, study-abroad experiences, and historical inquiries.

Next, research involves teamwork. Whether working across campus or across the globe, the most successful researchers are knowledgeable about the other experts in their fields and work diligently to foster constructive relationships with other scholars.

Finally, success in research at the undergraduate level depends almost solely on faculty support. First-generation students should see faculty members as approachable, helpful people. They are a gateway to success in research and will provide priceless mentorship and wisdom for ideas and projects.

Advice for Older Students: Pursue Research Opportunities

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I returned to college after a job layoff, intending to complete an undergraduate degree I had abandoned decades before. I thought a bachelor's credential would improve my prospects for new employment, and it has done so. But what has made the biggest difference for my emerging career is the research I conducted as an undergraduate. The research experiences enabled me to develop expertise in a new field, broaden my base of contacts, and contribute to a growing body of knowledge. Most importantly, my research experiences have been the best part of returning to college.

The potential advantages of becoming engaged in research may not be apparent to most nontraditional-aged students. I was usually the oldest—and the only student over age 25—in most of my undergraduate endeavors. Career and family responsibilities, added to the demands of coursework, can fill every waking moment of an adult student's life. Participation in events on campus often is not possible, precluding opportunities available to traditionally aged, residential students. However, I suggest two simple steps that make it easier for older undergraduates to pursue research opportunities and reap the benefits:

Become an expert. At my institution, George Mason University, the adult degree-completion program requires a three-credit course entitled The Research Process. Many academic disciplines offer similar undergraduate research-process or methods classes, and I recommend that students take the appropriate course as early as possible. It will provide an invaluable framework for achievement in subsequent courses. It can even help in acquiring and successfully completing "stretch" assignments at work. Managers value employees of any age who can apply proven processes and methods to unfamiliar tasks.

In addition to developing expertise in the research process, become a content authority. Select a narrow focus in your discipline and learn all you can about the topic, making it your specialty. Ask each professor for permission to perform research and write about your topic for assignments and projects.

I extended this approach to elective courses as well. It became a strategy that enabled me to effectively and confidently present findings on my specialty to student colleagues and faculty members in other disciplines.

Expand your professional network. I have benefitted greatly by providing information about my research activities to a wide range of interested individuals. I send short emails to former professors, classmates, and colleagues with updates on my progress. One of those contacts led, after a series of introductions, to a prestigious internship, and from the internship, to a paid contract.

My network also has provided new avenues for research. My faculty mentor suggested a program unfamiliar to me, leading me to investigate the opportunity and to submit an application. Subsequently, I received an Undergraduate Research Scholars Program Award through George Mason's Office of Scholarship, Creative Activities, and Research (OSCAR). My network now includes the OSCAR faculty administrators and other student researchers with whom I worked.

These two steps can considerably enhance the experiences of undergraduate researchers. Older students, particularly, may find them essential in obtaining graduate research opportunities and developing new careers.

Finding Success and Confidence in the Virology Laboratory

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Many young adults my age are content with a high-school diploma or with well-paying physical jobs, but I am not. I wanted to make a difference and challenge myself in the hopes of finding success somewhere along the way. I had already overcome so many obstacles throughout high school that being accepted to the University of Wisconsin Oshkosh was by far one of my proudest moments ever. My parents came to this country more than twenty years ago in search of a better future for their children. We all worked long, hard hours on a potato farm to make ends meet, making less than minimum wage. However, I have always been proud of the fact that my parents showed me what life would be like if I did not continue my studies, by exposing me to the field work that would await me. Many traditional Hispanic families depend on the males to be the breadwinners and to be head of the household. A husband and father, I deviated from my traditional role to become a full-time college student. Higher education and participating in undergraduate research are securing a future for my family and me.

As a first-generation, low-income student from a close-knit Hispanic community in Fond du Lac, Wisconsin, I initially never thought about doing research and going on to graduate school. However, the McNair Scholars Program, a TRIO program funded by the U.S. Department of Education, has given me opportunity to engage in undergraduate research in a virology laboratory. My research involves reading scholarly literature, writing grant proposals and research papers, and analyzing data. As a student researcher, I find that being able to design and discuss research in a clear and thorough manner are very important skills. Many such skills are needed to become successful in any job, and especially in graduate school. Raising a family in the process of going to college has helped me learn how to balance and manage my time, especially during the academic year.

My research consists of screening samples of pomegranate seed extracts for their inhibitory effects against different viruses (vaccinia, influenza, poliovirus, herpesvirus and parainfluenza) grown in tissue cultures. I have also examined the effects of other fruits such as cranberries and cherries in conjunction with pomegranates. This type of research is important because it could lead to the possible development of a "nutraceutical" and a shift from synthetic pharmaceuticals to more natural, holistic types of medicine. My next goal is to publish my research in a peer-reviewed journal and gain acceptance into a doctoral program in microbiology or biomedical sciences. Undergraduate research has shaped me into a better student, scientist, and role model, not just for other Hispanic or Latino students, but also for the rapidly growing multicultural community on campus as well. *La palabra convence, pero el ejemplo arrasa* (Words may convince, but example is overwhelming.)