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**STRENGTHENING UNDERGRADUATE GLOBAL HEALTH CURRICULA  
AT PENN STATE**

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## ABSTRACT

**Background:** Over the past decade, global health (GH) has become a popular topic in research, policy-making, and academia. More recently, there has been a growing emphasis by universities to begin GH education at the undergraduate level. However, research is lacking on why undergraduates are interested in GH programs and how undergraduate programs should be structured to maximize their educational value and enhance the matriculation of graduates into productive post-baccalaureate GH careers.

**Methods:** A structured online survey of 60-76 multiple-choice and open-ended questions was administered to a convenience sample of undergraduate students enrolled at the Pennsylvania State University-University Park (Penn State) in Fall 2011. Through descriptive statistical analysis, the study determined reasons for, and professional interests and goals of, students who self-reported as having an interest in the GH field.

**Results:** A convenience sample of 194 Penn State undergraduate students responded to the survey that was open for 19 days. Participants were mainly female (84.9%) and between the ages of 18 and 21-years-old (90.5%). Results found that 29.5% of participants were strongly interested in studying GH as an undergraduate and 31.6% were strongly interested in engaging in GH post-college graduation. Survey participants with strong interest in GH were extremely involved with extracurricular activities ( $p<0.05$ ) and had traveled abroad at least once ( $p<0.05$ ). In addition, participants from almost all income levels, except for those between \$32,001-53,000, expressed strong interest in GH ( $p<0.05$ ) and believed that pursuing GH opportunities were realistic endeavors ( $p<0.05$ ). Participants strongly interested in GH wanted to pursue a GH major (90.0%), GH minor (88.9%), and GH-related internship in the U.S. (82.9%). Participants extremely interested in engaging in GH post-college wanted to work as a volunteer (40.7%) and/or GH practitioner (23.7%); they also wanted to receive GH training as part of professional or graduate school (21.6%).

**Conclusion:** Students most interested in GH are those with prior travel experience and extracurricular involvement. Moreover, students want to pursue a variety of GH post-college opportunities, including volunteering, practicing GH, and graduate or professional education. Thus, in order to fulfill students' GH interests and prepare them for successful GH careers, universities including Penn State should consider providing a range of resources, including financial support for travel expenses and creating a student-led but faculty-supported GH organization. The University could also host monthly GH career panels and encourage representatives of GH employers and graduate institutions to attend its several career fairs.

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## INTRODUCTION

Over the past decade, global health (GH) has become popular in research, policymaking, and academia. The growing interest in GH has prompted several United States universities to develop programs of study in this field. However, due to lacks of a clear GH definition and collaboration in GH within and between academic institutions, undergraduate GH curricula remains underdeveloped. Universities throughout the U.S. differ in their GH program goals, curricula, and degree offerings. Furthermore, the lack of core competencies is problematic to the GH field because it results in students enrolled in U.S. institutions acquiring and developing varying levels of knowledge and skill. Because undergraduate students are the future leaders of GH, it is essential that they develop a similar set of skills so that they can, now and in later years, successfully work together towards achieving GH equity, which is the ultimate goal of GH.

This thesis identifies, through a structured online survey, the demographic characteristics and career goals of a group of Pennsylvania State University-University Park (Penn State; PSU) students who self-report as having an interest in GH. It is expected that the study's findings will aid Penn State in offering academic and extracurricular programs that, as appropriate, respond to students' GH interests and prepare them to be future GH leaders. Because little research exists on why undergraduates are interested in GH, it is anticipated that the findings will also guide other large, public, U.S. universities in designing similar GH curricula. If universities design complementary GH programs, students from across the country will acquire similar skill sets, and thus, be better equipped to collaborate with one another as future GH professionals.

The first chapter of this thesis explores the current status of GH education at the undergraduate level in U.S. universities. Chapter 1 discusses the need for a common GH definition in order to successfully prepare students with the proper skills to pursue post-

baccalaureate studies and careers in GH. Chapter 1 also presents the benefits of a GH education at the undergraduate level for students, universities, and the U.S. government. Possible reasons for students wanting to pursue GH studies are discussed, and current undergraduate GH programs are presented. Furthermore, Chapter 1 addresses the need for the Association of Schools of Public Health (ASPH) recommended core competencies for GH graduate programs to be incorporated into undergraduate GH curriculum. Finally, GH opportunities available to Penn State undergraduates are reviewed.

Chapter 2 presents the methods that were used to conduct the online research survey, which explored the reasons for, and the professional interests and goals of, Penn State undergraduate students who are interested in GH. This chapter details the recruitment of study participants and the protection of human subjects. In addition, the design of the survey instrument and the data analysis tests that were performed are discussed.

The third chapter reports the study's results. A convenience sample of 194 PSU undergraduate students responded to the survey that was available for 19 days. The results revealed that 47% of students were interested in undergraduate GH study, while 60.0% wanted to engage in GH post-college. This chapter also presents detailed data on the characteristics of students who are interested in GH, as well as their specific GH interests both during and after undergraduate study.

Chapter 4 discusses the study results as they compare to those of previous research on medical school GH programs and study abroad programs (SAPs). Descriptive statistical analysis found that extracurricular involvement and previous foreign travel experience were factors that significantly increased students' interests in GH during and post-college; this finding is in accordance with previous research on study abroad programs (Naffziger, Bott, and Mueller,

2008). Moreover, Chapter 4 also discusses why students may be more interested in GH post-college than during college as well as why they are particularly interested in GH volunteering and/or training as part of a professional degree.

In addition to detailing the limitations encountered in this research study, Chapter 5 offers evidence-based recommendations for improving Penn State's current undergraduate GH academic and extracurricular offerings. The offered suggestions are specifically aimed at assisting Penn State faculty in revising the GH curriculum such that it better addresses students' interests. Even more, it is anticipated that other large, public U.S. universities will draw on this data as a framework for creating undergraduate GH programs that appropriately address students' interests. Ultimately, the GH field would be further strengthened if universities formed similar programs so that students from across the U.S. would have a clearer understanding of GH and the interpersonal and other skills needed to collaborate seamlessly with one another as future GH leaders.



# **CHAPTER 1**

## **BACKGROUND**

Despite the recent, growing global health (GH) interest among researchers, policymakers, and so on, presently there is no standard GH definition, and little research exists on how undergraduate GH programs should be structured. These two factors have resulted in diverse GH curricula across the U.S., which emphasize different aspects of the GH field and, in turn, prepare students for post-undergraduate GH education and/or careers dissimilarly. This chapter explores some of the popular GH definitions, and in doing so, stresses the need for a common definition, in properly preparing undergraduates to become successful GH leaders. Chapter 1 also draws on research regarding the benefits of GH education for medical students and the positive impacts of study abroad experiences on undergraduates, in order to explore the benefits of an undergraduate GH education.

Furthermore, this chapter explores existing literature to discuss why undergraduates are expressing growing interests in GH. Chapter 1 also highlights some of the different GH academic programs offered at various U.S. universities and emphasizes the need to apply core competencies, such as those proffered by the Association of Schools of Public Health (ASPH), to standardize undergraduate GH curriculum. Because this thesis includes a study that surveyed Pennsylvania State University undergraduates' GH interests and post-baccalaureate career goals, the current status of GH education at this university is discussed.

## **What is Global Health (GH)?**

From the first explanation of diseases proffered by Hippocrates during the 4<sup>th</sup> century B.C., to the 14<sup>th</sup> century bubonic plague that ravaged Europe, to the 21<sup>st</sup> century H1N1 flu that reached pandemic proportions, health issues have been transcending national boundaries for hundreds of years (Merrill, 2010; Banta, 2001). Yet, although many health problems have become worldwide issues throughout history, there is no singular definition of GH.

In a 2009 article published in *Lancet*, Jeffery P. Koplan and colleagues from the Consortium of Universities for Global Health (CUGH) Executive Board defined GH as, “an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide” (Koplan et al., 2009, p.1995). CUGH emphasizes that GH is an interdisciplinary field centered on collaboration and GH equity. Moreover, GH workers should seek to incorporate knowledge, experiences, technologies, research, culture, and ideologies from diverse individuals and communities in order to identify common health problems and to establish viable solutions.

Conversely, Professor Ilona Kickbusch, who is the director of the Global Health Programme at the Graduate Institute of International and Development Studies in Geneva, Switzerland, offers a more abstract GH definition in a 2006 article published in the *Scandinavian Journal of Public Health*. According to Kickbusch, “Global health refers to those health issues that transcend national boundaries and governments and call for actions on the global forces that determine the health of people” (Kickbusch, 2006, p.561).

Because these two definitions emphasize different aspects of GH, it is difficult for GH actors, including governmental leaders, donors, health professionals, organizations, and researchers, to work towards the common goal of GH equity. As stated by the CUGH Executive

Board, “Without an established definition [of global health], a shorthand term such as global health might obscure important differences in philosophy, strategies, and priorities for action between physicians, researchers, funders, the media, and the general public” (Koplan et al., 2009, p.1993). Otherwise stated, lack of a clear and common GH definition allows for miscommunications and misunderstandings to occur amongst GH actors.

A lack of a common GH definition may also have negative ramifications for GH education programs. Within recent years, several U.S. undergraduate universities have incorporated GH studies into their curricula. However, because there is no common GH definition, programs in these higher education institutions significantly differ in course and degree offerings. For example, Duke University offers a Global Health Certificate to undergraduates; this is an interdisciplinary program with a fieldwork experience requirement (Duke Global Health Institute, 2011). Conversely, the University of Washington offers a Global Health Minor to undergraduate students, in which students focus on a particular area of GH interest, such as the environment or comparative health systems, and are not required to have a fieldwork experience (University of Washington, 2011).

Currently, no research reports on why universities chose to offer GH programs with certain requirements over others. More research needs to be conducted to understand whether curriculum-related decisions are based on university financial resources, faculty experience, relations with foreign academic institutes, etc. Nonetheless, it is essential that a recognized definition of GH be established so that GH curricula in universities throughout the U.S. can prepare students similarly and adequately for a professional career in this field. A curriculum centered around a clear definition of GH can allow students to fully understand the meaning of GH, its goals and mission, and the career opportunities that it offers.

Moreover, cohesive programs centered around a clear GH definition have the potential to speed up GH achievements. For example, once individuals enrolled in well-defined GH programs graduate from the university, they will already have the baseline knowledge needed to professionally enter the GH field, as well as the understanding of the common goal of GH equity. Therefore, a curriculum revolving around a standard definition would ultimately improve population health because less time would be spent on GH actors debating about the tenets of the field and more time would be devoted to working towards diminishing GH disparities.

### **What are the Benefits of GH Education for Undergraduate Students?**

In addition to recognizing the need for a common GH definition, the benefits of a GH education for undergraduates must also be acknowledged by academic institutions. It is important to detail the influence that GH education has on students' personal development and post-baccalaureate career goals so as to garner greater support for GH as an established field of undergraduate study. Although there is presently no data assessing the impact of GH education on the personal and professional development of undergraduate students, research has been conducted on the impacts of GH education on medical students as well as the impacts of study abroad experiences at the undergraduate level. Lessons can be learned from this literature because they provide evidence-based support for valuable professional and personal skills that a GH education and international experience can provide.

The impact of GH education on medical students cannot be assumed to be the same as the impact of this education on undergraduate students. This is because medical students are typically older in age and more focused on learning about the medical model and related clinical procedures than undergraduates. However, some benefits will be shared because it is assumed

that individuals who are studying GH, whether they be medical or undergraduate students, are at least somewhat interested in reducing GH disparities. In addition, study abroad benefits enjoyed by undergraduates can also be applied to GH students because study abroad experiences typically expose students to culturally diverse environments. Because some GH undergraduate programs require an international fieldwork experience, GH students are likely to have similar cultural learning experiences as study abroad students.

According to a study published in *Family Medicine* and *Academic Medicine*, which assessed the impact of GH fieldwork on University of Massachusetts Medical School students, GH experiences have influenced students' career choices, confidence levels, and cultural awareness (Godkin and Savageau, 2001). Researchers distributed a "Cultural Competence Self-assessment Questionnaire" to students who had participated in a global multiculturalism track that included both international and domestic immersion experiences. The results of the questionnaire revealed that students who had participated in this track had increased cross-cultural sensitivity and understanding, patience with non-English speakers, and confidence in interacting with diverse peoples.

Similarly, in a literature review published in *Academic Medicine* in 2007, researchers discussed the findings of an *Infectious Disease Clinics of North America* study published in 1995 (Drain et al., 2007); this study presented the results of a two-year follow-up survey distributed to Tulane University medical students who had experienced an international clinical rotation. The researchers found that 23% of medical students with an international rotation experience wished to work in a low-resource setting while only 6% of students who had not had this experience wanted to work in this same environment.

Similar trends were also observed in a 2004 study conducted by University of Wisconsin

and Maine Medical Center researchers (Ramsey et al., 2004). The researchers administered a four-year follow-up survey to fellows who had participated in a six-week fieldwork experience in a developing country during medical school; the study did not identify the specific countries that medical students had worked in. The researchers found that after completion of the program, 67% of these students had participated in community health projects, such as mentoring youth and volunteering in clinics that serve immigrants and the homeless. The study did not indicate if this participation was paid and if it occurred at the same time as professional training. Moreover, 74% of the fellows were working as physicians in primary care, and 29% had obtained MPH degrees.

As seen from the Drain et al. (2007) and Ramsey et al. (2004) studies, medical students participating in GH opportunities have gained increased awareness of diverse and disadvantaged communities. This greater awareness has translated into medical students incorporating specialties and participating in projects that address these healthcare needs. Like medical students with GH fieldwork experiences, it is probable that undergraduates with similar experiences will also be inclined to serve underserved communities, i.e. urban or rural, resource- and income-poor settings, in their future careers.

Because an undergraduate education in GH is often accompanied with an international fieldwork experience, the benefits of this experience can be predicted by examining previous research investigating the positive impacts of study abroad experiences for undergraduates. From 2000-2004, researchers at Michigan State University (MSU) assessed the impact of the university's study abroad program (SAP) on the professional development of its undergraduate students (Ingraham and Peterson, 2004). Data was gathered from student self-assessment and faculty observation; secondary data analysis that used student information provided in MSU's

database, such as student Grade Point Average (GPA), was also conducted. The researchers determined from student survey responses that abroad experiences helped students confirm their career choice or caused them to alter their career path altogether.

Furthermore, in a study conducted by James Madison University, researchers found that undergraduate students who studied abroad had greater global and cultural awareness than those without this experience (Clarke, Flaherty, Wright, and McMillen, 2009). Through analysis of a survey distributed to students who had participated in a semester-long SAP and to those who had not, the researchers determined that students with a SAP experience had greater interest in world events and increased cross-cultural understanding and appreciation than those without this experience. Greater global and cultural awareness are especially important for GH students to acquire because in order for GH equity to be achieved, individuals from all disciplines and regions must respectfully collaborate with one another.

It is likely that the benefits reported by undergraduates partaking in SAPs are similar to those experienced by students participating in GH fieldwork because of their similar age group and educational environment. Both the MSU and JMU researchers found enhanced self-confidence in undergraduates who had participated in a SAP (Ingraham and Peterson, 2004; Clarke et al., 2009). Students felt more self-reliant and more comfortable in forming relationships with people from differing cultures. Most notably, the JMU researchers found that some students felt comfortable serving as mediators between their home community and foreign communities because they had become more comfortable with intercultural communication (Clarke et al., 2009).

In addition, according to a literature review conducted by researchers at the Universities of California, San Francisco and Cape Town, undergraduate GH education is also institutionally

beneficial (Macfarlane, Jacobs, and Kaaya, 2008). Universities that offer GH education programs can acquire international prestige by educating the world's future GH leaders. An international reputation is favorable for academic institutions to have because it attracts a diverse group of high-achieving researchers, educators, and students. In turn, GH research programs may be ignited or further developed as faculty members develop relationships with academic institutions from around the world. In addition, inter-institutional unity is strengthened as collaboration amongst different disciplines within a university is encouraged as a means of developing successful GH programs. Consequently, academic institutions are able to generate increased revenue as a result of the benefits of their GH programs while also meeting demands of students who are eager to study GH.

Recent research has shown that GH education also has the potential to specifically help the U.S. government in promoting its image and national interests. According to a 2009 report by the Center for Strategic & International Studies (CSIS) Global Health Policy Center, GH education in U.S. universities can serve as a form of "self-protection" for the federal government (Merson and Chapman Page, 2009). With the potential of severe, rapidly spreading, health threats, similar to the 2003 severe acute respiratory syndrome (SARS) epidemic, it is in the self-interest of the U.S. government to prepare its citizens against any future GH outbreaks. As suggested by CSIS, this preparation can be achieved with GH programs that educate undergraduate students on GH issues and also prepare them for careers in this field. As future leaders of GH and representatives of the nation, these students will work towards GH equity, will protect and warn the nation on potential health hazards, and will promote the image of the U.S. as a country devoted to improving the health and livelihoods of individuals throughout the world.



## **Why do Undergraduate Students have Growing Interests in Global Health?**

Global health should not be established as a standardized academic field of study that properly prepares students to become successful, future GH leaders, solely because it benefits undergraduates, universities, and the U.S. government. As mentioned previously, students are expressing growing interest in this field. Because higher education institutions are responsible for preparing students for their post-baccalaureate schooling and/or future careers, they must develop programs that adequately provide students with the knowledge and skills to continue in GH post-college. Specifically, universities need to determine why students are interested in GH so that they can develop programs that are tailored to students' interests.

Recent research has demonstrated that over the past five years, interest in GH education and experiences among undergraduate students has mushroomed. In a 2009 survey administered to 37 U.S. and Canadian universities, CUGH researchers found that from 2006-2009, the number of students enrolled in undergraduate GH programs more than doubled ("CUGH: Survey of University-Based," 2009). CUGH believes that GH student interest drastically increased due to the AIDS epidemic, ease of travel, and rapid development of information technologies, especially in telecommunications. Because CUGH's survey analysis does not report which universities participated in its research, it cannot be determined if GH interest is greater at specific types of institutions, such as at public or private universities. CUGH researchers also found that these 37 universities had a combined total of 105 student-founded and student-led, GH organizations with an average of two to three of these organizations per school ("CUGH: Survey of University-Based," 2009). These are significant statistics because they show that not only is student interest growing, but that students are also creating their own GH opportunities and are concerned about worldwide health disparities.

It is important to understand the key trends in students' reasons for wanting to pursue GH studies and their professional interests and goals in this field in order to design GH curriculum that interests students as well as prepares them for successful GH careers. Dr. Michele Barry, the cofounder of the Yale-Johnson & Johnson Physician Scholars in International Health Program, has noticed common factors in medical students interested in GH from her 25 years of personal experience of working with students in this program (Panosian and Coates, 2006). Barry has observed that many students who study GH are those with significant travel experience. Also, some students who are first-generation Americans from developing nations study GH because they feel the need to give back to their community and have a greater awareness of the needs of marginalized peoples. In addition, because daily media coverage nowadays provides much information regarding global events, Barry highlights the media as influencing students to have greater global perspectives than before.

The 2009 report by CSIS confirms the role of global media in causing undergraduate students to have greater awareness of world events at younger ages (Merson and Chapman Page, 2009). CSIS believes that this increased awareness is one of the factors prompting universities to internationalize their education programs and adopt GH studies. Although Barry's observations pertain specifically to medical school students, it is probable that the motivations expressed by medical students to enter GH are similar to those expressed by undergraduate students. This is because some undergraduates who are interested in GH may also be interested in professions as doctors, nurses, therapists, and other healthcare-related jobs.

Although there is no research evidence yet available to suggest so, it is possible that the growing push by many universities to globalize their images and offer international programs has increased students' interests in GH. For example, Haverford College has a Center for Peace and

Global Citizenship (CPGC). This Center provides students of all fields with opportunities to engage in domestic and international internships, service learning, and research. CPGC also aids faculty in integrating service learning into the curricula, hosts on-campus events regarding global issues, and funds students and faculty who wish to engage in globally-focused projects (Haverford College, 2011). Support given by universities, such as Haverford College, may be highly influential in terms of students' interest in GH studies.

The CSIS report also links student activism as a result of the September 11, 2001 terroristic attacks, as well as the ongoing wars in Iraq and Afghanistan, to increased undergraduate interest in GH studies. These recent events have impassioned many young Americans to serve not only their nation but also other countries and communities throughout the world. Moreover, due to the rapid expansion of the Internet and online social media, students are exposed to diverse cultures, peoples, and low-income nations with the click of a computer mouse. Therefore, the combination of the strong spirit of social activism with the easy access to knowledge of global disparities in health and living conditions implants in students a growing desire to serve low-income nations and study GH (Merson and Chapman Page, 2009).

In addition, CSIS has found popular culture and industry to have a significant influence on students and their decision to pursue GH studies (Merson and Chapman Page, 2009). World-famous celebrities, such as Bono, George Clooney, and Oprah Winfrey, have used their fame to advocate for reductions in worldwide health, economic, social, and gender disparities. They have hosted highly publicized campaigns that support health as a basic right and given large, monetary donations to foundations, such as the Bill & Melina Gates Foundation. Furthermore, since 2006, the clothing and music industries have collaborated on the (RED) product campaign in order to increase awareness of and funding for the global HIV/AIDS epidemic by selling clothing items

and musical devices with the label (RED). The predominance of popular culture and industry and their goal for global equity have had a constant presence in the lives of young Americans, and as a result, undergraduate students have grown up in a global society that is concerned about the lives of individuals throughout the world. Therefore, these students want to study GH because they have been raised in a society that encourages them to care for the needs of others, regardless of distances and nationalities.

Because an abroad fieldwork experience is a core element in many universities' GH programs, it is likely that factors influencing a student to study abroad will be similar to reasons that a student pursues GH. In a 2008 study, researchers from Ball State and Stetson Universities evaluated the factors that were influential in the decisions to study abroad for undergraduate business students enrolled at a midsize Midwestern university (Naffziger, Bott, and Mueller, 2008). Through a web-based survey, students responded to a series of questions about their demographic information, their future career/postgraduate aspirations, and their level of travel. According to the findings, a young female student with prior travel experience, a reasonable level of extracurricular involvement, some knowledge of a foreign language, and the goal to pursue a graduate degree after working for a few years is most likely to consider studying abroad.

Research published in *Human Resource Management* found that undergraduate extracurricular involvement significantly increased students' communication and initiative skills and improved their decision-making and teamwork abilities (Rubin, Bommer, and Baldwin, 2002). In addition, a 2011 study published in *Journal of Youth and Adolescence* found that adolescents who were involved in extracurricular activities had greater self-esteem than those without this experience (Kort-Butler and Hagewen, 2011). Thus, students with extracurricular

experience may express greater interest in SAPs because the nature of these programs often require that students are comfortable with communicating with others and taking responsibility for themselves in foreign countries. It can be surmised that students with extracurricular experiences are also interested in GH, because like study abroad, this field requires that students are able to communicate and collaborate with diverse individuals, and also that they are comfortable with leadership positions and responsibilities.

Furthermore, qualitative research has found that students with second language skills are interested in abroad experiences because they perceive international travel as an opportunity to practice their language skills (Talbert, 2009). This finding suggests that students with foreign language skills may be more interested in GH than those without these skills, because some GH programs may involve travel to non-English speaking communities.

Moreover, researchers at the University of Iowa and the North Carolina State University found that socioeconomic status (SES), pre-college capital, and capital gained during the first year of college are important, intertwining factors that significantly affect a student's intent to study abroad (Salisbury, Umbach, Paulsen, and Pascarella, 2009). The researchers distributed a survey in Fall 2006 to over 4,000 freshmen enrolled in 19 different colleges of a variety of size, institutional type, and geographic location. The study found that 85% of students from a high SES, high pre-college capital, and high first year capital intended to study abroad during their college education. In contrast, only 31% of students from a low SES, low pre-college capital, and low first year capital intended to study abroad while enrolled in college. The researchers found that of these three factors, capital acquired before college is the determining factor in students' decision to study abroad.

For example, even if students from low to average SES experience increases in capital

during their first year, such as acquiring a full scholarship to study abroad, they are still less likely to participate in a SAP than those from a high pre-college capital (Salisbury, Umbach, Paulsen, and Pascarella, 2009). The researchers determined that despite these undergraduate students' newly gained capital during their first year, these students do not value a study abroad experience as overall beneficial to their education. This is because their pre-college experiences neither involved many social interactions that expanded their networks for accessing knowledge nor cultural experiences that challenged their perspectives. Researchers also found that there was a lack of awareness for many students with low to average SES backgrounds regarding the possibility of a study abroad experience in their future college education.

Because fieldwork experience in a foreign community is a requirement for some GH education programs, such as for Northwestern University's Minor in Global Health Studies and Arizona State University's Bachelor of Arts in Global Health, it is possible that costs of travel and study will prevent students with low SES, low pre-college capital, and low first-year college capital from pursuing GH studies (Northwestern University, 2010; Arizona State University, 2008). Therefore, in order for undergraduate GH programs to be realistic and also interesting for students with low incomes, faculty and advisers need to provide these students with grants for GH travel and academic expenses. In addition, faculty and advisers must actively promote their GH program to students of low-income backgrounds. Specifically, they can work directly with student aid offices to ensure that students receiving financial aid, who are typically from low to average SES backgrounds, are provided with information about undergraduate GH opportunities and the benefits of GH study.

## **What Types of GH Programs Currently Exist at U.S. Universities?**

Currently, no accreditation board for higher education has outlined specific requirements that must be met in a university's undergraduate GH program. As a result, universities across the nation are incorporating GH studies in various forms, including GH as a minor, certificate, or additional interdisciplinary component to students' main area of study. Thus, students are provided with a variety of different GH opportunities that they can pursue based on their personal preferences. However, this diversity of undergraduate GH programs is a cause for concern because it means that each program has a different mission and varying goals. Consequently, students are prepared for future GH careers and graduate studies with different skills and background knowledge.

As discussed before, undergraduate students need to understand and embody similar GH principles so that they have a clearer focus of worldwide health challenges and ways to address them. Specifically, academic institutions from across the U.S. need to establish core competencies for an undergraduate GH program. They should draw on core competencies that have been established in the professional fields of medicine, nursing, and public health, among others, as a framework for establishing undergraduate GH competencies that educate and prepare students with similar goals and skills.

In order to appreciate the diversity of undergraduate GH programs, it is important to note examples of current GH programs. For example, Middlebury College offers a Global Health Minor, which requires students to take an introduction course to GH, a methods course in statistics, epidemiology, or the research process, and three courses in either biology, economics, geography, political science, and/or sociology and anthropology (Middlebury College, 2011). Although Middlebury students are encouraged to study abroad and become proficient in a second

language, these are not requirements for completion of the minor (Middlebury College, 2011).

Conversely, the University of Wisconsin-Madison offers an Undergraduate Certificate in Global Health to students of all disciplines. Students complete a series of core courses regarding the history of GH and its relation to public and environmental health, elective courses offered in human and animal health, environmental health, agriculture, nutrition, and/or life sciences, and either a domestic or international fieldwork experience (University of Wisconsin-Madison, 2010). Stanford University offers courses in GH, emphasizes fellowships and service-learning programs, and hosts lecture series on the environment and health in order to promote GH learning but does not offer any degree or certification (Stanford School of Medicine, 2011). As seen from these examples, GH is a popular area of undergraduate study that is offered in many different types by universities across the U.S. The various GH education requirements point to the current lack of consensus on how an undergraduate GH program should be structured.

Therefore, in 2008, CUGH formed to address the lack of cohesiveness in both undergraduate and graduate GH programs (“Background,” 2010). As of 2011, CUGH consists of 47 U.S. and Canadian, public and private universities and has received grants from the Bill and Melina Gates Foundation and the Rockefeller Foundation. At CUGH’s 2008 inaugural meeting, members identified five key weaknesses in academic GH programs (“Meeting Report,” 2008). These weaknesses have prevented academic institutions from creating strong programs that adequately address GH issues and prepare students for GH careers. These shortcomings included: a lack of an agreed GH definition; no standardized curricula and competencies; mismanaged fieldwork experiences due to ill-prepared students and faculty; absence of coordination amongst universities with similar GH program goals; and, the lack of a collaborative, sustainable partnership between high- and low-resource institutions.



To date, CUGH has neither issued recommendations for a standard undergraduate or graduate curriculum nor for professional skills; however, it has served a vital role as a support system for universities with GH programs. CUGH has actively promoted GH as a field of undergraduate study, releasing reports and working with political leaders, donors, and the medical community to strengthen the GH field (“Policy, Education, and Research,” 2010). For example, CUGH released a 2009 publication entitled, “Saving Lives: Universities Transforming Global Health.” In this report, specific universities’ GH programs and their achievements in improving health in international and domestic settings are highlighted (Donnelly, 2009). Furthermore, CUGH hosts an annual meeting to evaluate the current status of GH at the undergraduate level through research and lecture presentations (“Meetings,” 2010).

CUGH is not alone in its efforts to improve undergraduate GH curricula. Since the beginning of the 21<sup>st</sup> century, the Association of American Colleges and Universities (AAC&U) has made it a priority to support the design of undergraduate GH curricula as well as to create a general education plan that introduces students of all disciplines to a variety of global issues. In 2002, AAC&U launched the multi-project, national initiative entitled Shared Futures: Global Learning and Social Responsibility. The goal of this initiative is to educate undergraduates on global issues so that they can eliminate global inequities upon embarking on their future careers (“Shared Futures: Global Learning,” 2011). Currently, there are 32 universities comprising 24 states that are members of this initiative.

A major part of this initiative involves an online social media network that allows university educators to share their teaching resources and ideas with one another on all global issues, including topics related to health, religion, ethics, economics, culture, sustainability, and global citizenship (Anderson, 2011). In June 2010, the Shared Futures Initiative launched

General Education for a Global Century. The goal of this two-year project is to design an undergraduate, globally focused, general education curriculum. Shared Futures' members are collaborating together to develop an academic plan that emphasizes scientific inquiry and multifarious analyses of worldwide issues ("General Education," 2011).

Moreover, in October 2008, the AAC&U, in partnership with the Association for Prevention Teaching and Research (APTR), released *Recommendations for Undergraduate Public Health Education* (Riegelman and Albertine, 2008). The goal of this report was to outline a public health (PH) curriculum that educates students on the basics of PH and introduces them to PH practical experiences through service learning and shadowing experiences. The curriculum's core competencies were identified during a November 2006 conference comprised of representatives from AAC&U, APTR, ASPH, and Council of Colleges of Arts and Sciences (CCAS). The conference identified PH, epidemiology, and GH as essential components of an undergraduate PH curriculum. In regards to GH, the report recommends a four-part curriculum model. They are as follows:

- Basic Principles of Global Health
- Health and Society
- The Burden of Morbidity and Mortality
- Global Cooperation for Health

With this framework, the report maintains that students will gain understandings of global disease burdens, social, cultural, and economic determinants of health, and the interrelationship of various GH actors and organizations. These four areas of GH were specifically identified because they would adequately educate students on the essential components and principles of GH and would encourage them to critically analyze health issues from a global perspective.

George Washington University's (GWU) Department of Global Health adapted the undergraduate, GH core competencies published by the AAC&U and APTR into a one-semester,

3-credit course, entitled Global Health and Development (Barbiero, 2008). In a 2008 *American Journal of Preventive Medicine* publication, Dr. Victor K. Barbiero, the GWU professor of this course, states that the primary goal of the course is for undergraduates to view health issues as global citizens, and not solely as citizens of the Western world. To achieve these learning goals, students study, research, and discuss numerous GH issues and interventions, covering topics that include maternal and child health, drug resistance, population growth, and gender inequities.

Furthermore, the class integrates short, web-based courses provided by the United States Agency of International Development's (USAID) Global Health eLearning Center (Barbiero, 2008). Although originally designed for the continuing education of governmental health professionals, students are also able to access these courses, which provide overviews and case studies of GH issues (USAID, 2010). Although Dr. Barbiero does not cite specific data, he asserts that this course has enjoyed a positive reception amongst GWU's undergraduate students and faculty.

It is clear that active steps are being taken by CUGH and AAC&U to promote GH as an essential field of study. By universities collaborating together to develop a standardized GH curriculum, students will have a clearer understanding of the field and its professional standards. As a result, undergraduates who plan to have GH careers will be better prepared when they enter the professional GH field.

### **What should be the Core Competencies of Undergraduate GH Programs?**

As previously discussed, diverse programs that educate students with different goals, values, skills, and knowledge is beneficial to students, in that they have the opportunity to select from a variety of different GH programs based on their interests. For example, undergraduates

who wish to travel abroad during college may pursue a GH program that requires students to have this experience, or students who do not wish to study a foreign language may chose a GH program that does not require this proficiency. However, the variety of GH programs is also detrimental to the field because it fosters misunderstandings and contrasting priorities amongst future GH leaders. Essentially, it creates more obstacles in eliminating GH inequities. Although undergraduate accreditation councils have yet to establish GH core competencies, ASPH released its final version of GH competencies for PH graduate schools in November 2011.

In September 2009, the ASPH Global Health Committee, which is comprised of 11 deans of graduate schools of PH from the U.S., France, and Mexico, launched the Global Health Competency Development Project. The creation of this project was prompted by the 2009-2010 H1N1 Swine Flu pandemic, in which ASPH realized that GH issues would be addressed more efficiently if they trained GH professionals to possess similar skills and knowledge (Biberman, 2011). Therefore, in November 2011, the committee released a final draft of seven core competencies that it recommends for GH graduate programs. ASPH believes that the suggested competencies are vital to the promotion and sustainability of GH in academic institutions and to the creation of a cohesive, standardized GH curriculum (Biberman, 2011). Table 1 outlines ASPH's seven core competencies, their definitions, and key skills needed to carry out these recommendations. It must be noted that not all of the suggested skills are included in this table. The complete list of skills can be viewed at [www.asph.org](http://www.asph.org).

Although the Global Health Core Competency Development Project does not directly pertain to undergraduate GH curriculum, the recommendations put forth by ASPH can serve as an important model for the future development of undergraduate GH studies. This is because the core competencies emphasize the basic principles of GH, which is that it strives for health equity

through collaboration of various actors and needs to be constantly evaluated through evidence-based analytical measures in order to achieve this goal. In order to develop interesting GH programs, academic institutions need to take into account undergraduate students' specific GH interests. Nonetheless, in addition to providing GH opportunities that students are interested in, universities should also integrate core competencies, such as those recommended by ASPH, into their GH curricula because academic institutions are responsible for preparing students for their future post-baccalaureate studies and/or careers. These competencies will educate undergraduates on broad yet essential skills, such as collaboration and ethical reasoning, which they need to develop as future GH professionals.

**Table 1. ASPH Global Health Competency Model – Final Version 1.1**

<b>Core Competency</b>	<b>Description</b>	<b>Key Skills</b>
<b>Capacity Strengthening</b>	Broad sharing of knowledge, skills, and resources for enhancement of global PH programs, infrastructure, and workforce to address current and future global PH needs	<ul style="list-style-type: none"> <li>• Design sustainable workforce development strategies for resource-limited settings</li> <li>• Identify methods for assuring health program sustainability</li> <li>• Assist host entity in assessing existing capacity</li> <li>• Develop strategies that strengthen community capabilities for overcoming barriers to health and well-being</li> </ul>
<b>Collaborating and Partnering</b>	Ability to select, recruit, and work with a diverse range of GH stakeholders to advance research, policy, and practice goals, and to foster open dialogue and effective communication	<ul style="list-style-type: none"> <li>• Develop procedures for managing health partnerships</li> <li>• Promote inclusion of representatives of diverse constituencies in partnerships</li> <li>• Value commitment to building trust in partnerships</li> <li>• Exhibit interpersonal communication skills that demonstrate respect for other perspectives and cultures</li> </ul>
<b>Ethical Reasoning and Professional Practice</b>	Ability to identify and respond with integrity to ethical issues in diverse economic, political, and cultural contexts; and to promote accountability for impact of policy decisions upon PH practice at local, national, and international levels	<ul style="list-style-type: none"> <li>• Apply the international standards for the protection of human research subjects in diverse cultural settings</li> <li>• Analyze ethical and professional issues that arise in responding to PH emergencies</li> <li>• Explain the mechanisms used to hold international organizations accountable for PH practice standards</li> <li>• Promote integrity in professional practice</li> </ul>
<b>Health Equity and Social Justice</b>	Framework for the analysis of strategies to address health disparities across socially, demographically, or geographically defined populations	<ul style="list-style-type: none"> <li>• Apply social justice and human rights principles</li> <li>• Implement strategies to engage marginalized and vulnerable populations in making decisions that affect their health and well-being</li> <li>• Critique policies with respect to impact on health equity and social justice</li> <li>• Analyze distribution of resources to meet the health needs of marginalized and vulnerable groups</li> </ul>
<b>Program Management</b>	Ability to design, implement, and evaluate GH programs to maximize contributions to effective policy, enhanced practice, and improved and sustainable health outcomes	<ul style="list-style-type: none"> <li>• Conduct formative research</li> <li>• Apply scientific evidence throughout program planning, implementation, and evaluation</li> <li>• Develop monitoring and evaluation frameworks to assess programs</li> <li>• Utilize program management techniques throughout program planning, implementation, and evaluation</li> </ul>
<b>Socio-cultural and Political Awareness</b>	Conceptual basis with which to work effectively within diverse cultural settings and across local, regional, national, and international political landscapes	<ul style="list-style-type: none"> <li>• Describe roles and relationships of the entities influencing GH</li> <li>• Analyze impact of transnational movements on population health</li> <li>• Describe multi-agency policymaking in response to complex health emergencies</li> <li>• Describe interrelationship of foreign policy and health diplomacy</li> </ul>
<b>Strategic Analysis</b>	Ability to use systems thinking to analyze a diverse range of complex and interrelated factors shaping health trends to formulate programs at the local, national, and international levels	<ul style="list-style-type: none"> <li>• Conduct a situation analysis across a range of cultural, economic, and health contexts</li> <li>• Conduct comparative analyses of health systems</li> <li>• Explain economic analyses drawn from socio-economic and health data</li> <li>• Design context-specific health interventions based upon situation analysis</li> </ul>

Table 1 displays the seven core GH competencies, their definitions, and essential skills put forth by the ASPH in November 2011. (Association of Schools of Public Health, 2011)

## **What is the Current Status of GH Education for Undergraduates Enrolled at Penn State?**

As part of this thesis, an online survey was distributed to undergraduate students enrolled at Penn State, in order to assess student GH interest and post-college goals. An outline of the research methodology, as well as the results and implications, are found in later chapters. In addition to GH programs that are offered at other U.S. universities, it is especially important to recognize the specific GH opportunities that Penn State provides to its student body so that the study's findings can be directly used to improve PSU's current GH offerings.

Like at many academic institutions, GH is a field of study growing in popularity amongst PSU students and faculty. As of November 2011, PSU students lead over 15 GH organizations, such as GlobeMed, Global Medical Brigades, and Unite for Sight, all of which, broadly speaking, aim to improve the health of others throughout the world (Division of Student Affairs, 2008). Also, PSU's University Office of Global Programs (UOGP) offers education abroad opportunities to establish global citizenship and leadership in its students (Penn State, 2011).

A 2009 report by UOGP found that although only 3.53% of PSU-University Park students studied abroad during the 2008-2009 academic year, this percentage has increased every academic year since 2002-2003 with 500 more students studying abroad in 2008-2009 than the prior academic year ("Penn State University Office," 2009). PSU also offers several international outreach and service opportunities and "Embedded Programs," which integrate on-campus coursework with education abroad experiences. For example, UOGP offers a 15-week "Parks and People" program in South Africa that allows students to conduct research and implement service projects in South African parks and communities ("Cape Town: South Africa," 2011).

In addition to GH student organizations and study abroad opportunities, Penn State also offers undergraduate students of all majors an interdisciplinary minor in GH (College of Health

and Human Development, 2010). Launched in 2010, the minor teaches students to critically analyze GH issues and their possible solutions, as well as understand the core of GH as equitable partnerships amongst various GH actors. It also prepares students for post-baccalaureate careers in GH. The minor consists of four prescribed courses, which are listed below:

- BB H 305 – Introduction to Global Health Issues
- BB H/HPA 440 – Principles of Epidemiology
- BB H 390A – Preparation for Global Health Fieldwork Experience
- BB H 390B – Global Health Fieldwork Experience

These core courses introduce students to key GH concepts through classroom lectures and practical experiences. Minor students are also required to complete nine credits in an array of disciplines/fields, including in economics, anthropology, women's studies, geography, and community environment and development, to supplement their core GH courses.

The active student involvement and leadership in GH organizations, the growing enrollment of students in SAPs, the large number of education abroad and international outreach programs provided by UOGP, and the GH minor have exemplified that Penn State is establishing a global focus and agenda in its students. PSU has adapted to the globalization of society and health, providing increasing opportunities for students to study GH through classroom, abroad, and leadership experiences.



## **CHAPTER 2**

### **METHODS**

This chapter outlines the research methodology that was used to explore the reasons for, and the professional interests and goals of, undergraduate students who are interested in the global health (GH) field. An online survey was administered to a convenience sample of undergraduates enrolled at Pennsylvania State University-University Park, a large, public university of 38,964 students that is located in Northeastern United States (Penn State University Budget Office, 2011). In this chapter, the methods used to recruit study participants and the strategies employed to protect human subjects are detailed. In addition, details regarding the survey instrument and data analysis process followed are also presented.

#### **Recruitment**

Undergraduates aged 18 years or over, who were currently enrolled at Penn State-University Park (UP), and who had declared, or were seeking to declare, any major field of study were eligible to participate in the study. Students younger than 18 years were not invited to participate because their participation would have required parental consent. Gaining such consent would have unnecessarily complicated the participant recruitment process. Moreover, because most college students are between 18 and 24-years-old, the research team considered it unnecessary to recruit students younger than this age range. Students older than 24 years were eligible to participate because the researchers were also interested in the perspectives and career goals of mature age students. Participants were required to be enrolled at UP with a declared or intended major because these characteristics were similar to the entry criteria for Penn State's GH minor.

The study relied on a convenience sample of Penn State undergraduates because this population was easy to contact, and the researchers believed that this sample would adequately answer the survey questions. In addition, a convenience sample was used because an accurate sampling frame was not obtainable, i.e. in designing the survey, the research team had no mechanism for determining the exact number of Penn State students who were interested in studying GH.

Students received invitations to participate in the survey via a recruitment email sent to their academic colleges, professors of GH-related courses, and faculty/student leaders of GH-focused programs and organizations. If the colleges, professors, program directors, and organization leaders were willing to send the survey, a student email with the survey link was sent to them for forwarding to their respective students/organization members. Out of 38,964 Penn State-UP undergraduates, 194 responded to the survey, which represented 0.50% of the Penn State student body. Specifically, nine academic colleges and the coordinators of one major, two minors, and one academic program/certificate agreed to send the survey to their undergraduate students. Also, professors of six courses and the student-leader of one organization sent the survey to students.

Some colleges refused to send the survey because it was against their policies; some professors, program directors, and student leaders did not forward the survey because they did not see how it was pertinent to their students. Others gave no reason for their decision to not send the survey. Table 2 details the colleges, programs, and organizations invited to participate and their decisions to send the survey to their students/members. Appendix A comprises a copy of the faculty/staff recruitment email and Appendix B a copy of the student email.

**Table 2. Academic Colleges, Majors, Minors, Certificates/Programs, Courses, and Student Organizations that Agreed to Send Survey to Undergraduates**

	Sent survey to students (Yes/No)
<b>Academic College</b>	
College of Agricultural Sciences	Yes
College of Arts and Architecture	No
College of Communications	No
College of Earth and Mineral Sciences	Yes
College of Education	No
College of Engineering	Yes
College of Health and Human Development	Yes
College of Information Sciences and Technology	Yes
College of the Liberal Arts	No
Division of Undergraduate Studies	Yes
Eberly College of Science	Yes
School of Nursing	Yes
Schreyer Honors College	Yes
Smeal College of Business	No
<b>Academic Major</b>	
Agricultural and Extension Education	No
Community, Environment, and Development	Yes
Environmental Resource Management	No
Global and International Studies	No
Immunology and Infectious Disease	No
International Politics	No
World Languages (K-12) Education	No
<b>Academic Minor</b>	
Agricultural Economics and Rural Sociology	No
Engineering Entrepreneurship	No
Engineering Leadership Development Minor	No
Environmental and Renewable Resource Economics	Yes
Environmental Resource Management	No
Global Health	Yes
Global Security	No
Global Studies	No
International Agriculture	No
International Business	No
International Studies	No
Leadership Development	No
Science, Society and the Environment of Africa	No
Youth and Family Education	No

Academic Certificate/Program	
Ag2Africa Program	No
Department of Geography	Yes
Education Abroad, University Office of Global Programs	No
Engineering and Community Engagement Certificate	No
Global Engagement and Leadership Experience	No
Global Leadership Initiative	No
International Engineering Certificate	No
Parks and People: South Africa Program	No

Academic Course	
A E 498A Design-Build Solar PV: Honduras	No
AEE/INTAG 499A International Agricultural Leadership	No
AG BM 388 Agribusiness in the Global Economy	No
AGECO 499B Sustainable Agriculture and Biodiversity in Brazil	No
ANTH 455 Global Processes and Local Systems	No
BB H 305 Introduction to Global Health Issues	Yes
BB H 407 Global Health Equity	Yes
CED 230 Development Issues in the Global Context	No
CED 410 The Global Seminar	Yes
CED 499C Agriculture to Africa	No
EDSGN 497 Projects in Community Service Engineering	No
EM SC 470 W Collaborative Research on Climate Change	No
ENGR 497D Leadership, Innovation, and Global Water Resource Challenge	No
ERM CED 499 Foreign Studies in Costa Rica	No
GEOG 429 Geographic Perspectives on Global Urbanization	No
GEOG 435H Global Change and Sustainability	Yes
GEOG 498D Global Citizenship	Yes
H&HD 297A/B Global Leadership Initiative	No
H&HD 497B Global Leadership	No
HD FS 469U Family Change in the Global Economy	No
EDSGN 452 Projects in Community Service Engineering	No
I E 469 Global Industrial Engineering Experience	No
IST 445H Globalization Trends and World Issues	No
LER 475H (GEOG 475H) Labor in the Global Economy: U.S. and South African Perspectives	No
MKTG 445 Global Marketing	No
NUTR/S T S 430 Global Food Strategies: Problems and Prospects for Reducing World Hunger	No
PL SC 481 Global Political Economy	No
WMNST 102 Women of Color: Cross-Cultural Perspective	No
WMNST 479A Latin American & Caribbean Cultures: Race & Gender in the Americas	No

Student Organization	
Care for AIDS	No
Foundation for International Medical Relief of Children	No
Global Business Brigades	No
Global Engagement and Leadership Experience	No
Global Medical Brigades	No

Student Organization (Continued)	
Global Water Brigades	No
GlobeMed	Yes
Keep A Child Alive	No
Mission: Malawi	No
Operation Smile	No
Tippy-Taps for Africa	No
UNICEF	No
Oxfam	No
Unite For Sight	No
World Outside My Shoes	No
World Food Program	No

Table 2 displays the colleges, courses, programs, and student organizations that were sent the survey. Those highlighted in blue agreed to send the survey to their respective undergraduates.

### **Protection of Human Subjects**

The online survey was conducted as part of a larger, mixed methods study designed to investigate undergraduate GH curricular issues. As part of this study, Dr. Melina T. Czymoniewicz-Klippel (honors advisor) and Dr. Linda L. Caldwell (honors co-advisor) are analyzing undergraduate GH curriculum at other U.S. universities. In Spring 2012, Ms. Bridgette Carrier (student researcher) will perform in-depth interviews on students to qualitatively explore why they are interested in GH and their GH interests and career goals.

Pennsylvania State University's Office for Research Protections Institutional Review Board exempted this study from initial and ongoing review on September 11, 2011. This study received an exempt approval because the information obtained from the survey was recorded in such a way that the participants could not be identified. This research was also exempted because none of the survey questions require participants to share information that would either subject them to any criminal or civic liability or damage their financial standing, employability, and reputation.

Study participants received informed consent information at the start of the survey. This

information highlighted that although their participation was confidential and anonymous, confidentiality would be maintained to the degree permitted by the technology used. Participants were also informed that no guarantees could be made regarding the interception of data sent via the Internet by any third parties. By clicking the “I agree” box located below the informed consent information and by submitting the survey, participants implied that they read the information and consented to take part in the research. A copy of the implied informed consent for survey participation can be found in Appendix C.

The data was stored and secured in a locked/password-protected file that was only accessible to the following members of the research team: Ms. Rachel Criner (student researcher), Ms. Bridgette Carrier (student researcher), Dr. Melina Czymoniewicz-Klippel (honors advisor), and Dr. Linda Caldwell (honors co-advisor). The data will be destroyed and permanently deleted three years after the close of the study using special security software, such as O&O SafeErase.

### **Survey Instrument**

A 10-15 minute online survey of 60-76 questions was administered to undergraduate students who agreed to participate in the study. Students accessed the survey via a link provided to them in the recruitment email. Three Penn State undergraduates and two alumni, all of whom were known to the student researcher, pilot tested the survey. More specifically, the survey was pilot tested by a Penn State GH minor undergraduate in order to assess if the survey questions appropriately addressed GH, such as if the most common GH opportunities and future GH careers were listed. A Penn State Information Sciences and Technology (B.S.) alumnus tested the survey for any software glitches. Moreover, a Penn State Art Education (B.S.) alumnus and two

Penn State undergraduates, seeking degrees in International Politics (B.A.), tested the survey to determine the survey's timeframe and readability. The survey used skip logic to direct participants to specific questions based on their previous answers. This caused the number of questions to range from 60 to 76 because not all of the questions pertained to every participant.

The survey instrument was administered through the online survey software, Qualtrics. An online survey, rather than a paper survey, was used because the researchers predicted that this former method would generate a greater sample size since college students frequently use the Internet. Furthermore, an online format was easy for students to access because all Penn State students have a university email account. The survey was initially available for students to complete between September 20, 2011 to October 2, 2011. The initial period of two weeks was chosen because it was thought that since this was a web-based survey sent to thousands of undergraduates, many students would have easy access to it and thus, promptly complete it. After the first round, 183 students had filled out the survey. The survey reopened from October 2, 2011 to October 8, 2011 because the research team desired more responses. The survey closed on October 8 with 194 responses because at this point, no new participants were responding to the survey.

As far as the researchers were aware, no surveys regarding GH interests for undergraduate students existed prior to this study. Therefore, questions were designed based on the honor advisor's experience as coordinator of Penn State's GH minor. In addition, survey questions were also based on factors and trends identified in previous reports and research studies on GH education and similar topics, including undergraduate study abroad programs and GH programs at academic medical institutions (see Chapter 1).

The survey questions were either in multiple-choice or free-response format and divided

into five categories: demographic information, undergraduate education information, international travel experience, language skills and cultural experience, and GH interest and future plans. The first category consisted of 11 questions that asked students for their gender, age, citizenship, and financial background. The section on undergraduate education contained 18 questions regarding the participants' academic year and performance, major and/or minor, honors status, and involvement in extracurricular activities. The international travel experience category had 10 questions about students' previous foreign travel and study abroad experience.

The section on language skills and cultural experience consisted of 15 questions, which asked participants about their familiarity with foreign languages and their previous interactions with diverse communities in the U.S. The final section contained 19 questions regarding students' interests in GH in undergraduate study and GH career/other plans post-college. Participants were also asked about GH opportunities they would be interested in engaging in during their undergraduate years, benefits and skills they would like to gain through studying GH, and GH professional goals that they wished to pursue post-college. The survey questions can be found in Appendix D.

Because students voluntarily participated in the survey, they were able to withdraw from the study at any time and did not have to respond to any questions that they did not want to answer. They were only able to respond to the survey questions once and were able to return to previous questions to add or change their responses, if desired. Participants did not receive any financial or academic incentives for the completion of this survey. This is because it was thought that students who chose to fill out the survey were those who had at least a minimal interest in GH and would, therefore, be willing to respond based on this interest in GH rather than for financial gain or academic credit.



## **Data Analysis**

Data was statistically analyzed using Statistical Package for the Social Sciences (SPSS) 18.0 for Windows software. Descriptive statistical tests were performed to determine the characteristics of the study sample. Frequency tests showed how many people chose certain responses. Moreover, chi-square tests for independence were performed using cross tabulation analyses to analyze relationships between two variables. Two-sided p-values to test for statistical significance of specific relationships were recorded. P-values could not be recorded for certain relationships in which at least one variable upon which measures of association were computed was a constant; these values are reported as N/A (“not applicable”) in the results section.

The 73 multiple-choice questions were analyzed via the aforementioned statistical tests. The three open-ended questions (i.e. questions 30, 41, and 67) were not analyzed because the answers provided were very diverse and upon preliminary analysis, were found to not provide as useful information as that which was gained through the multiple-choice questions.

## CHAPTER 3

### RESULTS

This chapter presents the results from the online survey. It includes participants' responses to their demographic and undergraduate education information as well as their international travel experience. In addition, results regarding participants' language skills and cultural experiences and interests in GH during and post-college are also detailed. Multivariate frequency distribution results of strong GH interest and a specific variable, such as gender, are presented throughout this chapter, for several different variables. In all, 194 Penn State undergraduates responded to the survey. Of these participants, 193 consented and 161 fully completed the survey within the 19-day timeframe. The completion rate of the survey was 83%, with 32 participants not fully completing all of the survey questions.

#### **Demographic Information**

The majority of participants were females (84.9%) between the ages of 18 and 21-years-old (90.5%). Moreover, 83.8% identified themselves as White/Caucasian, while 8.9% were African American/Black. The remaining 7.3% reported as being Asian (4.2%), Latino/Hispanic (2.1%) or Other (1.0%). Approximately 94% of participants were United States citizens. The remaining 5.8% had dual citizenship (3.7%), were U.S. permanent residents (1.6%), or were foreign citizens with temporary visas (0.5%).

Of these 10 non-U.S. participants, four were born in the U.S. while the remaining six were born in a different country; these six did not have an option on the survey to identify their birth country. These 10 individuals generated divided answers in response to the question if they

would be more inclined to participate in a GH fieldwork experience in the country that their parents and/or they immigrated from. 40% of these participants strongly agreed to participate in a fieldwork experience in their home country, while 60% either strongly disagreed or disagreed.

A wide range of income levels was represented. About 35% of participants estimated their family's yearly income before taxes to be greater than \$98,000. More than 25% of participants reported their family's income to be between \$53,001-\$98,000, and about 16% reported an income level between \$0-53,000. Less than 18% did not know their family's income. A majority (75.7%) of participants received aid, loans, and/or scholarships to help them pay for their college tuition. For 35.1% of the participants who were receiving this financial assistance, about 25% of their tuition was paid for by these methods; almost 18% had about 50% of their tuition paid for by financial assistance. Moreover, 19.4% of the participants paid about 75% of their tuition with these methods, while 27.6% reported that 100% of their tuition was paid for by financial assistance. Please refer to Table 3 for statistics regarding the demographic characteristics of the survey participants.

**Table 3. Survey Participants' Demographic Information**

	n	%		n	%
Gender			Income		
Female	158	84.9	\$0-32,000	15	8.0
Male	28	15.1	\$32,001-53,000	14	7.5
			\$53,001-72,000	28	15.0
Age			\$72,001-98,000	21	11.2
18 years old	34	17.9	≥ \$98,000	65	34.8
19 years old	30	15.8	I prefer not to answer	11	5.9
20 years old	65	34.2	I do not know	33	17.6
21 years old	43	22.6	Aid, loans, and/or scholarships		
22 years old	3	1.6	Yes	134	75.7
23 years old	2	1.1	No	43	24.3
≥ 24 years old	13	6.8	Percent of tuition paid for by aid, loans, and/or scholarships		
Race			About 25%	47	35.1
White/Caucasian	160	83.8	About 50%	24	17.9
African American or Black	17	8.9	About 75%	26	19.4
Latino or Hispanic	4	2.1	About 100%	37	27.6
Asian	8	4.2			
Other	2	1.0			
Citizenship					
U.S. citizen	179	94.2			
Dual citizen	7	3.7			
Permanent resident	3	1.6			
Temporary visa	1	0.5			

Note that the number of responses varies for each question either because some participants did not choose to answer or because the question did not pertain to them.

Cross tabulation results in Table 4 show that females were more interested in studying GH than males. However, this relationship was not statistically significant ( $p > 0.05$ ). Tables 5 and 6 display the results of cross tabulation tests that analyzed the impact of income on GH interest and on the belief that GH opportunities were realistically attainable. Participants who aligned themselves with all income levels, except the \$32,001-53,000 level, expressed strong interest in studying GH as undergraduates and realistically saw themselves pursuing GH opportunities; both of these findings were statistically significant ( $p < 0.05$ ). Table 6 also shows

that participants who received financial assistance, whether it was via aid, loans, and/or scholarships, were more likely to perceive GH opportunities as attainable as compared to students without this assistance. Nonetheless, this finding was not statistically significant ( $p>0.05$ ).

**Table 4. Strong Interest in Studying GH as an Undergraduate and Gender, Study Abroad Experience, and Foreign Language Skill**

	n	%	p-value (two-sided)		n	%	p-value (two-sided)
Gender			0.753	Speak language other than English			0.237
Female	42	30.2		Yes	24	35.8	
Male	5	20.8		No	25	25.3	
Study abroad			N/A				
I have studied abroad	8	44.4					
I plan to study abroad	31	40.3					
I have not and do not plan to study abroad	11	14.7					

Please note that the responses add to less than 100% because this table only displays “strongly interested” responses and does not include data for other responses, such as “neither interested nor disinterested” and “strongly disinterested.” Also, the number of responses varies for each question because some participants did not answer, the question did not pertain to them, or they chose more than one response. N/A (not applicable) refers to the p-value that could not be calculated because at least one variable in the two-way table upon which the measure of association was computed was a constant.

**Table 5. Strong Interest in Studying GH as an Undergraduate and Income**

	n	%	p-value (two-sided)
Family’s income before taxes			0.009
\$0-32,000	5	35.7	
\$32,001-53,000	1	7.7	
\$53,001-72,000	11	45.8	
\$72,001-98,000	7	41.2	
>\$98,000	18	30.5	
I prefer not to answer	3	30.0	
I do not know	4	13.8	

Please note that the responses add to greater than 100% because this table only displays “strongly interested” responses and does not include data for the other responses, such as “neither interested nor disinterested” and “strongly disinterested.”

**Table 6. Can Realistically Pursue GH Opportunities and Income and Financial Assistance**

	n	%	p-value (two-sided)		n	%	p-value (two-sided)
Family's income before taxes			0.030	Aid, loans, and/or scholarships			0.857
\$0-32,000	10	76.9		Yes	85	73.3	
\$32,001-53,000	5	38.5		No	26	68.4	
\$53,001-72,000	18	72.0					
\$72,001-98,000	14	87.5					
>\$98,000	43	75.4					
I prefer not to answer	8	100.0					
I do not know	17	63.0					

Please note that the responses add to greater than 100% because this table only displays responses of participants who can realistically perceive themselves pursuing GH and does not include data for participants who do not realistically see themselves studying GH. Also, the number of responses varies for each question because some participants did not choose to answer.

### **Undergraduate Education Information**

Most participants (36.1%) were juniors; the remaining 63.9% were freshman (19.7%), sophomores (18.0%), and seniors (24.6%). The majority of participants were enrolled in colleges with a health or science foci. Specifically, almost 60% of participants were enrolled in the College of Human Health and Development (HHD); about 13% were enrolled in the School of Nursing, 10% in the College of Agricultural Sciences, and 8% in Eberly College of Science. However, it must be noted that a small percentage of students (7.2%) were enrolled in the College of Liberal Arts, which is an academic college without a strong emphasis in health and science. Please see Table 7 for a complete display of the statistics regarding the undergraduate education information of participants.

**Table 7. Undergraduate Education Information**

	n	%		n	%
Year			Schreyer Honors College		
Freshman	36	19.7	Yes	34	18.7
Sophomore	33	18.0	No	148	81.3
Junior	66	36.1			
Senior	45	24.6	Grade Point Average (GPA)		
Fifth-year senior	3	1.6	0.00 – 2.29	2	1.1
			2.30 – 2.79	16	8.8
College			2.80 – 3.14	20	11.0
Agricultural Sciences	20	10.3	3.15 – 3.50	39	21.4
Arts and Architecture	0	0	3.51 – 4.00	90	49.5
Business, Smeal	2	1.0	I prefer not to answer	15	8.2
Communications	1	0.5			
Division of	5	2.6	I am extremely involved with PSU- and non-PSU-affiliated activities.		
Undergraduate Studies			Strongly agree	51	28.0
Earth and Mineral Sciences	4	2.1	Agree	66	36.3
Education	0	0	Neither agree nor disagree	36	19.8
Engineering	1	0.5	Disagree	24	13.2
Health and Human Development	116	59.8	Strongly disagree	5	2.6
Information Sciences And Technology	5	2.6	International experience with activity		
Liberal Arts	14	7.2	Yes	75	43.1
Nursing	25	12.9	No	99	56.9
Science, Eberly	15	7.7			

Please note that some of the responses add to greater than 100% because participants could select more than one answer for certain questions. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

Approximately 76% of participants had declared a major. The most prevalent declared majors were biobehavioral health (14.9%), nursing (13.4%), kinesiology (6.2%), communication sciences and disorders (5.7%), and human development and family studies (HDFS) (5.2%). All of these aforementioned majors are within the College of HHD or School of Nursing. A variety of declared majors made up the remaining 59.8%. Of these participants enrolled in the College of Agricultural Sciences, most were majoring in animal sciences, community, environment and development (CED), food science, immunology and infectious disease, and/or toxicology. Those

enrolled in Eberly College of Science were majoring in biology and/or science. In addition, of the small percentage of participants who were enrolled in the College of Liberal Arts, they were pursuing majors in biological anthropology, international politics, philosophy, political science, psychology, and/or Spanish. Many participants either had not declared a minor but planned to (44.3%), or did not want to declare a minor at all (32.5%). Of the minors that students had declared, the most common minors were GH (16.0%), HDFS (5.2%), Spanish (4.6%), and psychology (4.1%).

Only 18.7% of the participants were enrolled in the Schreyer Honors College (SHC); of this percentage, most participants (76.5%) had entered the SHC at the beginning of their freshman year. In addition, a large percentage of the participants (70.9%) had Grade Point Averages (GPA) between 3.15-4.00 out of a 4.00 scale, while 11.0% had a GPA between 2.80-3.14. Furthermore, 8.8% of participants had a GPA between 2.30-2.79, and 1.1% had a GPA between 0.00-2.29.

About 64% of participants perceived themselves as being fairly to strongly involved with both university- and non-university-affiliated extracurricular activities. Participants were mostly involved in academic/professional (44.3%), philanthropic (40.2%), service (31.4%), and sport/physical activity (25.8%) PSU-affiliated student organizations. The most common non-PSU-affiliated activities were service (39.2%), sport/physical activity (33.0%), and religious/spiritual (27.8%). Furthermore, 43.1% of participants responded that their participation in their respective organizations involved or will involve an international experience. Table 8 displays a cross tabulation that compares GH undergraduate study interest with extra-curricular involvement. The test results show that strong interest in GH significantly increases as participants become more highly involved in activities ( $p < 0.05$ ).



**Table 8. Strong Interest in Studying GH as an Undergraduate and Extracurricular Involvement**

	n	%	p-value (two-sided)
Extremely involved with extracurricular activities			0.003
Strongly agree	23	47.9	
Agree	16	28.1	
Neither agree nor disagree	7	20.0	
Disagree	3	14.3	
Strongly disagree	0	0	

Please note that the responses add to greater than 100% because this table only displays “strongly interested” responses and does not include data for the other responses, such as “neither interested nor disinterested” and

### International Travel Experience

About 56% of participants had previously traveled abroad, while almost 44% had not. Of the participants who had traveled abroad, most had gone abroad one to four times before (66.1%); however, almost 11% of participants had previously traveled abroad 10 times. The most commonly visited regions were North America (35.1%), Western Europe (34.0%), the Caribbean (21.1%), Central America (15.5%), Asia (14.4%), Eastern Europe (13.9%), and Africa (12.9%). Participants had traveled internationally mainly for tourism. Of the participants who had never traveled abroad before, an overwhelming majority (90.0%) of them strongly or fairly desired to travel internationally. The regions that these participants desired to travel to first were Western Europe (37.2%), Eastern Europe (16.7%), Africa (15.4%), and the Caribbean (11.5%).

The family members of participants had varying experiences with international travel. Almost 40% of the participants’ relatives traveled abroad once every five years, and about 22% traveled once a year. Nevertheless, just fewer than 30% of participants’ relatives had never traveled abroad. Study abroad interest was also roughly divided. About 10% of participants had studied abroad before, and over 45% planned to study abroad in the future. However, just fewer than 45% had neither studied abroad nor planned to. Of the participants who had either studied

abroad or planned to, most had studied in Western Europe (27.9%), Africa (20.3%), Eastern Europe (15.1%), and South America (13.4%). Participants who indicated that they plan to study abroad were overwhelmingly interested in working, volunteering, or interning in the community in which they seek to temporarily live (83.5%). Please refer to Table 9 for more information on participants' international travel experiences.

**Table 9. International Travel Experience**

	n	%		n	%
Traveled abroad			First region to visit if have not traveled abroad		
Yes	102	56.4	Africa	12	15.4
No	79	43.6	Asia	2	2.6
Number of abroad experiences			Caribbean	9	11.5
1	25	24.5	Central America	0	0
2	16	15.7	Eastern Europe	13	16.7
3	15	14.7	Middle East	3	3.8
4	12	11.8	North America	0	0
5	6	5.9	Oceania	3	3.8
6	7	6.9	South America	7	9.0
7	3	2.9	Western Europe	29	37.2
8	5	4.9	Family members' travel abroad experience		
9	2	2.0	Several times a year	19	10.6
10	11	10.8	Once a year	39	21.8
Regions visited			Once every five years	70	39.1
Africa	25	24.5	None	51	28.5
Asia	28	27.8	Study abroad		
Caribbean	41	40.2	I have studied abroad	18	9.8
Central America	30	29.4	I plan to study abroad	83	45.4
Eastern Europe	27	26.5	I have not and do not plan to study abroad	82	44.8
Middle East	5	4.9	Study abroad destination		
North America	68	66.7	Africa	35	20.3
Oceania	12	11.8	Asia	10	5.8
South America	23	22.5	Caribbean	8	4.7
Western Europe	66	64.7	Central America	7	4.1
Although I have not traveled abroad before, I still have a strong desire to travel.			Eastern Europe	26	15.1
Strongly agree	52	65.0	Middle East	2	1.2
Agree	20	25.0	North America	0	0
Neither agree nor disagree	4	5.0	Oceania	13	7.6
Disagree	3	3.8	South America	23	13.4
Strongly disagree	1	1.3	Western Europe	48	27.9
			Work, volunteer, or intern while studying abroad		
			Yes, I did,	7	7.2
			Yes, I would like to.	81	83.5
			No, I did not and would not like to.	9	9.3

Please note that some of the responses add to greater than 100% because participants could select more than one answer for certain questions. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

Table 10 displays a cross-tabulation test that found a statistically significant relationship between travel background and a strong interest in studying GH as an undergraduate ( $p < 0.05$ ). This test found that those with personal travel experience were more than twice as likely to be strongly interested than those without this experience. Similarly, Table 11 shows that those with prior international experience were more than two times as likely to be strongly interested in engaging in GH post-college than those who had not traveled abroad ( $p < 0.05$ ). Furthermore, participants who had studied abroad or planned to were almost three times more likely to be strongly interested in GH than those who were without this experience and desire. However, the significance of this relationship could not be determined because at least one variable in the two-way table upon which this measure of association was computed was a constant (refer to Table 4).

Table 10 also shows that although the number of abroad experiences did not greatly impact GH interest, travel destination did. Specifically, those who had traveled to Central America (64.0%), Africa (57.9%), or South America (53.8%) had the strongest GH interests. Nonetheless, the statistical significance of specific travel destinations and GH interest could not be determined because at least one variable in each two-way table upon which association measures were computed was a constant. Furthermore, although Western Europe was the second most popular travel destination amongst the participants, it was the least influential in positively impacting student interest in GH. Table 10 also shows that family travel abroad history had a slight impact on increasing strong GH interest among the participant pool, but this relationship was not statistically significant ( $p > 0.05$ ).

**Table 10. Strong Interest in Studying GH as an Undergraduate and Travel History**

	n	%	p-value (two-sided)		n	%	p-value (two-sided)
Traveled abroad before			0.003	Travel destination			N/A
Yes	35	71.4		Africa	11	57.9	
No	14	28.6		Asia	11	42.3	
Number of travel abroad experiences			0.767	Caribbean	13	40.6	
1	8	34.8		Central America	16	64.0	
2	5	31.3		Eastern Europe	8	38.0	
3	7	50.0		North America	15	35.7	
4	3	30.0		Oceania	3	42.9	
5	2	40.0		South America	7	53.8	
6	3	50.0		Western Europe	19	33.3	
7	1	33.3		Family members' travel experience			0.166
8	2	40.0		Several times a year	4	22.2	
9	2	100.0		Once a year	11	30.6	
10	4	36.4		Once every 5 years	24	37.5	
				None	10	20.8	

Please note that some of the responses add to greater than or less than 100% because this table only displays “strongly interested” responses and does not include data for the other responses, such as “neither interested nor disinterested” and “strongly disinterested.” Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response. N/A (not applicable) refers to the p-value that could not be calculated because at least one variable in the two-way table upon which the measure of association was computed was a constant.

**Table 11. Strong Interest in Engaging in GH Post-College and Prior International Travel Experience**

	n	%	p-value
Traveled abroad before			0.001
Yes	35	39.3	
No	14	21.5	

Please note that the responses add to less than 100% because this table only displays “strongly interested” responses and does not include data for the other responses, such as “neither interested nor disinterested” and “strongly disinterested.”

## Language Skills and Cultural Experiences

Most students (60.9%) reported as being able to speak a language other than English; almost 40% stated that they are monolingual. Of those who could speak a foreign language, most students reported as being able to speak Spanish (67.1%), French (35.7%), German (11.4%), and/or some “Other” language (15.7%). Specifically, the “Other” languages consisted of Bisaya, Creole, Ewe, Gujarati, Hebrew, Korean, Krio, Punjabi, Swahili, Tagalog, Tamil, and Yorùbá. See Table 12 for a complete list of the various languages participants could speak. Table 4 shows that the ability to speak a foreign language increased students’ GH interests; nonetheless, this relationship was not statistically significant ( $p>0.05$ ). Almost 40% of students had experiences working with culturally diverse communities and/or organizations in the U.S, while over 60% had not (Table 12).

**Table 12. Language Skills and Cultural Experiences**

	n	%		n	%
Speak language other than English			Worked or volunteered with culturally diverse communities and/or organizations in the U.S.		
Yes	70	39.1	Yes	71	39.7
No	109	60.9	No	108	60.3
Language other than English					
Arabic	1	1.4			
Bengali	0	0			
Chinese	1	1.4			
French	25	35.7			
German	8	11.4			
Hindu/Urdu	1	1.4			
Italian	1	1.4			
Japanese	2	2.9			
Portuguese	1	1.4			
Russian	1	1.4			
Spanish	47	67.1			
Other	11	15.7			

Please note that some of the responses add to greater than 100% because participants could select more than one answer for certain questions.

## Undergraduate and Post-College Global Health Interests

Over 67% of participants defined GH as an interdisciplinary area of study, research, and practice that emphasized improving overall health and achieving health equity for all people worldwide (Table 13). Cross-tabulation results (Table 14) show that 75.5% of participants, who were strongly interested in GH, chose this same definition; however, this was not a significant relationship ( $p>0.05$ ). Moreover, about 25% of participants agreed that GH entailed applying public health principles to international health problems and challenges, but only 20.4% of these same participants were strongly interested in GH. Out of all the participants, 5.9% defined the field as the transfer of international aid, technologies, and interventions from wealthier to poorer countries; nonetheless, only 2.0% of those who chose this answer had strong GH interests.

**Table 13. Global Health Definition**

	n	%
The application of the principles of public health to health problems and challenges that transcend national boundaries.	43	25.3
International aid, technologies, and interventions flowing from wealthier countries of the global north to poorer countries of the global south.	10	5.9
An area of interdisciplinary study, research, and practice that places priority on improving health and achieving equity in health for all peoples worldwide.	114	67.1
My definition of global health significantly differs from those listed above.	3	1.8

**Table 14. Strong Interest in Studying GH as an Undergraduate and GH Definition**

	n	%	p-value (two-sided)
The application of the principles of public health to health problems and challenges that transcend national boundaries.	43	25.3	0.552
International aid, technologies, and interventions flowing from wealthier countries of the global north to poorer countries of the global south.	10	5.9	
An area of interdisciplinary study, research, and practice that places priority on improving health and achieving equity in health for all peoples worldwide.	114	67.1	
My definition of global health significantly differs from those listed above.	3	1.8	

Please note that this table only displays “strongly interested” responses and does not include data for the other responses, such as “neither interested nor disinterested” and “strongly disinterested.”

Most research participants (88.8%) were neither enrolled in nor had previously completed a GH course at Penn State. Although an overwhelming majority of participants had neither completed nor were currently enrolled in GH courses, 67.1% of students were interested in enrolling in a GH course. Over 57% of students had previously heard of Penn State’s GH minor. Interest in this program was divided. Just over half of participants (50.6%) were either enrolled in or interested in the minor while, slightly fewer than the majority of participants (49.4%) were neither enrolled in nor interested in it. See Table 15 for complete information on students’ responses regarding GH education and interest at the undergraduate level.



**Table 15. Global Health (GH) Education and Interest at the Undergraduate Level**

	n	%		n	%
Currently enrolled in or previously completed a Penn State GH course			Skills and benefits hope to be gained by studying GH		
Yes	19	11.2	Enhanced cross-cultural sensitivity	48	24.7
No	150	88.8	Increased appreciation of diversity	46	23.7
Would like to enroll in Penn State GH course			International travel	50	25.8
Yes	102	67.1	Resume/CV enhancement	20	10.3
No	50	32.9	Improved interpersonal & communication skills	33	17.0
Had heard of Penn State's GH minor			Improved foreign language skills	25	12.9
Yes	95	57.2	Technical skills	10	5.2
No	71	42.8	Satisfy internship requirement	5	2.6
Currently enrolled in or interested in applying for Penn State's GH minor			Life experience	96	49.5
Yes, I am enrolled	6	3.6	Explore career options	36	18.6
Yes, I applied but was not Accepted	2	1.2	Other	3	1.5
Yes, I am interested but have not applied	76	45.8	Strong interest in GH opportunity		
No, I am not enrolled or Interested	82	49.4	Academic major	20	13.5
Extremely interested in studying GH as a Penn State undergraduate			Academic minor	47	31.1
Strongly agree	49	29.5	Courses but not as part of a major or minor	29	19.2
Agree	29	17.5	International fieldwork	68	44.7
Neither agree nor disagree	41	24.7	Student organizations	51	33.3
Disagree	30	18.1	GH-related internship in the U.S.	42	27.8
Strongly disagree	17	10.2	On-campus lectures	51	33.3
Factors influencing GH interest			Spring break experience	60	39.2
International travel	27	13.9	Could realistically pursue GH opportunities		
Previous classes	11	5.7	Yes	115	72.3
Immigrant family history	10	5.2	No	44	27.7
Global news media	31	16.0	Suggestions to improve Penn State's GH opportunities		
Celebrities and their philanthropy work	5	2.6	Create a major	51	26.3
Media campaigns	11	5.7	Host career panels	62	32.0
Resume/CV enhancement	10	5.2	Offer more courses	70	36.1
Desire to help others	104	53.6	Offer more financial resources for international fieldwork	78	40.2
Desire to travel	72	37.1	Offer more on-campus lectures	59	30.4
Interest in learning about different cultures and communities	85	43.8	Other	15	7.7
Recommendations	5	2.6			
Other	7	3.6			

Please note that some of the responses add to greater than 100% because participants could select more than one answer for certain questions. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

General interest in studying GH at the undergraduate level varied. Forty-seven percent of participants had fair to strong interest in studying GH at Penn State; however, about 28% had fair to strong disinterest, and almost 25% were indifferent. Participants mostly cited the desire to help others (53.6%), interest in learning about different cultures and communities (43.8%), and desire to travel (37.1%) as factors positively influencing their interest in GH. Also, many participants hoped to gain life experience (49.5%), international travel experience (25.8%), enhanced cross-cultural sensitivity (24.7%), and increased appreciation of diversity (23.7%) from a GH education. Table 16 shows that participants who were strongly interested in GH mostly hoped to gain improved interpersonal/communication skills (57.6%), greater sense of future career options (45.7%), enhanced cross-cultural sensitivity (41.7%), and life experience (40.0%).

**Table 16. Skills and Benefits Desired for Those with Strong Interest in Studying GH as an Undergraduate**

	n	%
Appreciation of diversity	17	37.8
Enhanced cross-cultural sensitivity	20	41.7
Explore career options	16	45.7
Foreign language skills	7	28.0
International travel experience	14	28.0
Interpersonal and communication skills	19	57.6
Life experience	38	40.0
Resume/CV enhancement	6	30.0

Please note that the responses add to greater than 100% because participants could select more than one answer. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

Participants with strong GH interests wanted to participate in particular GH opportunities; this data is presented in Table 17. These participants were strongly interested in pursuing a GH major (90.0%) and minor (88.9%). They were also extremely interested in GH-related internships based in the U.S. (82.9%) and in joining GH-focused student organizations

(77.6%). Despite strong interest in various GH activities, over a quarter of participants (27.7%) did not believe they could realistically pursue these opportunities. Table 18 shows barriers impeding GH study; the most frequently reported barriers included not having enough time to complete GH minor requirements prior to graduation (47.7%), financial costs (40.9%), and inflexible majors (38.6%).

**Table 17. GH Opportunities Strongly Desired for Those Extremely Interested in Studying GH as an Undergraduate**

	n	%
Academic major	18	90.0
Academic minor	40	88.9
Courses but not as part of a major or minor	14	48.3
International fieldwork	43	65.2
Student organizations	38	77.6
GH-related internship in the U.S.	34	82.9
On-campus lectures	30	61.2
Spring break experience	39	67.2

Please note that the responses add to greater than 100% because participants could select more than one answer. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

**Table 18. Barriers Impeding Global Health (GH) Study as an Undergraduate**

	n	%
Family commitments, i.e. marriage, parent to a dependent child	3	6.8
Financial constraints for an international fieldwork experience	13	29.5
Financial costs of tuition for GH courses and/or another major/minor	18	40.9
Lack of opportunities available for students to study GH	5	11.4
Major does not allow flexibility to take additional classes	17	38.6
Not enough time to complete GH minor requirements prior to graduation	21	47.7
Other	2	4.5

Please note that the responses add to greater than 100% because participants could select more than one answer.

In order to improve GH opportunities offered at Penn State, 40.2% of participants suggested that the university offer more financial support for students wishing to participate in

international fieldwork. Participants also suggested that Penn State should offer more global health courses (36.1%), GH career panels (32.0%), and on-campus GH lectures (30.4%). This data can also be found in Table 15.

A large percent of the study participants expressed greater interest in engaging in GH after completion of their college degree than in studying GH as undergraduates. 60.0% had fair to strong interest in pursuing GH post-college, while 20.0% had fair to strong disinterest and 20.0% were indifferent. Of those interested in engaging in GH graduate study, most wanted to serve as a volunteer (40.7%) or practitioner (23.7%) as part of either a government or non-governmental agency later on in their careers. Participants were also interested in GH training at professional or graduate school (21.6%), and in a GH rotation during medical school (20.1%). Please refer to Table 19 for participants' interests in various post-college GH experiences.

**Table 19. Global Health (GH) Post-undergraduate Degree**

	n	%
Extremely interested in engaging in GH post-college		
Strongly agree	49	31.6
Agree	44	28.4
Neither agree nor disagree	31	20.0
Disagree	19	12.3
Strongly disagree	12	7.7
Interest in post-college GH opportunity		
GH policy worker within a United Nations agency, the U.S. government, or an Independent think-tank	35	18.0
GH practitioner for a governmental or non-governmental organization	46	23.7
GH rotation as part of medical school education	39	20.1
GH training as part of professional or graduate school	42	21.6
Independent volunteer	31	16.0
Missionary worker	26	13.4
Philanthropy, e.g. donating money to a GH charity	23	11.9
Research/scholarship	32	16.5
Volunteer as part of a governmental or non-governmental organization	79	40.7
Other	3	1.5

Please note that some of the responses add to greater than 100% because participants could select more than one answer for certain questions. Also, the number of responses varies for each question because some participants did not choose to answer, the question did not pertain to them, or they chose more than one response.

## CHAPTER 4

### DISCUSSION

The purpose of this study was to describe the characteristics of undergraduate students who are interested in studying global health (GH) and/or engaging in this field post-college. This study also aimed to identify the post-college goals of students who wish to engage in the GH field after graduation in order to proffer findings that support university faculty to successfully prepare them for their future careers. In this chapter, relationships among various factors, including demographics, education, international travel, foreign language knowledge, and cultural experience, and interest in GH study as an undergraduate are examined. The impacts of these factors on interest in engaging in GH post-college are also discussed.

#### **Demographic Information**

Females expressed greater interest than males in studying GH as undergraduates and in engaging in GH post-college; this relationship was not statistically significant and may have arisen in the study because more females (n=158) than males (n=28) participated. Nonetheless, Naffziger et al. (2008) found that female students were more interested in study abroad programs (SAPs) than their male counterparts. Therefore, further research involving a greater gender balance needs to be conducted to determine if gender significantly impacts GH interests because this data suggests that it does.

Students from almost all income levels, including low-income, had fair to strong interest in GH and perceived future GH study as realistic. Follow-up research needs to determine, however, if students' perceptions correlate with their actual participation rates. This is especially

important given that the significant relationships found in this research counter the results presented by Salisbury et al. (2009), which suggest that students with low SES, low pre-college capital, and low first-year college capital are least likely to participate in SAPs.

Only students with yearly income backgrounds between \$32,001-53,000 had varying GH interests and believed that they were unable to pursue GH opportunities. More research needs to determine why only students from this particular income bracket were least interested in GH and most skeptical about realistically pursuing this field. Specifically, research needs to explore if financial constraints of tuition and international fieldwork experiences are the key reasons for negatively impacting these students' GH interests; many participants cited these financial expenses as significant barriers impeding their ability to pursue GH study.

### **Undergraduate Education Information**

The study was unable to determine if students' academic colleges, majors, and/or minors significantly impacted their GH interests. Although the majority of participants who completed this survey were from academic backgrounds emphasizing health and science, this does not indicate that they were necessarily more interested in GH than students of other disciplines. Specifically, there was a large representation of students enrolled in the College of Health and Human Development because the research team had close contacts within this college. Further research needs to assess if students' academic focuses are related to their GH interest areas. It is important to identify which academic programs contain students interested in GH so that these programs can appropriately incorporate GH lessons in their courses and programs. Because GH is an interdisciplinary field, it cannot be assumed that only students with educations emphasizing healthcare want to study GH.

Moreover, the study found that high extracurricular involvement was positively associated with strong GH interest ( $p < 0.05$ ). Interest in GH was strong for students involved in a wide range of organizations, including service, religious/spiritual, philanthropic, honor society, and academic/professional activities. Therefore, this finding suggests that involvement in an organization, regardless of its relation to GH, significantly correlates with GH interest. This relationship is similar to results presented in Naffziger et al. (2009), which found that students with extracurricular experience are more interested in SAPs than those without this experience.

Students who are involved with extracurricular activities may be more interested in GH and SAPs because they are more comfortable with conversing and interacting with others as well as serving as leaders and initiators (Rubin et al., 2002). Furthermore, these students may be more willing to travel to a foreign country and/or learn about the health systems and disparities of diverse cultures because past research shows that involvement in extracurricular activities increases students' self-esteem (Kort-Butler et al., 2011). In other words, because these students have greater self-confidence than those lacking extracurricular involvement, they may be more willing to live abroad and collaborate with various peoples.

### **International Travel Experience**

Previous international travel experience significantly impacted students' interest in GH. Students who had previously traveled abroad were more than twice as likely to want to study GH as undergraduates and to want to pursue GH post-college, than those who had never traveled abroad before. This finding is congruous with earlier observations that suggested that previous foreign travels positively impacted medical students in wanting to study GH (Panosian et al., 2006). In addition, these findings support the trend presented in Naffziger et al. (2008), which

found that undergraduates most interested in SAPs were students with prior travel experience. This similar relationship for SAPs and GH interests may be the result of both programs providing students the opportunity to engage in foreign travel.

Thus, this study strengthens the idea that international travel experiences significantly influence students' level of interest in GH. It is likely that this relationship exists because often during travel, students are exposed to diverse communities, cultures, and languages. Otherwise stated, it is probable that these students have a greater global awareness and thus, a heightened interest in continuing to learn about various cultures, as a result of their previous travel experiences.

The study found that the number of times students had traveled abroad did not influence their interest to pursue GH; rather, visiting a foreign country once was just as positively impacting as traveling abroad 10 times. However, the study did find that students who had previously visited Central America, Africa, and South America for touring, studying or volunteering were more interested in GH undergraduate study and post-college opportunities as compared to those who had visited other, higher income regions. Nonetheless, this relationship was not statistically significant, and qualitative research needs to be conducted to interview students who traveled to these specified, low- to middle-income regions. Specifically, further research needs to determine if there is a common link between exposure to the grave health disparities that are often present in these lesser-developed regions and interest in GH.

The study also found that students who had family members with previous international travel experiences were more likely to be interested in studying GH than those without this background. By knowing immediate family members who have traveled abroad, students may have a greater interest in, as well as understanding of what it means to travel, study, and/or live



abroad. They may also perceive international travel as realistic and attainable. As a result, they may be more likely to express stronger interests in GH. However, this relationship was not statistically significant, and further research with a greater number of participants needs to be conducted to determine if this is a significant trend.

Students who had studied abroad or planned to were about three times more interested in studying GH as undergraduates and in engaging in GH post-college than those who had not and were not interested in study abroad. Nevertheless, although study abroad experience seemed to positively influence students' GH interests, the statistical significance of this relationship could not be determined. It can be hypothesized, though, that through SAPs, students are challenged to adapt and learn about different cultures and communities. These experiences develop their global awareness, enhance their appreciation and understanding of diverse peoples, and increase their self-confidence (Clarke et al., 2009; Ingraham et al., 2004).

Hence, it is probable that students who have engaged in SAPs, or plan to engage in SAPs, are more likely to be interested in GH because it is a field that emphasizes seamless global communication amongst various stakeholders. GH workers must be comfortable in interacting with others that have contrasting lifestyles, cultures, and beliefs, and these are skills that many students further develop through SAPs. Nonetheless, future research needs to interview students who participated in SAPs to determine if their experiences directly influenced their GH interests.

### **Language Skills and Cultural Experiences**

Although the results found that students who spoke a foreign language expressed greater interests in GH than those without these skills, this finding was not statistically significant. A survey with more participants needs to be conducted in order to determine if second language

skills significantly increase GH interest for some students. However, it can be theorized that some students with second language abilities may have stronger GH interest than those without these skills; previous research has found that students who already have basic foreign language skills want to travel abroad to further hone their language abilities (Talbert, 2009). Because GH is a field that requires communication amongst various individuals from around the world, language barriers may be encountered. Therefore, students with foreign language proficiencies may feel more comfortable in mediating these challenges and thus, may be more interested in GH because they do not perceive language as an obstacle to succeeding in this field.

### **Undergraduate and Post-College Global Health Interests**

Although this was an insignificant relationship, an overwhelming number of students who were strongly interested in GH defined the field as an area of interdisciplinary study, research and practice that places priority on improving health and achieving equity in health for all peoples worldwide. As discussed in Chapter 1, there is no standard definition of GH. The lack of a clear, cohesive understanding of what global health is has made it difficult to establish core competencies for an undergraduate GH curriculum in universities throughout the U.S. However, the study found that three-quarters of participants with strong GH interests agreed upon the same, aforementioned definition, thus indicating that the majority of these students share similar GH principles.

Moreover, the definition that participants most commonly agreed on is the more contemporary way in which GH as a field has been conceptualized (Brown, Cueto, and Fee, 2006; Koplan et al., 2009). This finding suggests that many students have abandoned the international health model, which emphasizes the flow of information and resources from

wealthy, Western countries to poor, developing nations (Koplan et al., 2009). A majority of students embracing the contemporary GH definition is a promising sign for the future development of the GH field; this indicates that a number of young adults are committed to attaining GH equity via cross-cultural understanding, communication, and relationships.

Future qualitative research needs to determine why students identified with this particular GH definition and if students believe that Penn State's GH academic programs and opportunities sufficiently emphasize this definition. The findings of this research would assist Penn State in offering or revising courses, organizations, and fieldwork experiences so that they align with, or—as appropriate—challenge, students' definition of GH.

Previous research suggests that popular media and culture have positively influenced interest in GH among undergraduate students (Merson et al., 2009). Although this study found that some students were interested in this field as the result of global news media, celebrities, and popular social trends, the motivation to help others was the key factor in influencing more than half of the students' interests in GH. Merson et al. (2009) suggests that the desire to study GH for social activist reasons is strongly influenced by the 9/11 terrorist attacks, U.S. foreign policy regarding Iraq and Afghanistan, and online social media.

Student activism is not a new concept; rather, it has its roots in the 1960s Civil Rights Movement and anti-Vietnam War protests, when young Americans took to the streets to publically oppose racial discrimination and war (Sherrod, Torney-Purta, Flanagan, 2010). Research suggests that since this historical era of civil unrest, the desire to seek social justice has been passed down to subsequent youth generations. According to a 1995 article published in *Personality and Social Psychology Bulletin*, students who opposed the Persian Gulf War had parents who actively protested the Vietnam War (Duncan and Stewart, 1995). From this

research, it can be suggested that today's young adults may be motivated to voice their political and social justice opinions because of the influence of their parents. Nonetheless, more research needs to be conducted to explore why students feel impassioned to help others via the GH field.

As the findings of the online survey indicate, students want to study GH because they want to help others. In a commentary article published in *The Chronicle of Higher Education*, former Penn State president Graham Spanier reflects on how the manifestation of this desire has changed over the years (Spanier, 2008). He believes that the activist mentality, exemplified by antiwar protests, has been replaced with volunteer efforts. Further research needs to determine if this transition is true for the GH field. Specifically, it needs to be determined if students strongly interested in GH are motivated more by serving others than by activism, or vice versa. This research is necessary because according to a 2011 study published in *Education, Citizenship, and Social Justice*, service and activism have an inverse relationship (Cermak et al., 2011). That is, an increase in service interest, such as focusing on charitable work, decreases student activism, which promotes social justice and change. The researchers found this trend through in-depth interviews with undergraduate students who had experienced international service trips; they found that those who experienced these trips were more service-minded and in favor of volunteering and less likely to participate in activist activities, such as sit-ins and protests.

According to the researchers, undergraduate students must be educated on both forms of civic engagement (Cermak et al., 2011). This is because service and activism are equally essential in shaping young adults to care for and advocate for others. This recommendation is especially important for students with GH interests. These students must be willing to help others through volunteer efforts, while at the same time, being comfortable with taking a public stance against social injustices and health inequities. It is only through both of these measures that GH

equity can be attained. Therefore, it is important to identify if contemporary students are more service-oriented or activist-minded so that GH programs can determine if they need to emphasize service or activism education, in order for students to have a balanced understanding of both forms of civic engagement.

In addition, students strongly interested in GH indicated that they wanted more academic programs and activities than what was currently offered at their University. Ninety percent of students strongly interested in GH study were also extremely in a GH major. In addition, these students were also highly interested in the GH minor, a GH-related internship in the U.S., and joining student organizations. These results demonstrate that students want a concrete GH degree as well as hands-on experience. These findings indicate that students are serious about GH as a field of study; they are dedicated to pursuing this academic subject and want to be provided with an education that concretely prepares for whatever future GH career they pursue.

Also, the popular desire to join student-led organizations demonstrates that students want to interact with their peers in order to express their shared GH interests. It is possible that students want to be involved with GH through organizations because these non-academic environments promote free conversation and debate. In other words, students may feel more comfortable expressing their opinions because they are not constrained by grades and not constantly watched over by a faculty member. Furthermore, undergraduate students typically join organizations because these groups support certain values and/or set specific goals that students agree with. In turn, student organizations rely on collaboration among members to embody these principles or achieve these goals. Therefore, involvement in organizations fosters teamwork skills in students, as they work together towards expressing a common idea or reaching a shared goal. This desire for student collaboration is very promising because as

discussed in Chapter 2, GH is founded upon not just bilateral, but rather global conversations that emphasize collaboration and mutual understanding.

The results of this study show that students are slightly more interested in engaging in GH post-college than in undergraduate GH study. Common post-college interests include volunteering, serving as a future GH practitioner, and GH training during medical or graduate school. Students may be more interested in GH after completion of their college degree because they may not have been exposed to the field until later on during their undergraduate studies. For instance, PSU recommends that students interested in the GH minor apply during the spring of their sophomore year. However, some students may not become interested in GH until they are juniors or seniors, when it is difficult to incorporate the GH minor into their current studies.

Students may also be more interested in GH post-college because they can work towards a specific career in graduate or professional school and/or volunteer with an agency that will financially support them. For example, many medical and graduate schools have already incorporated GH study into their programs and prepare students for specific GH careers. In addition, several volunteer programs, such as the Peace Corps, are long-standing programs that provide stipends and benefits to volunteers.

Conversely, although some universities may offer many undergraduate GH opportunities, including academic programs, fieldwork experiences, and student-led organizations, undergraduates may not feel prepared for concrete GH careers. This is largely due to the nature of the higher education system in the U.S., which emphasizes independence, critical thinking, and exploration of knowledge, but not necessarily, tangible professions (Eckel and King, 2004). Overall, more research needs to be conducted to determine why students are more interested in GH post-college than during undergraduate study.

## CHAPTER 5

### RECOMMENDATIONS, LIMITATIONS, AND CONCLUSION

This thesis discusses the need for a common GH definition, reasons for growing GH interest among undergraduate students, and benefits obtained by a GH undergraduate education. It also reviews undergraduate GH programs that are currently offered at U.S. universities and presents the results of an online survey taken by 194 Penn State undergraduates. The findings of this study are especially important because present research neither explores why undergraduate students are expressing growing interests in GH nor identifies students' specific GH career goals. Therefore, these findings begin to fill a notable gap in current GH literature.

It is important that research studies, such as this one, be conducted in order for the academic community to be aware of the reasons for undergraduate students' GH interest and specific GH career goals. It is anticipated that Penn State and other universities will draw on this data to create GH programs that better match students' interests and are more congruent with one another. As a result, undergraduates from across the U.S. will have the same GH training and therefore be more prepared to interact with one another in working towards GH equity. This final chapter offers implications drawn from the study's results and discussion. Limitations that were encountered during this research, as well as concluding thoughts, are also detailed.

#### **Implications for Global Health Undergraduate Educations**

The study's results identified students with former travel abroad experience and extracurricular involvement as individuals who are especially interested in GH. Although students who had traveled abroad before were more than two times as interested in GH

undergraduate study and in engaging in GH post-college than students without this experience, only roughly over one-half of students had actually traveled internationally. Currently, Penn State University Office of Global Programs (UOGP) offers students several SAPs and “Embedded Programs,” i.e. programs involving both on-campus coursework and education abroad experiences. However, only 3.53% of Penn State-University Park students actually participate in these opportunities, with 77.04% of students traveling to Europe (“Penn State University Office,” 2009). Therefore, to increase overall GH interest, Penn State could encourage greater student involvement in studying abroad. Specifically, PSU should promote SAPs located in Central America, Africa, and South Africa because the study found that students who traveled to these regions were most interested in GH. Moreover, it is especially important that the University encourages undergraduate students to study in regions other than Western Europe because the findings revealed that students who traveled to this region had the greatest disinterest in GH.

UOGP presently offers scholarships for programs in Africa and Latin America, and colleges and departments, such as the Schreyer Honors College and Center for Language Science, provide financial support to students who conduct international research. Scholarships and financial assistance such as these are key steps in potentially increasing GH interest among undergraduate students. Financial support is especially important for students from the lowest income bracket (\$0-32,000), because the study found that these students were strongly interested in GH and perceived GH opportunities as realistic endeavors—in spite of not having the financial backing to engage in them. To maintain and increase these students’ GH interests, it is critical that Penn State provides financial assistance for relevant expenses, such as tuition and travel.



Penn State has taken the initiative to promote global citizenship and global leadership in its students. For example, the University's Global Engagement and Leadership Experience (GELE) encourages international and U.S. students to interact with each other and develop leadership skills that are respectful of diverse cultures ("Global Engagement and Leadership," 2011). Penn State also has a program called Global Ambassadors, in which students, who have previously studied abroad, share their experiences with prospective study abroad peers ("Opportunities to Share Education," 2009).

Moreover, the University has promoted itself as a global institution committed to international research and leadership (Penn State, 2011). For instance, Penn State's Africana Research Center (ARC) funds faculty and student research and sponsors lecture series that is focused on promoting on-campus diversity as well as improving the lives of Africans living in the Diaspora (College of the Liberal Arts, 2011). In addition, PSU's Alliance for Education, Science, Engineering and Development in Africa (AESEDA) is an interdisciplinary alliance that promotes research, education, and outreach projects focused on improving living and economic conditions in Africa (AESEDA, 2010).

Global health is an area of study inextricably intertwined with global citizenship and leadership. Thus, in order for Penn State's global citizenship and leadership goals to be met and for student interests in GH to be satisfied, in spite of having developed many global programs/activities, including those mentioned above, Penn State needs to continue to make it a priority to increase the number of students with travel abroad experiences. Even more, in order for GH to have a stronger, more recognized presence throughout the University, Penn State needs to encourage more students to travel abroad.

As this research found, an increase in students with abroad experiences is likely to lead to

an increase in students with GH interests. Hence, Penn State's GH program needs to continue to expose students, who have not yet traveled abroad, to the world beyond the U.S.'s borders. Currently, Penn State's GH minor requires students to participate in a fieldwork experience. This requirement is very important for the development of the GH program at Penn State because international fieldwork experience further develops and strengthens student interest in and awareness of global issues. And, a greater number of students with strong GH interest would cause PSU to further develop, strengthen, and increase its GH offerings because a larger student body would be in support of these developments. Furthermore, the GH minor program should collaborate with UOGP and Penn State's Office of Student Aid. The GH minor should work closely with these offices to ensure that all PSU students are provided with financial support to travel abroad and that those who are participating in study abroad experiences are informed of PSU's GH opportunities.

Penn State has an active student body with almost 1,000 clubs and organizations that serve roughly 40,000 undergraduates (Penn State Union and Student Activities, 2011). As of November 2011, over 15 student-led organizations had a global focus. The strong presence of extracurricular activities are essential in increasing interest in GH because as the study found, students who were involved with activities, regardless of its type, were more likely to be interested in GH. The GH clubs currently offered at Penn State are oftentimes supported by national or international organizations, such as GlobeMed and Global Brigades. Although it is promising that students have taken the initiative to establish GH clubs on campus, these organizations largely operate independently from Penn State's academic colleges and departments. As a result, they are less effective in promoting GH education at Penn State, as compared to organizations supported by PSU faculty and staff. Student-led organizations

sponsored by faculty and staff would have stronger influence in developing courses, providing activities, and hosting speakers, that educate students on GH and prepare them for post-college careers, because faculty and staff typically have closer relationships with administration, academic departments, researchers, and professionals.

Therefore, in order to attract more students, involved with diverse activities, to the GH field and to support students' GH interests and professional goals, it would be beneficial to create a GH student organization supported by various academic colleges. This organization should incorporate GH activities and opportunities that students expressed interest in, based on the survey results. For example, this organization could sponsor international and domestic fieldwork experiences and volunteering opportunities in local communities. Furthermore, it could host guest lectures by prominent GH leaders and organizations and by Penn State faculty involved in global research. The GH program has the potential to flourish at Penn State if it develops a centralized student organization that has easy access to colleges and departments. This type of organization can provide undergraduates with guidance and support in regards to their GH interests and professional goals.

Perhaps, the most important findings of this study were that the majority of undergraduates who are strongly interested in studying GH during college are interested in pursuing future GH post-baccalaureate studies and/or professions. These statistics should not be ignored. As GH gains in popularity across the United States, this research provides universities, especially Penn State, with the opportunity to develop strong GH programs that cater to the emerging interests and career goals of "pre-global health" (pre-GH) students. In addition to providing students with GH academic and extracurricular programs as undergraduates, Penn State also needs to provide information about and promote post-college GH opportunities. While

the University's strong emphasis on volunteering with organizations, such as the Peace Corps, needs to remain, it must also inform and prepare pre-GH students for GH opportunities that can be integrated into their future graduate or professional education.

Because the GH minor is currently Penn State's only official academic GH program, the adviser and other faculty members involved with this program should be responsible for informing Penn State's Career Services of the possible post-college GH opportunities. The minor adviser can collaborate with Career Services to host monthly career panels that provide pre-GH students with opportunities to interact with various GH professionals, such as policymakers, think-tank members, healthcare professionals, volunteers, non-governmental organizational leaders, and researchers. This would allow students to have a more tangible understanding of GH as a profession. In addition, Penn State needs to make pre-GH students aware of the various post-college GH opportunities by hosting GH employers and graduate school representatives at its several career fairs that it holds throughout the academic year. The GH minor program should also collaborate with academic advisers and faculty members of various Colleges to educate them on possible post-baccalaureate education and/or career options for their students. These recommendations should be followed if Penn State wants to fully prepare students for GH graduate education and/or careers.

### **Limitations**

Although this study presents valuable findings, there are limitations that cannot be overlooked. One limitation is that the number of participants was low when compared to Penn State's student population (response rate 0.50%). Because this study relied on convenience sampling, there was no required sample size. A greater number of participants would have

further increased confidence in the results and may have introduced different perspectives and careers goals that were not identified in this study.

Because not all Penn State academic colleges were represented in this study, the data was not representative of the university's undergraduate student population. Even though students enrolled in the Schreyer Honors College, which includes students from all of Penn State's academic colleges, participated in the study, some academic colleges did not send the survey to their students. Specifically, the Colleges of Arts and Architecture, Communications, Education, Liberal Arts, and Business (Smeal) did not agree to send the survey to their students. If these listed colleges had distributed the survey, the results would have been more representative of the student population and would have included input from students of a greater diversity of backgrounds and interests.

It is likely that there are some students enrolled in these aforementioned academic colleges with GH interests because the study found that interest for this field is not limited to healthcare or science backgrounds. Moreover, the results determined that prior abroad experience and extracurricular involvement are the key positive influencers for GH interest; students of any academic background can possess these two characteristics. Global health is an interdisciplinary field, which requires individuals with various skills and from diverse backgrounds and interests to interact with one another. Therefore, it is important that future studies attempt to garner greater input from these aforementioned Colleges because potential GH students may be engaging in non-health specific areas of study.

An additional limitation is that the findings are not applicable to all U.S. universities. This study evaluated the interests and professional goals of Pennsylvania State University-University Park students who are interested in GH. Penn State-UP is a large, public university

with 38,964 undergraduates and is composed of 85% White/Caucasian students (Penn State University Budget Office, 2011; Penn State Undergraduate Admissions, 2010). Factors other than foreign travel experience and extracurricular involvement may have strong influences on GH interest at both urban and private universities. For example, immigrant history and ethnicity may have greater influences on GH interest for students enrolled in urban colleges, which are typically more racially diverse than their rural counterparts. In addition, religion may have a stronger impact on interest in GH for undergraduates attending private, religiously affiliated schools than students enrolled in public universities.

Some of the survey questions—for example, those that asked students to report their family income and percentage of tuition paid for by aid, loans, and/or scholarships—may have been subjected to recall bias. Although students had the option to select “I do not know the answer to this question” regarding their families’ income, participants may have selected an income bracket that they thought was correct. Students may have chosen an income category that they did not belong to because not all parents inform their children of their incomes; therefore, participants may have guessed their category incorrectly. Similar to income, students may not have known the percent of financial assistance that pays for their tuition. Hence, they may have chosen a percent that was higher or lower than what it actually is. More broadly, because this was a self-report study, the survey is limited in that the majority of the data was subjective. Students may have exaggerated certain responses, such as their GH interest level, or under-reported some answers, such as their realistic perception of pursuing GH opportunities.

For some relationships, p-values were unable to be computed because variables were presented as constants. In particular, the study was unable to determine if both study abroad experience and GH interest, and travel destination and GH interest, were statistically significant

relationships. Many p-values determined that certain relationships, such as foreign language experience and GH interest, were not statistically significant. The lack of statistical significance for several relationships may have been the result of the low response rate (<1%). If more responses had been obtained, some non-statistically significant relationships may have been found to be statistically significant because the data would have been more representative of the student population.

## **Conclusion**

This research has provided Penn State, and other large, public universities, with valuable data that they can use to increase enrollment in GH programs and to also tailor GH curricula to meet undergraduate students' interests and academic, travel, and extracurricular desires.

Although the financial expenses of these endeavors may be considerable, the positive gains and implications that these opportunities would provide to students, the University, and the GH field, itself, are invaluable. Penn State has made it a priority to inspire students to become global citizens and leaders. In order for this goal to reach fruition, the University must provide students with adequate education, support, and resources to become active global citizens within the scope of the GH field. Most importantly, in order for the GH program to be successful, it must be developed with students' interests and goals in mind.

Lastly, GH professionals need to have similar background knowledge and technical skills because the success of this field revolves around fluid communication and collaboration. Hence, it is vital that all universities develop similar GH programs so that students from across the U.S. can proceed to graduate programs with similar background knowledge and skills. Global health's ultimate goal is health equity. This can only be achieved if all individuals involved understand

the basis of this goal, why it is important, and how it can be attained. Because undergraduates are the future leaders of GH, universities are responsible for adequately preparing students for this eventual undertaking.



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**APPENDIX A**  
**Recruitment Email for Penn State Faculty or Staff Members**

Dear Penn State faculty or staff member,

I, Rachel Criner, an undergraduate student completing my senior honors thesis in Biobehavioral Health under the supervision of Dr. Melina Czymoniewicz-Klippel, Department of Biobehavioral Health, and Dr. Linda Caldwell, Department of Recreation, Park and Tourism Management, would like to invite undergraduate students enrolled in your academic college to participate in an **online research survey that explores why Penn State undergraduate students are interested in global health and aims to identify the career goals of those students who are interested in this field.** Their input will help us to provide guidance to universities, including Penn State, on how to optimize the design of global health curriculum such that course content interests undergraduate students and prepares them for successful global health careers.

They will be asked to complete an online survey of approximately 60-76 questions that will take approximately 10-15 minutes. **Their decision to be in this research is voluntary.**

**Survey participants must be undergraduate students aged 18 years or over, who are currently enrolled at the University Park campus and have declared (or are seeking to declare) a major field of study.**

This survey will be open between September 20, 2011 to October 8, 2011.

**If your academic college is willing to send this email survey to its undergraduate students, please respond to this email, and I will send you the recruitment email drafted for undergraduate students and the survey link.**

**Statement of Confidentiality:** The students' participation in this research is confidential. Confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The data will be stored and secured in a locked/password-protected file that will only be accessible to the research team. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

**Right to Ask Questions:** If you would like to know more information about this study or have any concerns or complaints, please contact Rachel Criner at (215) 518-8227 or rnc127@psu.edu.

This research has been approved by the Pennsylvania State University's Office for Research Protections (IRB#37810).

Thank you very much for your time and consideration,

Rachel Criner

**APPENDIX B**  
**Recruitment Email for Penn State Undergraduate Student**

Dear fellow Penn State student,

I, Rachel Criner, an undergraduate student completing my senior honors thesis in Biobehavioral Health under the supervision of Dr. Melina Czymoniewicz-Klippel, Department of Biobehavioral Health, and Dr. Linda Caldwell, Department of Recreation, Park and Tourism Management, would like to invite you to participate in my **online research survey** that **explores why Penn State undergraduate students are interested in global health and aims to identify the career goals of those students who are interested in this field**. Your input will help us to provide guidance to universities, including Penn State, on how to optimize the design of global health curriculum such that course content interests undergraduate students and prepares them for successful global health careers.

You are asked to complete an online survey of approximately 60-76 questions that will take approximately 10-15 minutes.

**Your decision to be in this research is voluntary.** You can stop at any time without penalty. You do not have to answer any questions that you do not want to answer. **You must be an undergraduate student aged 18 years or over, who is currently enrolled at the University Park campus and has declared (or is seeking to declare) any major field of study, to take part in this research study.**

Please click on the link below, or cut and paste the entire URL into your browser to access the survey:

[https://pennstate.qualtrics.com/SE/?SID=SV\\_74BJ64kA94SE1F2](https://pennstate.qualtrics.com/SE/?SID=SV_74BJ64kA94SE1F2)

This survey will be open between September 20, 2011 to October 8, 2011.

**Statement of Confidentiality:** Your participation in this research is confidential. Confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The data will be stored and secured in a locked/password-protected file that will only be accessible to the research team. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

**Right to Ask Questions:** If you would like to know more information about this study or have any concerns or complaints, please contact Rachel Criner at (215) 518-8227 or rnc127@psu.edu.

This research has been approved by the Pennsylvania State University's Office for Research Protections (IRB#37810).

Thank you very much for your time and consideration,

Rachel Criner



## Appendix C Informed Consent Form



### Informed Consent Form for Social Science Research The Pennsylvania State University

**Title of Project:** Strengthening Undergraduate Global Health Curricula at Penn State

**Principal Investigator:** Rachel N. Criner, Undergraduate Student  
334 Panofsky Hall  
University Park, PA 16702  
(215) 518-8227; rnc127@psu.edu

**Advisor:** Dr. Melina T. Czymoniewicz-Klippel  
315 Health and Human Development East  
University Park, PA 16802  
(814) 865-4672; mtc16@psu.edu

**Other Investigator(s):** Dr. Linda L. Caldwell  
801 Donald H. Ford Building  
University Park, PA 16802  
(814) 863-8983; llc7@psu.edu

- Purpose of the Study:** The purpose of this research is to explore why Penn State undergraduate students are interested in global health and to identify the career goals of those students who are interested in this field. Furthermore, the goal of this research is to explore if there are any demographic and/or other trends that are common for students who express interest in studying and/or pursuing a career in global health.
- Procedures to be followed:** You will be asked to complete an online survey comprising approximately 60-76 questions.
- Duration/Time:** This survey will take about 10-15 minutes to complete. This survey will be open from September 20, 2011 to October 8, 2011.
- Statement of Confidentiality:** Your participation in this research is confidential. Confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The data will be stored and secured in a locked/password-protected file that will only be accessible to the following members of the research team: Ms. Rachel Criner (student researcher), Dr. Melina Czymoniewicz-Klippel (honors advisor) and Dr. Linda Caldwell (honors co-advisor). In the event of any publication or presentation resulting from the research, no personally identifiable information will be disclosed.
- Right to Ask Questions:** Please contact Rachel Criner at (215) 518-8227 or [rnc127@psu.edu](mailto:rnc127@psu.edu) with questions, complaints or concerns about this research.
- Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time without penalty. You do not have to answer any questions that you do not want to answer.

You must be an undergraduate student aged 18 years or over, who is currently enrolled at the University Park campus and has declared (or is seeking to declare) any major field of study, to take part in this research study.

This research has been approved by the Pennsylvania State University's Office for Research Protections (IRB#37810).

Clicking the "I agree" box below and submitting the survey implies that you have read the information in this form and consent to take part in the research. Please print off this form for your records.

## APPENDIX D Survey Questions

### Part I: Informed Consent Form

Q1 Title of Project: Strengthening Undergraduate Global Health Curricula at Penn State

Principal Investigator: Rachel N. Criner, Undergraduate Student  
334 Panofsky Hall  
University Park, PA 16702  
(215) 518-8227; rnc127@psu.edu

Advisor: Dr. Melina T. Czymoniewicz-Klippel  
315 Health and Human Development East  
University Park, PA 16802  
(814) 865-4672; mtc16@psu.edu

Other Investigator(s): Dr. Linda L. Caldwell  
801 Donald H. Ford Building  
University Park, PA 16802  
(814) 863-8983; llc7@psu.edu

1. Purpose of the Study: The purpose of this research is to explore why Penn State undergraduate students are interested in global health and to identify the career goals of those students who are interested in this field. Furthermore, the goal of this research is to explore if there are any demographic and/or other trends that are common for students who express interest in studying and/or pursuing a career in global health.
2. Procedures to be followed: You will be asked to complete an online survey comprising approximately 60-76 questions.
3. Duration/Time: This survey will take about 10-15 minutes to complete. This survey will be open from Tuesday, September 20 to Saturday, October 8.
4. Statement of Confidentiality: Your participation in this research is confidential. Confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. The data will be stored and secured in a locked/password-protected file that will only be accessible to the following members of the research team: Ms. Rachel Criner (student researcher), Dr. Melina Czymoniewicz-Klippel (honors advisor) and Dr. Linda Caldwell (honors co-advisor). In the event of any publication or presentation resulting from the research, no personally identifiable information will be disclosed.
5. Right to Ask Questions: Please contact Rachel Criner at (215) 518-8227 or rnc127@psu.edu with questions, complaints or concerns about this research.
6. Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any time without penalty. You do not have to answer any questions that you do not want to answer. You must be an undergraduate student aged 18 years or over, who is currently enrolled at the University Park campus and has declared (or is seeking to declare) any major field of study, to take part in this research study.

This research has been approved by the Pennsylvania State University's Office for Research Protections (IRB#37810). Clicking the "I agree" box below and submitting the survey implies that you have read the information in this form and consent to take part in the research. Please print off this form for your records.

- I agree.
- I do NOT agree.

If I do NOT agree. Is Selected, Then Skip To End of Survey

## Part II: Demographic Information

Q2 What is your gender?

- Male
- Female

Q3 Please specify your age:

- 17 years old or younger
- 18 years old
- 19 years old
- 20 years old
- 21 years old
- 22 years old
- 23 years old
- 24 years old or older

If 17 years old or younger Is Selected, Then Skip To End of Survey

Q4 What is your race?

- White/Caucasian
- African American or Black
- Latino/Hispanic
- Asian
- Native American or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Other, please specify below: \_\_\_\_\_

Q5 Please specify below your status in regards to United States citizenship:

- I am a United States citizen.
- I have dual citizenship. I am a citizen of the United States and a citizen of another country.
- I am a foreign citizen but a U.S. permanent resident (i.e. Green card holder).
- I am a foreign citizen with a temporary (e.g. student) visa.
- I prefer not to answer this question.

If I am a United States citizen Is Selected, Then Skip To Please estimate your family's income...

If I prefer not to answer this question Is Selected, Then Skip to Please estimate your family's income...

Q6 Please choose the statement below in which you most closely identify yourself.

- I was born in the United States, and I am a dual citizen of the United States and another country.
- I am a first-generation immigrant. I am a naturalized United States citizen that was born in a different country.
- I am a second-generation immigrant. My parents were born in a different country, but I was born in the U.S.
- I am a 1.5-generation (1.5G) immigrant. I am a United States citizen or permanent resident that immigrated to the U.S. before or during my early teens.
- I do NOT consider myself any of the above immigrant classifications.
- I prefer not to answer this question.

Q7 Please rate your agreement with the following statement. If I was given the opportunity to participate in a global health fieldwork experience in the country of my choice, I would be more likely to choose the country that my parents and/or I immigrated from.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Q8 Please estimate your family's income before taxes:

- \$0 - \$32,000
- \$32,001 - \$53,000
- \$53,001 - \$72,000
- \$72,001 - \$98,000
- Greater than \$98,000
- I prefer not to answer this question.
- I do not know the answer to this question.

Q9 Please rate your agreement with the following statement. I am better off financially than most Penn State students.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Q10 Do you receive aid, loans, and/or a scholarship(s) to help pay for your tuition?

- Yes
- No
- I prefer not to answer this question.
- I do not know the answer to this question.

If No Is Selected, Then Skip To End of BlockIf I prefer not to answer this... Is Selected, Then Skip To End of BlockIf I do not know the answer to... Is Selected, Then Skip To End of Block

Q11 What percentage of your tuition is paid for by aid, loans, and/or a scholarship(s)?

- About 25%
- About 50%
- About 75%
- About 100%

**Part III: Undergraduate Education Information**

Q12 Please specify your year of study:

- Freshman
- Sophomore
- Junior
- Senior
- Fifth-year Senior

Q13 Please specify your semester standing:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- Greater than 10

Q14 Please specify your college(s). Check any that applies.

- Agricultural Sciences
- Arts and Architecture
- Business, Smeal College of
- Communications
- Division of Undergraduate Studies
- Earth and Mineral Sciences
- Education
- Engineering
- Health and Human Development
- Information Sciences and Technology
- Liberal Arts

- School of Nursing
- Science, Eberly College of

Q15 Have you declared a major(s)?

- Yes
- No

If Yes Is Selected, Then Skip To Please specify your declared major(s).If No Is Selected, Then Skip To Please specify the major(s) you would...

Q16 Please specify your declared major(s).

- Accounting (ACCTG)
- Actuarial Science (ACTSC)
- Administration of Justice (AJACC)
- Administration of Justice
- Advertising/Public Relations (AD PR)
- Aerospace Engineering (AERSP)
- African and African American Studies (AASBA)
- African and African American Studies (AASBS)
- Agribusiness Management (AG BM)
- Agricultural and Extension Education (AEE)
- Agricultural Science (AG SC)
- Agricultural Systems Management (A S M)
- Agroecology (AGECO)
- Air Force Aerospace Studies (AIR)
- American Studies
- Animal Sciences (ANSCI) and Integrated Programs
- Anthropology (ANTH)
- Applied Behavioral Science (ABESC)
- Applied Psychology (APSYC)
- Archaeological Science (ARSCI)
- Architectural Engineering (A E) and Integrated Programs
- Architecture (ARCBS and BARCH) and Integrated Programs
- Army (ARMY)
- Art (ARBFA)
- Art (ARTBA)
- Art Education (A ED)
- Art History (ART H)
- Asian Studies (ASIA)
- Astronomy and Astrophysics (ASTRO)
- Athletic Training (ATHTR)
- Bachelor of Philosophy Degree (B PH)
- Biobehavioral Health (BB H)
- Biochemistry and Molecular Biology (B M B)

- Bioengineering (BIO E)
- Biological Anthropology (BANTH)
- Biological Engineering (B E)
- Biology (BIOL)
- Biotechnology (BIOTC) and Integrated Programs
- Business
- Business Economics (BECON)
- Business, Liberal Arts, and Science (BLASC)
- Chemical Engineering (CH E)
- Chemistry (CHEM)
- Childhood and Early Adolescent Education (CEAED)
- Chinese (CHNS)
- Civil Engineering (C E)
- Classics and Ancient Mediterranean Studies (CAMS)
- Communications
- Communication Arts and Sciences (CAS)
- Communication Sciences and Disorders (CSD)
- Community, Environment, and Development (CED)
- Comparative Literature (CMLIT) and Integrated Programs
- Computer Engineering (CMPEN)
- Computer Science (CMPSC)
- Corporate Communication (CCBA)
- Creative Writing (CWRIT)
- Crime, Law, and Justice (CLJBA)
- Crime, Law, and Justice (CLJBS)
- Earth Sciences (EARTH)
- Economics (ECLBA)
- Economics (ECLBS)
- Education and Public Policy (EPP)
- Electrical and Computer Engineering Technology (ECET)
- Electrical Engineering (E E)
- Electrical Engineering Technology (E E T)
- Electro-Mechanical Engineering Technology (EMET)
- Elementary and Kindergarten Education (EK ED)
- Elementary Education (ELEM)
- Energy and Sustainability Policy (ESPBA)
- Energy Engineering (ENENG)
- Energy, Business and Finance (EBF)
- Engineering Science (E SC) and Integrated Programs
- English (ENGL)
- Environmental Engineering (ENVE)
- Environmental Resource Management (E R M)
- Environmental Studies (ENVST)
- Environmental Systems Engineering (ENVSE)

- Film-Video (FILM)
- Finance (FIN)
- Food Science (FD SC)
- Forensic Science (FRNSC)
- Forest Science (FORSC)
- French and Francophone Studies (FR BA)
- French and Francophone Studies (FR BS)
- General Arts and Sciences (GAS)
- General Engineering (G E)
- Geobiology (GEOBI)
- Geography (GEOBA)
- Geography (GEOBS)
- Geosciences (GSCBA)
- Geosciences (GSCBS) and Integrated Programs
- German (GERBA)
- German (GERBS)
- Global and International Studies (GLOBE)
- Global Studies (GLBST)
- Graphic Design (GD)
- Health Policy and Administration (H P A) and Integrated Programs
- History (HIST)
- Horticulture (HORT)
- Hotel, Restaurant, and Institutional Management (HRIM)
- Human Development and Family Studies (HD FS)
- Immunology and Infectious Disease (IID)
- Industrial Engineering (I E)
- Information Sciences and Technology (ISTBA)
- Information Systems (INFSY)
- Integrative Arts (INART)
- Interdisciplinary Business with Engineering Studies (IBE)
- Interdisciplinary Digital Studio (IDS)
- Interdisciplinary Humanities (I HUM)
- International Business (INT B)
- International Politics (INTPL)
- Italian (IT BA)
- Italian (IT BS)
- Japanese (JAPNS)
- Jewish Studies (J ST)
- Journalism (JOURN)
- Kinesiology (KINES)
- Labor Studies and Employment Relations (LERBA)
- Labor Studies and Employment Relations (LERBS) and Integrated Programs
- Landscape Architecture (LARCH)
- Landscape Contracting (LSCPE)



- Latin American Studies (LATAM)
- Law and Society (LAWSC)
- Letters, Arts, and Sciences (LAS)
- Liberal Arts and Earth and Mineral Sciences Concurrent Degree; Liberal Arts and Engineering Concurrent Degree
- Management (MGMT)
- Management Information Systems (M I S)
- Marketing (MKTG)
- Materials Science and Engineering (MATSE)
- Mathematical Sciences (MA SC)
- Mathematics (MTHBA)
- Mathematics (MTHBS)
- Mechanical Engineering (M E)
- Media Studies (MEDIA) and Integrated Programs
- Medieval Studies (MEDVL)
- Meteorology (METEO) and Integrated Programs
- Microbiology (MICRB)
- Mining Engineering (MNG E)
- Music (MUSBA) and Integrated Programs
- Music (MUSBM)
- Music Education (MU ED)
- Musical Arts (MUBMA)
- Musical Theatre (THRMT)
- Naval Science (NAVSC)
- Nuclear Engineering (NUC E)
- Nursing (NURN - R.N. to B.S.)
- Nursing (NURS)
- Nutritional Sciences (NUTR)
- Organizational Leadership (OLEAD)
- Petroleum and Natural Gas Engineering (PNG E)
- Philosophy (PHIL)
- Physics (PHYS)
- Plastics Engineering Technology (PLTBD)
- Political Science (PL SC)
- Premedical-Medical (P M M)
- Premedicine (P M)
- Professional Writing (PWRIT)
- Psychological and Social Science - BA (PSSBA)
- Psychological and Social Science - BS (PSSBS)
- Psychology (PSYBA)
- Psychology (PSYBS)
- Public Policy (PUBPL)
- Rail Transportation Engineering (RTEAL)
- Recreation, Park, and Tourism Management (RPTM)

- Rehabilitation and Human Services (RHS)
- Religious Studies (RL ST)
- Risk Management (R M)
- Russian (RUS)
- Russian Translation (RUS T)
- Science (SC BS)
- Secondary Education (SECED)
- Secondary Education Social Studies (SESST)
- Security and Risk Analysis (SRA)
- Sociology (SOCBA)
- Sociology (SOCBS)
- Software Engineering (SE BD)
- Spanish (SPNBA)
- Spanish (SPNBS) and Integrated Programs
- Special Education (SPLED)
- Statistics (STAT)
- Structural Design and Construction Engineering Technology (SDCET)
- Supply Chain and Information Systems (SC&IS)
- Surveying Engineering (SUR E)
- Telecommunications (TELCM)
- Theatre (THRBA)
- Theatre (THRFA)
- Toxicology (TOX)
- Turfgrass Science (TURF)
- Veterinary and Biomedical Sciences (VB SC)
- Visual Art Studies (VAST)
- Wildlife and Fisheries Science (W F S)
- Women's Studies (WS BA)
- Women's Studies (WS BS)
- Wood Products (W P)
- Workforce Education and Development (WF ED)
- World Languages (K-12) Education (WL ED)
- Other, please specify: \_\_\_\_\_

If QID16 (Count) Is Greater Than or Equal to 1, Then Skip To Have you declared a minor(s)?

Q17 Please specify the major(s) you would like to declare.

- Accounting (ACCTG)
- Actuarial Science (ACTSC)
- Administration of Justice (AJACC)
- Administration of Justice
- Advertising/Public Relations (AD PR)
- Aerospace Engineering (AERSP)
- African and African American Studies (AASBA)

- African and African American Studies (AASBS)
- Agribusiness Management (AG BM)
- Agricultural and Extension Education (AEE)
- Agricultural Science (AG SC)
- Agricultural Systems Management (A S M)
- Agroecology (AGECO)
- Air Force Aerospace Studies (AIR)
- American Studies
- Animal Sciences (ANSCI) and Integrated Programs
- Anthropology (ANTH)
- Applied Behavioral Science (ABESC)
- Applied Psychology (APSYC)
- Archaeological Science (ARSCI)
- Architectural Engineering (A E) and Integrated Programs
- Architecture (ARCBS and BARCH) and Integrated Programs
- Army (ARMY)
- Art (ARBFA)
- Art (ARTBA)
- Art Education (A ED)
- Art History (ART H)
- Asian Studies (ASIA)
- Astronomy and Astrophysics (ASTRO)
- Athletic Training (ATHTR)
- Bachelor of Philosophy Degree (B PH)
- Biobehavioral Health (BB H)
- Biochemistry and Molecular Biology (B M B)
- Bioengineering (BIO E)
- Biological Anthropology (BANTH)
- Biological Engineering (B E)
- Biology (BIOL)
- Biotechnology (BIOTC) and Integrated Programs
- Business
- Business Economics (BECON)
- Business, Liberal Arts, and Science (BLASC)
- Chemical Engineering (CH E)
- Chemistry (CHEM)
- Childhood and Early Adolescent Education (CEAED)
- Chinese (CHNS)
- Civil Engineering (C E)
- Classics and Ancient Mediterranean Studies (CAMS)
- Communications
- Communication Arts and Sciences (CAS)
- Communication Sciences and Disorders (CSD)
- Community, Environment, and Development (CED)
- Comparative Literature (CMLIT) and Integrated Programs

- Computer Engineering (CMPEN)
- Computer Science (CMPSC)
- Corporate Communication (CCBA)
- Creative Writing (CWRIT)
- Crime, Law, and Justice (CLJBA)
- Crime, Law, and Justice (CLJBS)
- Earth Sciences (EARTH)
- Economics (ECLBA)
- Economics (ECLBS)
- Education and Public Policy (EPP)
- Electrical and Computer Engineering Technology (ECET)
- Electrical Engineering (E E)
- Electrical Engineering Technology (E E T)
- Electro-Mechanical Engineering Technology (EMET)
- Elementary and Kindergarten Education (EK ED)
- Elementary Education (ELEM)
- Energy and Sustainability Policy (ESPBA)
- Energy Engineering (ENENG)
- Energy, Business and Finance (EBF)
- Engineering Science (E SC) and Integrated Programs
- English (ENGL)
- Environmental Engineering (ENVE)
- Environmental Resource Management (E R M)
- Environmental Studies (ENVST)
- Environmental Systems Engineering (ENVSE)
- Film-Video (FILM)
- Finance (FIN)
- Food Science (FD SC)
- Forensic Science (FRNSC)
- Forest Science (FORSC)
- French and Francophone Studies (FR BA)
- French and Francophone Studies (FR BS)
- General Arts and Sciences (GAS)
- General Engineering (G E)
- Geobiology (GEOBI)
- Geography (GEOBA)
- Geography (GEOBS)
- Geosciences (GSCBA)
- Geosciences (GSCBS) and Integrated Programs
- German (GERBA)
- German (GERBS)
- Global and International Studies (GLOBE)
- Global Studies (GLBST)
- Graphic Design (GD)

- Health Policy and Administration (H P A) and Integrated Programs
- History (HIST)
- Horticulture (HORT)
- Hotel, Restaurant, and Institutional Management (HRIM)
- Human Development and Family Studies (HD FS)
- Immunology and Infectious Disease (IID)
- Industrial Engineering (I E)
- Information Sciences and Technology (ISTBA)
- Information Systems (INFSY)
- Integrative Arts (INART)
- Interdisciplinary Business with Engineering Studies (IBE)
- Interdisciplinary Digital Studio (IDS)
- Interdisciplinary Humanities (I HUM)
- International Business (INT B)
- International Politics (INTPL)
- Italian (IT BA)
- Italian (IT BS)
- Japanese (JAPNS)
- Jewish Studies (J ST)
- Journalism (JOURN)
- Kinesiology (KINES)
- Labor Studies and Employment Relations (LERBA)
- Labor Studies and Employment Relations (LERBS) and Integrated Programs
- Landscape Architecture (LARCH)
- Landscape Contracting (LSCPE)
- Latin American Studies (LATAM)
- Law and Society (LAWSC)
- Letters, Arts, and Sciences (LAS)
- Liberal Arts and Earth and Mineral Sciences Concurrent Degree; Liberal Arts and Engineering Concurrent Degree
- Management (MGMT)
- Management Information Systems (M I S)
- Marketing (MKTG)
- Materials Science and Engineering (MATSE)
- Mathematical Sciences (MA SC)
- Mathematics (MTHBA)
- Mathematics (MTHBS)
- Mechanical Engineering (M E)
- Media Studies (MEDIA) and Integrated Programs
- Medieval Studies (MEDVL)
- Meteorology (METEO) and Integrated Programs
- Microbiology (MICRB)
- Mining Engineering (MNG E)
- Music (MUSBA) and Integrated Programs

- Music (MUSBM)
- Music Education (MU ED)
- Musical Arts (MUBMA)
- Musical Theatre (THRMT)
- Naval Science (NAVSC)
- Nuclear Engineering (NUC E)
- Nursing (NURN - R.N. to B.S.)
- Nursing (NURS)
- Nutritional Sciences (NUTR)
- Organizational Leadership (OLEAD)
- Petroleum and Natural Gas Engineering (PNG E)
- Philosophy (PHIL)
- Physics (PHYS)
- Plastics Engineering Technology (PLTBD)
- Political Science (PL SC)
- Premedical-Medical (P M M)
- Premedicine (P M)
- Professional Writing (PWRIT)
- Psychological and Social Science - BA (PSSBA)
- Psychological and Social Science - BS (PSSBS)
- Psychology (PSYBA)
- Psychology (PSYBS)
- Public Policy (PUBPL)
- Rail Transportation Engineering (RTEAL)
- Recreation, Park, and Tourism Management (RPTM)
- Rehabilitation and Human Services (RHS)
- Religious Studies (RL ST)
- Risk Management (R M)
- Russian (RUS)
- Russian Translation (RUS T)
- Science (SC BS)
- Secondary Education (SECED)
- Secondary Education Social Studies (SESST)
- Security and Risk Analysis (SRA)
- Sociology (SOCBA)
- Sociology (SOCBS)
- Software Engineering (SE BD)
- Spanish (SPNBA)
- Spanish (SPNBS) and Integrated Programs
- Special Education (SPLED)
- Statistics (STAT)
- Structural Design and Construction Engineering Technology (SDCET)
- Supply Chain and Information Systems (SC&IS)
- Surveying Engineering (SUR E)

- Telecommunications (TELCM)
- Theatre (THRBA)
- Theatre (THRFA)
- Toxicology (TOX)
- Turfgrass Science (TURF)
- Veterinary and Biomedical Sciences (VB SC)
- Visual Art Studies (VAST)
- Wildlife and Fisheries Science (W F S)
- Women's Studies (WS BA)
- Women's Studies (WS BS)
- Wood Products (W P)
- Workforce Education and Development (WF ED)
- World Languages (K-12) Education (WL ED)
- Other, please specify: \_\_\_\_\_

Q18 Have you declared a minor(s)?

- Yes
- No, but I plan to declare a minor(s).
- No, and I do NOT plan to declare a minor(s).

If Yes Is Selected, Then Skip To Please specify your declared minor(s).If No, but I plan to declare a... Is Selected, Then Skip To Please specify the minor(s) you would...If No, and I do NOT plan to de... Is Selected, Then Skip To Are your a Schreyer Honors College st...

Q19 Please specify your declared minor(s).

- Accounting Minor (ACNTG)
- African American Studies Minor (AFAMR)
- African Studies Minor (AFRST)
- Agribusiness Management Minor (AG BM)
- Agricultural and Biological Engineering Minor (A B E)
- Agricultural Communications Minor (AGCOM)
- Agricultural Economics and Rural Sociology Minor (AE RS)
- Agricultural Systems Management Minor (A S M)
- Agronomy Minor (AGRO)
- American Studies Minor
- Animal Sciences Minor (ANSCI)
- Anthropology Minor (ANTH)
- Arabic Language Minor (ARAB)
- Arboriculture Minor (ARBOR)
- Architectural History Minor (ARC H)
- Architecture Studies Minor (ARCST)
- Art History Minor (ART H)
- Asian Studies Minor (ASIA)
- Astrobiology Minor (ABIOL)

- Astronomy and Astrophysics Minor (ASTRO)
- Biochemistry and Molecular Biology Minor (B M B)
- Bioengineering Minor (BIOE)
- Bioethics and Medical Humanities Minor (BMH)
- Biology Minor (BIOL)
- Black Diaspora Studies Minor (BLDSP)
- Business Administration Minor (BADMN)
- Business Logistics Minor (B LOG)
- Business Minor
- Business/Liberal Arts Minor (BUSLA)
- Chemistry Minor (CHEM)
- Chinese Language Minor (CHNS)
- Civic and Community Engagement Minor (CIVCM)
- Classics and Ancient Mediterranean Studies Minor (CAMS)
- Climatology Minor (CLIMA)
- Communication Arts and Sciences Minor (CAS)
- Communications Minor (COMCL)
- Computer Engineering Minor (CENBD)
- Computer Science Minor
- Criminal Justice Minor (CJ)
- Dance Minor (DANCE)
- Deafness and Hearing Studies Minor (DHS)
- Digital Arts and Information Sciences and Technology Minor (DGAIS)
- Disability Studies Minor (DBLTY)
- Dispute Management and Resolution Minor (D M R)
- Earth Systems Minor (EASYS)
- Economics Minor (ECON)
- Education Policy Studies Minor (E P S)
- Electronic and Photonic Materials Minor (E P M)
- Energy Engineering Minor (ENENG)
- Energy, Business and Finance Minor (E B F)
- Energy, Environmental, and Mineral Economics Minor (ENNEC)
- Engineering Entrepreneurship Minor (ESHIP)
- Engineering Leadership Development Minor (E L D)
- Engineering Mechanics Minor (E MCH)
- English Minor (ENGL)
- Entomology Minor (ENT)
- Entrepreneurship Minor (ENTRP)
- Environmental and Renewable Resources Minor (E RRE)
- Environmental Engineering Minor (ENV E)
- Environmental Inquiry Minor (ENV I)
- Environmental Resource Management Minor (E R M)
- Environmental Soil Science Minor (ESOIL)
- Environmental Studies Minor (ENVST)
- Environmental Systems Engineering Minor (ENVSE)
- Equine Science Minor (EQ SC)
- Ethics Minor (ETHCS)
- Film Studies Minor (FLMST)



- Finance Minor (FNC)
- Forest Science Minor (FORSC)
- French and Francophone Studies Minor (FR)
- Geographic Information Science Minor (G I S)
- Geography Minor (GEOG)
- Geophysics Minor (GPHYS)
- Geosciences Minor (GEOSC)
- German Minor (GER)
- Gerontology Minor (GERON)
- Global Health Minor (GLBHL)
- Global Security Minor (GLBSC)
- Global Studies Minor (GLBST)
- Greek Minor (GREEK)
- Health Policy and Administration Minor (H P A)
- Hebrew Minor (HEBR)
- History Minor (HIST)
- Homeland Security Minor (HLS)
- Horticulture Minor (HORT)
- Human Development and Family Studies Minor (HD FS)
- Industrial Health and Safety Minor (I H S)
- Information Sciences and Technology for Accounting Minor (ISACC)
- Information Sciences and Technology for Aerospace Engineering (ISASP)
- Information Sciences and Technology for Communication Arts and Sciences Minor (ISCAS)
- Information Sciences and Technology for Earth and Mineral Sciences Minor (ISEMS)
- Information Sciences and Technology for HR&IM Minor (ISHRM)
- Information Sciences and Technology for Industrial Engineering Minor (ISTIE)
- Information Sciences and Technology for Labor and Employment Relations Minor (ISLER)
- Information Sciences and Technology for Mathematics Minor (ISMTH)
- Information Sciences and Technology for Telecommunications Minor (ISTLC)
- Information Sciences and Technology in Health Policy and Administration Minor (ISHPA)
- Information Sciences and Technology Minor (IST)
- Information Sciences and Technology/Finance Minor (ISFIN)
- Information Systems and Statistical Analysis Minor (ISSA)
- Information Systems Management Minor (ISM)
- International Agriculture Minor (INTAG)
- International Arts Minor (IARTS)
- International Studies Minor (INSTD)
- Italian Minor (IT)
- Japanese Language Minor (JAPNS)
- Jewish Studies Minor (J ST)
- Kinesiology Minor (KINES)
- Labor Studies and Employment Relations Minor (LER)
- Latin American Studies Minor (LATAM)
- Latin Minor (LATIN)

- Latina and Latino Studies Minor (LTNST)
- Leadership Development Minor (L DEV)
- Legal Environment of Business Minor (LEBUS)
- Linguistics Minor (LING)
- Management Information Systems Minor (MISBD)
- Management Minor (MANGT)
- Marine Sciences Minor (MARSC)
- Marketing Minor (MRKTG)
- Mathematics Applications Minor (MAPAL)
- Mathematics Minor (MATH)
- Media Studies Minor (MEDIA)
- Meteorology Minor (METEO)
- Microbiology Minor (MICRB)
- Middle East Studies Minor (MESTU)
- Military Studies Minor (MLTRY)
- Mining Engineering Minor (MNG E)
- Mushroom Science and Technology Minor (M S T)
- Music Performance Minor (MUSIC)
- Music Studies Minor (MUSST)
- Music Technology Minor (MUTEC)
- Nanotechnology Minor (NANO)
- Natural Resources Minor (NAT R)
- Natural Science Minor (NATSC)
- Neuroscience Minor (NEURO)
- Nutritional Sciences Minor (NUTR)
- Off-Road Equipment Minor (OFFRD)
- Operations & Supply Chain Management Minor (OPSCM)
- Peace and Conflict Studies Minor (PEACE)
- Pennsylvania Studies Minor (PASTU)
- Petroleum and Natural Gas Engineering Minor (PNG E)
- Philosophy Minor (PHIL)
- Physics Minor (PHYS)
- Plant Pathology Minor (PPATH)
- Political Science Minor (PL SC)
- Poultry and Avian Science Minor (P A S)
- Product Realization Minor (PRODR)
- Professional Writing Minor (PWRIT)
- Psychology Minor (PSY)
- Recreation, Park, and Tourism Management Minor (RPTM)
- Religious Studies Minor (RL ST)
- Rhetoric Minor (RHET)
- Russian Area Studies Minor (RUSSA)
- Russian Minor (RUS)
- Russian Translation Minor (RUS T)

- Science, Society and the Environment of Africa Minor (SSEA)
- Science, Technology, and Society Minor (STS)
- Security and Risk Analysis Minor (SRA)
- Sexuality and Gender Studies Minor (SGS)
- Six Sigma Minor (SIGMA)
- Sociology Minor (SOC)
- Spanish Minor (SPAN)
- Special Education Minor (SPLED)
- Statistics Minor (STAT)
- Supply Chain and Information Sciences and Technology Minor (SCIST)
- Teaching English to Speakers of Other Languages (TESOL)
- Technical Sales Minor (TCHSL)
- Technical Writing Minor (TEHWR)
- Technology Integration Minor for Pre-Service Teachers (T I)
- Theatre Minor (THEA)
- Watersheds & Water Resources Minor (W W R)
- Wildlife and Fisheries Science Minor (W F S)
- Women's Studies Minor (WMNST)
- Wood Products Marketing Minor (WPMKT)
- World Literature Minor (W LIT)
- Writing Minor (WRTNG)
- Youth and Family Education Minor (YFE)
- Other, please specify: \_\_\_\_\_

If QID17 (Count) Is Greater Than or Equal to 1, Then Skip To Are your a Schreyer Honors College st...

Q20 Please specify the minor(s) you would like to declare.

- Accounting Minor (ACNTG)
- African American Studies Minor (AFAMR)
- African Studies Minor (AFRST)
- Agribusiness Management Minor (AG BM)
- Agricultural and Biological Engineering Minor (A B E)
- Agricultural Communications Minor (AGCOM)
- Agricultural Economics and Rural Sociology Minor (AE RS)
- Agricultural Systems Management Minor (A S M)
- Agronomy Minor (AGRO)
- American Studies Minor
- Animal Sciences Minor (ANSCI)
- Anthropology Minor (ANTH)
- Arabic Language Minor (ARAB)
- Arboriculture Minor (ARBOR)
- Architectural History Minor (ARC H)
- Architecture Studies Minor (ARCST)
- Art History Minor (ART H)
- Asian Studies Minor (ASIA)
- Astrobiology Minor (ABIOL)

- Astronomy and Astrophysics Minor (ASTRO)
- Biochemistry and Molecular Biology Minor (B M B)
- Bioengineering Minor (BIOE)
- Bioethics and Medical Humanities Minor (BMH)
- Biology Minor (BIOL)
- Black Diaspora Studies Minor (BLDSP)
- Business Administration Minor (BADMN)
- Business Logistics Minor (B LOG)
- Business Minor
- Business/Liberal Arts Minor (BUSLA)
- Chemistry Minor (CHEM)
- Chinese Language Minor (CHNS)
- Civic and Community Engagement Minor (CIVCM)
- Classics and Ancient Mediterranean Studies Minor (CAMS)
- Climatology Minor (CLIMA)
- Communication Arts and Sciences Minor (CAS)
- Communications Minor (COMCL)
- Computer Engineering Minor (CENBD)
- Computer Science Minor
- Criminal Justice Minor (CJ)
- Dance Minor (DANCE)
- Deafness and Hearing Studies Minor (DHS)
- Digital Arts and Information Sciences and Technology Minor (DGAIS)
- Disability Studies Minor (DBLTY)
- Dispute Management and Resolution Minor (D M R)
- Earth Systems Minor (EASYS)
- Economics Minor (ECON)
- Education Policy Studies Minor (E P S)
- Electronic and Photonic Materials Minor (E P M)
- Energy Engineering Minor (ENENG)
- Energy, Business and Finance Minor (E B F)
- Energy, Environmental, and Mineral Economics Minor (ENNEC)
- Engineering Entrepreneurship Minor (ESHIP)
- Engineering Leadership Development Minor (E L D)
- Engineering Mechanics Minor (E MCH)
- English Minor (ENGL)
- Entomology Minor (ENT)
- Entrepreneurship Minor (ENTRP)
- Environmental and Renewable Resources Minor (E RRE)
- Environmental Engineering Minor (ENV E)
- Environmental Inquiry Minor (ENV I)
- Environmental Resource Management Minor (E R M)
- Environmental Soil Science Minor (ESOIL)
- Environmental Studies Minor (ENVST)
- Environmental Systems Engineering Minor (ENVSE)
- Equine Science Minor (EQ SC)
- Ethics Minor (ETHCS)
- Film Studies Minor (FLMST)
- Finance Minor (FNC)
- Forest Science Minor (FORSC)

- French and Francophone Studies Minor (FR)
- Geographic Information Science Minor (G I S)
- Geography Minor (GEOG)
- Geophysics Minor (GPHYS)
- Geosciences Minor (GEOSC)
- German Minor (GER)
- Gerontology Minor (GERON)
- Global Health Minor (GLBHL)
- Global Security Minor (GLBSC)
- Global Studies Minor (GLBST)
- Greek Minor (GREEK)
- Health Policy and Administration Minor (H P A)
- Hebrew Minor (HEBR)
- History Minor (HIST)
- Homeland Security Minor (HLS)
- Horticulture Minor (HORT)
- Human Development and Family Studies Minor (HD FS)
- Industrial Health and Safety Minor (I H S)
- Information Sciences and Technology for Accounting Minor (ISACC)
- Information Sciences and Technology for Aerospace Engineering (ISASP)
- Information Sciences and Technology for Communication Arts and Sciences Minor (ISCAS)
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- Information Sciences and Technology for Telecommunications Minor (ISTLC)
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- Information Sciences and Technology Minor (IST)
- Information Sciences and Technology/Finance Minor (ISFIN)
- Information Systems and Statistical Analysis Minor (ISSA)
- Information Systems Management Minor (ISM)
- International Agriculture Minor (INTAG)
- International Arts Minor (IARTS)
- International Studies Minor (INSTD)
- Italian Minor (IT)
- Japanese Language Minor (JAPNS)
- Jewish Studies Minor (J ST)
- Kinesiology Minor (KINES)
- Labor Studies and Employment Relations Minor (LER)
- Latin American Studies Minor (LATAM)
- Latin Minor (LATIN)
- Latina and Latino Studies Minor (LTNST)
- Leadership Development Minor (L DEV)

- Legal Environment of Business Minor (LEBUS)
- Linguistics Minor (LING)
- Management Information Systems Minor (MISBD)
- Management Minor (MANGT)
- Marine Sciences Minor (MARSC)
- Marketing Minor (MRKTG)
- Mathematics Applications Minor (MAPAL)
- Mathematics Minor (MATH)
- Media Studies Minor (MEDIA)
- Meteorology Minor (METEO)
- Microbiology Minor (MICRB)
- Middle East Studies Minor (MESTU)
- Military Studies Minor (MLTRY)
- Mining Engineering Minor (MNG E)
- Mushroom Science and Technology Minor (M S T)
- Music Performance Minor (MUSIC)
- Music Studies Minor (MUSST)
- Music Technology Minor (MUTEC)
- Nanotechnology Minor (NANO)
- Natural Resources Minor (NAT R)
- Natural Science Minor (NATSC)
- Neuroscience Minor (NEURO)
- Nutritional Sciences Minor (NUTR)
- Off-Road Equipment Minor (OFFRD)
- Operations & Supply Chain Management Minor (OPSCM)
- Peace and Conflict Studies Minor (PEACE)
- Pennsylvania Studies Minor (PASTU)
- Petroleum and Natural Gas Engineering Minor (PNG E)
- Philosophy Minor (PHIL)
- Physics Minor (PHYS)
- Plant Pathology Minor (PPATH)
- Political Science Minor (PL SC)
- Poultry and Avian Science Minor (P A S)
- Product Realization Minor (PRODR)
- Professional Writing Minor (PWRIT)
- Psychology Minor (PSY)
- Recreation, Park, and Tourism Management Minor (RPTM)
- Religious Studies Minor (RL ST)
- Rhetoric Minor (RHET)
- Russian Area Studies Minor (RUSSA)
- Russian Minor (RUS)
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- Special Education Minor (SPLED)
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- Supply Chain and Information Sciences and Technology Minor (SCIST)
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- Technical Sales Minor (TCHSL)
- Technical Writing Minor (TEHWR)
- Technology Integration Minor for Pre-Service Teachers (T I)
- Theatre Minor (THEA)
- Watersheds & Water Resources Minor (W W R)
- Wildlife and Fisheries Science Minor (W F S)
- Women's Studies Minor (WMNST)
- Wood Products Marketing Minor (WPMKT)
- World Literature Minor (W LIT)
- Writing Minor (WRTNG)
- Youth and Family Education Minor (YFE)
- Other, please specify: \_\_\_\_\_

Q21 Are you a Schreyer Honors College student?

- Yes
- No

If No Is Selected, Then Skip To What is your Grade Point Average (GPA)?

Q22 How long have you been enrolled in the Schreyer Honors College?

- Since the beginning of my freshman year
- Since the beginning of my sophomore year
- Since the beginning of my junior year
- Since the beginning of my senior year

If Since the beginning of my f... Is Selected, Then Skip To What is your Grade Point Average (GPA)?

Q23 Please select below the honors program that you are a member of:

- The Gateway Admissions Process
- The Paterno Fellows Program
- Other, please specify below: \_\_\_\_\_

Q24 What is your Grade Point Average (GPA)?

- 0.00 - 2.29

- 2.30 - 2.79
- 2.80 - 3.14
- 3.15 - 3.50
- 3.51 - 4.00
- I prefer not to answer this question.

Q25 Please rate your agreement with the following statement. I am extremely involved with university-affiliated and/or non-Penn State sponsored extracurricular activities.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

If Strongly Disagree Is Selected, Then Skip To End of Block

Q26 What type of university-sponsored extracurricular activities are you involved with as a Penn State undergraduate student? Please check any that applies.

- Academic/Professional
- Honor Society
- Media/Publication
- Philanthropic
- Religious/Spiritual
- Service
- Sport/Physical Activity
- University Affiliate
- Fraternities and Sororities
- International/Multicultural
- Music/Performing Arts
- Political
- Residence Hall Interest House
- Special Interest
- Student Governance
- Other, please specify below: \_\_\_\_\_

Q27 What type of activities are you currently involved in, in your home community and/or community outside of Penn State?

- Art, Music, and/or Performing Arts
- Media/Publication
- Political
- Religious/Spiritual
- Service
- Special Interest



- Sport/Physical Activity
- Other, please specify below: \_\_\_\_\_

Q28 Has your participation in your extracurricular activity(ies) involved or will involve any international experiences?

- Yes
- No

If No Is Selected, Then Skip To End of Block

Q29 Did you travel with a group or an organization?

- Yes
- No

If No Is Selected, Then Skip To End of Block

Q30 Please specify below the name of the group/organization that you traveled with, the international destination of your extracurricular activity, and a brief description of what you did while there.

Name of the group/organization: \_\_\_\_\_

International destination: \_\_\_\_\_

What did you do? \_\_\_\_\_

**Part IV: International Travel Experience**

Q31 Have you traveled abroad before?

- Yes
- No

If No Is Selected, Then Skip To Please rate your agreement with the f...

Q32 How many times have you traveled abroad?

\_\_\_\_\_ Number of Times

If Number of Times Is Empty, Then Skip To Please rate your agreement with the f...

Q33 What region(s) did you visit? Please include all regions that you have visited and indicate the reason(s) for your travel.

	Tourism	Business	Study	Internship	Research	Missionary Work	Non-Faith Based Volunteer Work	Other
Africa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Central America	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eastern Europe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Western Europe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Middle East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
North America	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oceania	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
South America	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caribbean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If Tourism Is Selected, Then Skip To How often do your parents and/or othe...If Business Is Selected, Then Skip To How often do your parents and/or othe...If Study Is Selected, Then Skip To How often do your parents and/or othe...If Internship Is Selected, Then Skip To How often do your parents and/or othe...If Research Is Selected, Then Skip To How often do your parents and/or othe...If Missionary Work Is Selected, Then Skip To How often do your parents and/or othe...If Non-Faith Based Volunteer Work Is Selected, Then Skip To How often do your parents and/or othe...If Other Is Selected, Then Skip To How often do your parents and/or othe...

Q34 Please rate your agreement with the following statement. Although I have not traveled abroad before, I still have a strong desire to travel.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

If Strongly agree Is Selected, Then Skip To Which region would you wish to travel...If Agree Is Selected, Then Skip To Which region would you wish to travel...If Neither Agree nor Disagree Is Selected, Then Skip To Which region would you wish to travel...If Disagree Is Selected, Then Skip To Which region would you wish to travel...

Q35 Which region would you wish to travel to first?

- Africa
- Asia
- Central America
- Eastern Europe
- Western Europe
- Middle East
- North America
- Oceania
- South America
- Caribbean

Q36 How often do your parents and/or other family members travel abroad?

- Several times a year
- Once a year
- Once every five years
- They have never traveled abroad before.

Q37 Have you studied abroad or plan to study abroad as a student enrolled at The Pennsylvania State University?

- Yes, I have studied abroad.
- Yes, I plan to study abroad.
- No

If No Is Selected, Then Skip To End of Block

Q38 What region(s) did you or do you plan to study abroad in?

- Africa
- Asia
- Central America
- Eastern Europe
- Western Europe
- Middle East
- North America
- Oceania
- South America
- Caribbean

Q39 For how long did you or do you plan to study abroad?

- One academic year
- One semester

- Six weeks
- Other, please specify: \_\_\_\_\_

Q40 Did you or would you like to work, volunteer, or intern with the community in which you lived or will live while studying abroad?

- Yes, I did work, volunteer, or intern with the community in which I lived while studying abroad.
- Yes, I would like to work, volunteer, or intern with the community in which I will live while studying abroad.
- No

If Yes, I did work, volunteer,... Is Selected, Then Skip To Please briefly describe below the typ...If Yes, I would like to work, ... Is Selected, Then Skip To End of Block...If No Is Selected, Then Skip To End of Block

Q41 Please briefly describe below the type of work or volunteering that you did and why and how you became involved?

Type of work or volunteering: \_\_\_\_\_  
 Why did you become involved? \_\_\_\_\_  
 How did you become involved? \_\_\_\_\_

**Part V: Language Skills and Cultural Experience**

Q42 Can you speak a language(s) other than English?

- Yes
- No

If No Is Selected, Then Skip To Have you worked or volunteered with c...

Q43 What language(s) other than English can you speak and at what level can you speak this language(s)?

	Beginner	Intermediate	Advanced/Fluent
Arabic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bengali	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chinese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
French	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
German	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hindi/Urdu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Italian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Japanese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portuguese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Russian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify below:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If Arabic Is Not Empty, Then Skip To Where did you learn to speak Arabic? ...If Bengali Is Not Empty, Then Skip To Where did you learn to speak Bengali?...If Chinese Is Not Empty, Then Skip To Where did you learn to speak Chinese?...If French Is Not Empty, Then Skip To Where did you learn to speak French? ...If German Is Not Empty, Then Skip To Where did you learn to speak German? ...If Hindi/Urdu Is Not Empty, Then Skip To Where did you learn to speak Hindu/Ur...If Italian Is Not Empty, Then Skip To Where did you learn to speak Italian?...If Japanese Is Not Empty, Then Skip To Where did you learn to speak Japanese...If Portuguese Is Not Empty, Then Skip To Where did you learn to speak Portuguese...If Russian Is Not Empty, Then Skip To Where did you learn to speak Russian?...If Spanish Is Not Empty, Then Skip To Where did you learn to speak Spanish?...If Other, please specify below: Is Not Empty, Then Skip To Where did you learn to speak the lang...

Q44 Where did you learn to speak Arabic? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q44 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q45 Where did you learn to speak Bengali? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q45 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q46 Where did you learn to speak Chinese? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q46 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q47 Where did you learn to speak French? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q47 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q48 Where did you learn to speak German? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q48 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q49 Where did you learn to speak Hindu/Urdu? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q49 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q50 Where did you learn to speak Italian? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q50 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q51 Where did you learn to speak Japanese? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q51 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q52 Where did you learn to speak Portuguese? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q52 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q53 Where did you learn to speak Russian? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q53 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q54 Where did you learn to speak Spanish? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

If Q54 (Count) Is Greater Than or Equal to 1, Then Skip To Have you worked or volunteered with c...

Q55 Where did you learn to speak the language other than English that you have specified? Please check any that applies.

- At home with my family
- At elementary school
- At middle school
- At high school
- As an undergraduate student at Penn State
- During a travel experience(s)
- Other, please specify: \_\_\_\_\_

Q56 Have you worked or volunteered with culturally diverse communities and/or organizations in the United States?

- Yes
- No

If Yes Is Selected, Then Skip To Please briefly describe below the type...If No Is Selected, Then Skip To End of Block

Q57 Please briefly describe below the type of work or volunteering that you did and why/how you became involved?

- Type of work or volunteering:
- Why did you become involved?
- How did you become involved?

#### **Part VI: Global Health**

Q58 Please select the response below that most identifies with YOUR definition of global health. (There is no wrong answer.)

- The application of the principles of public health to health problems and challenges that transcend national boundaries
- International aid, technologies and interventions flowing from the wealthier countries of the global north to the poorer countries of the global south
- An area for interdisciplinary study, research, and practice that places priority on improving health and achieving equity in health for all people worldwide
- None of the above (my definition of global health significantly differs from those listed above)

Q59 Are you currently enrolled in, or have you previously completed, a global health course at Penn State?

- Yes
- No

If Yes Is Selected, Then Skip To Please specify below the global health...If No Is Selected, Then Skip To Would you like to enroll in a global ...



Q60 Please specify below the global health course(s) number, e.g. BB H 305, that you are enrolled in or previously completed. If the course has been completed, please also specify your grade.

	A	A-	B+	B	B-	C+	C	D	F	I do not know my grade.	I prefer not to specify my grade.
Global Health Course Number 1: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Global Health Course Number 2: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Global Health Course Number 3: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Global Health Course Number 4: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Global Health Course Number 5: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If Global Health Course Number 1 Is Not Empty, Then Skip To Is there any global health course or ...If Global Health Course Number 2 Is Not Empty, Then Skip To Is there any global health course or ...If Global Health Course Number 3 Is Not Empty, Then Skip To Is there any global health course or ...If Global Health Course Number 4 Is Not Empty, Then Skip To Is there any global health course or ...If Global Health Course Number 5 Is Not Empty, Then Skip To Is there any global health course or ...

Q61 Would you like to enroll in a global health course at Penn State?

- Yes
- No

If Yes Is Selected, Then Skip To Is there any global health course or ...If No Is Selected, Then Skip To Have you heard of Penn State’s Global...

Q62 Is there any global health course or global health discipline/issue in particular that you are interested in?

- Yes, I am interested in this global health course: \_\_\_\_\_
- Yes, I am interested in this global health discipline/issue: \_\_\_\_\_
- No

Q63 Have you heard of Penn State’s Global Health Minor?

- Yes
- No

Q64 Are you currently enrolled in or interested in applying for the Global Health Minor at Penn State?

- Yes, I am currently enrolled.
- Yes, I applied but was not directly admitted into the program.
- Yes, I am interested in applying and have already participated in an on-campus information session and/or advising meeting with the GLBHL minor Coordinator.
- Yes, I am interested in applying but have NOT already participated in an on-campus information session and/or advising meeting with the GLBHL minor Coordinator.
- No, I am neither interested nor currently enrolled in the Global Health Minor.

Q65 Please rate your agreement with the following statement. I am extremely interested in studying

global health as a Penn State undergraduate student.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Q66 If you are interested in global health, what factors have influenced your interest in this field? Please select the TOP THREE that apply most to you.

- Previous international travel experience(s)
- Previous class(es), including high school courses
- Immigrant family history e.g. being a first-generation, second-generation, or 1.5-generation U.S. citizen/permanent resident
- Global news media, such as the internet or television networks like CNN
- Celebrities and their individual philanthropic work, such as Bono and Angelina Jolie
- Current media campaigns, such as the [RED] Campaign and the 2008 Live 8 concerts to raise awareness of HIV/AIDS
- Resume/CV enhancement to improve future career or employment chances or to boost graduate school applications
- Desire to help others
- Desire to travel
- Interest in learning about other cultures and communities different from my own
- Recommendations from family members, friends, professors, and other personal acquaintances
- Other, please specify: \_\_\_\_\_

If Previous international trav... Is Selected, Then Skip To Please briefly describe below your in...If Previous international trav... Is Not Selected, Then Skip To If you are interested in global health...

Q67 Please briefly describe below your international travel experience(s) that has strongly influenced your interest in global health. Please include the destination and the type of activities and/or work that you did and/or saw, and what aspects of your experience were most influential in shaping your future personal or professional goals.

Destination: \_\_\_\_\_  
Type of activities and/or work that you did and/or saw: \_\_\_\_\_  
What aspects were most influential in your personal and professional development? \_\_\_\_\_

If Destination Is Not Empty, Then Skip To Was this work religiously affiliated? If What aspects were most infl... Is Not Empty, Then Skip To Was this work religiously affiliated? If Type of activities and/or w... Is Not Empty, Then Skip To Was this work religiously affiliated? If Destination Is Empty, Then Skip To Was this work religiously affiliated? If Type of activities and/or w... Is Empty, Then Skip To Was this work religiously affiliated? If What aspects were most infl... Is Empty, Then Skip To Was this work religiously affiliated?

Q68 Was this work religiously affiliated?

- Yes
- No
- I prefer not to answer this question.

Q69 If you are interested in global health, what type of skills and benefits do you hope to gain by studying global health? Please select the TOP THREE that apply most to you.

- Enhanced cross-cultural sensitivity
- Increased appreciation of diversity
- International travel experience
- Resume/CV enhancement to improve future career or employment chances or to boost graduate school applications
- Improved interpersonal/communication skills
- Improved foreign language(s) skills
- Technical skill development
- Satisfy internship requirements
- Life experience
- Explore career options
- Other, please specify: \_\_\_\_\_

Q70 Please specify your interest level for each undergraduate global health opportunity listed below.

	Strongly interested	Interested	Neither interested nor disinterested	Disinterested	Strongly disinterested
Pursuing a global health major	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pursuing a global health minor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking global health courses BUT not as part of a global health major or minor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experiencing an international global health fieldwork experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joining a global health student organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completing a global health-related internship in the U.S.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending on-campus global health lectures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participating in a Spring-break global health experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q71 Do you realistically perceive yourself pursuing any of these global health opportunities?

- Yes
- No

If No Is Selected, Then Skip To What barriers do you think will impeded...If Yes Is Selected, Then Skip To Please rate your agreement with the f...

Q72 What barriers do you think will impede your chances to study global health as an undergraduate student? Please check any that applies.

- Financial costs of tuition for global health courses and/or for another major/minor
- Financial constraints for an international fieldwork experience
- Family commitments, i.e. marriage, parent to a dependent child(ren)
- Perceived competition amongst other students interested in global health
- Lack of opportunities available for students to study global health
- My major does not allow me the flexibility to take additional classes e.g. in the area of global health
- Not enough time to complete the global health minor requirements prior to graduation
- Other, please specify: \_\_\_\_\_

Q73 Please rate your agreement with the following statement. I am extremely interested in engaging in global health following the completion of my college degree.

- Strongly agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

Q74 If you are interested in continuing to engage in global health following the completion of your college degree, what type(s) of opportunity would you be most interested in? Please select the TOP THREE that apply most to you.

- Global health volunteer as part of either a governmental agency, such as the Peace Corps, or a non-governmental organization (NGO), such as Doctors Without Borders
- Independent global health volunteer (i.e. travel to the field and seek out ad hoc opportunities once in country)
- Global health missionary worker
- Philanthropy e.g. donating money to a global health charity
- A global health rotation as part of medical school education
- Global health training as part of professional or graduate school
- Research/scholarship
- Global health practitioner e.g. for a governmental or non-governmental organization
- Global health policy worker e.g. within an United Nations agency, United States government, or an independent think-tank
- Other, please specify: \_\_\_\_\_

Q75 Do you have any suggestions to help improve global health opportunities offered at Penn State and/or to help better prepare undergraduate Penn State students for careers or graduate education in global health? Please check any that applies.

- Increase the number of global health course offerings
- Increase the number of on-campus global health lectures
- Offer more financial resources for students interested in global health fieldwork experiences
- Create a global health major
- Host global health career panels
- Other, please specify: \_\_\_\_\_

Q76 In the Fall semester, the researchers will be seeking to recruit individual students to participate in a short (i.e. approximately 30 minute) face-to-face interview. If you would be willing to be further involved with this study, please enter in your Penn State email address in the space below.

Penn State email address ([abc123@psu.edu](mailto:abc123@psu.edu)): \_\_\_\_\_

## ACADEMIC VITA

### RACHEL N. CRINER

334 Panofsky Hall, University Park, PA 16802  
rnc127@psu.edu  
(215) 518-8227

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#### EDUCATION

##### **Pennsylvania State University Schreyer Honors College**, University Park, PA

- Bachelor of Science in Science, Life Science Option, Expected December 2011
- Minors in Global Health and Spanish

##### **Penn State Global Health Minor Fieldwork**, Polokwane, South Africa Summer 2011

- Observed various primary care clinics and infectious disease control programs
- Attended HIV/AIDS and tuberculosis awareness campaigns
- Presented the *Road to Health* program, a South African Department of Health program that aims to improve childhood health, to the University of Limpopo Health Promotion Unit

##### **Temple University Public Health Fieldwork**, Ortega, Costa Rica Summer 2010

- Observed primary care clinics, hospitals, and health and gender rights awareness programs
- Served as an English-to-Spanish translator for diabetic Costa Rican patients
- Hosted an information session to rural Costa Ricans to raise awareness for gender rights

#### RESEARCH EXPERIENCE

##### **Honors Thesis: Strengthening Undergraduate Global Health Curricula at Penn State** 2011

- Administered survey to undergraduates to determine, through descriptive statistical analysis, key trends in students' reasons for wanting to pursue global health studies and professional interests/goals
- Supervised under Penn State professors Melina Czymoniewicz-Klippel, Ph.D., and Linda Caldwell, Ph.D.
- Completed Collaborative Institutional Training Initiative (CITI) Social and Behavioral Human Subjects Research (IRB) Course in April 2011

##### **The Keiler Lab at Penn State**, Department of Biochemistry & Molecular Biology Spring 2010

- Researched antibiotic development and resistance by studying the *trans*-translation pathway of *Shigella flexneri*
- Presented the poster entitled "A Novel Target for Antibiotic Attack – Elucidating the Mysteries of *Trans*-translation" at Pennsylvania State University's Undergraduate Exhibition

- Temple Lung Center at Temple University Hospital**, Philadelphia, PA Summer 2009
- Prepared transplanted lung tissue for dissemination to research facilities
  - Performed CT lung analyses using VIDA Pulmonary Workstation 2.0

## **VOLUNTEER EXPERIENCES**

- Penn State Urban Service Experience**, Washington, D.C. November 2010
- Volunteered at soup kitchens and prepared a Thanksgiving meal for homeless individuals

- Penn State Harrisburg Service Experience**, Harrisburg, PA March 2010
- Volunteered at a soup kitchen and clothing center for needy individuals

- Penn State Alternative Spring Break**, Brenton, WV March 2010
- Repaired the home of a West Virginian resident

- LifeLink PSU**, University Park, PA Fall 2008-Spring 2010
- Helped college-age, special needs students develop their social skills

## **ACTIVITIES**

- Student Support Services Program Tutor Fall 2011
- General Chemistry I & II Exam Proctor Fall 2011
- The Penn State Service Trip Planning Team Executive Board Fall 2010-Spring 2011
- Resident Assistant (RA) to 42 female, first-year residents Fall 2010
- Asian American Students in Action Coordinator and Mentor Fall 2009-Fall 2010
- Assistant Undergraduate Teaching Assistant and Tutor for Biology Fall 2009
- The Daily Collegian* Campus and Education Reporter Fall 2008-Spring 2009

## **HONORS AND AWARDS**

- Dean's List Fall 2008 – Present
- Schreyer Honors College Academic Excellence Scholarship Fall 2008 – Present
- Golden Key International Honour Society Spring 2009 – Present
- Alpha Epsilon Delta, the National Health Professions Honor Society Spring 2009 – Present
- Phi Eta Sigma National Honor Society Spring 2009 – Present
- Ruth E. Duffy Premedicine Endowment Scholarship Fall 2011
- President Sparks Award April 2010
- The President's Freshmen Award April 2009