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MEDIUM TO LONG TERM IMPACTS ON FORMER PARTICIPANTS OF THE
SHOULDER TO SHOULDER GLOBAL BRIGADES TO ECUADOR

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of
Science in Community and Leadership Development in the College of Agriculture, Food
and Environment at the University of Kentucky

By

Craig Borie

Lexington, Kentucky

Director: Dr. Ronald Hustedde, Professor of Community and Leadership

Development

Lexington, Kentucky

2018

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Abstract of Thesis

MEDIUM TO LONG TERM IMPACTS ON FORMER PARTICIPANTS OF THE SHOULDER TO SHOULDER GLOBAL BRIGADES TO ECUADOR

Medium to Long Term Impacts on Former Participants of the Shoulder to Shoulder Global Brigades to Ecuador. International service learning and voluntourism programs in global health evoke benefits for both community and the intervener. While it is clear that the Shoulder to Shoulder Global program at the University of Kentucky provides a service to an economically resource poor community in Santo Domingo, Ecuador, what is unclear is the impact these interprofessional experiences have on the participants that travel with the four times a year health brigades. This study proposes to answer the question of what are the educational, personal and professional impacts that brigade participants experience. Alumni of the Shoulder to Shoulder Global health brigades from 2007 – 2017 were sent a twenty-three question survey to better understand the impact of this program. Seventy-five responses to the quantitative and qualitative questions were received and a chi square analysis was performed of subgroups within the seventy-five respondents. The findings indicate that this program has positively impacted participants in all three areas, with strong evidence to show that the impacts are related to the initial and intermediate outcomes, with more data needed to better assess the long-term program outcomes.

KEYWORDS: Interprofessional, international service learning, voluntourism, experiential learning, cultural awareness, volunteer at home and abroad

Craig Borie

December 5, 2018

MEDIUM TO LONG TERM IMPACTS ON FORMER PARTICIPANTS OF THE
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CHAPTER 1: BACKGROUND AND BRIEF DESCRIPTION OF THE SHOULDER TO SHOULDER GLOBAL PROGRAM

The University of Kentucky (UK) Shoulder to Shoulder Global (STSG) program began in 2002, when Dr. Tom Young, Professor of Pediatrics, UK College of Medicine, led the first medical brigade to Ecuador with a small group of six committed participants who wanted to make a difference in a resource poor community. Four years later, the group expanded to over 30 participants, and Dr. Claudia Hopenhayn, Associate Professor of Epidemiology, UK College of Public Health, and originally from Argentina, joined Dr. Young as brigade co-leader in 2006.

Medical brigades, or health brigades, are interdisciplinary teams of approximately fifty participants that provide general medical care to members of the community. The interdisciplinary teams consist of students, faculty and healthcare professionals in the areas of dentistry, medicine, nursing, nutrition, pharmacy, public health, physical therapy, communication science disorders and other pre-health academic tracks.

In 2007, a planning team composed of UK faculty, staff, students and community partners began planning for a comprehensive community development project in Santo Domingo de los Colorados, Ecuador. The first phase was to be the development of a primary care health center in the community of Carlos Ruiz Burneo (CRB), an economically poor community on the outskirts of Santo Domingo. In April of 2007, the health center was opened and named Centro Médico Hombro a Hombro (CMHH), which translates to Shoulder to Shoulder Medical Center or Clinic. CMHH provides medical care, prevention services, oral health, and school-based services in the community.

CMHH currently employs local staff, including a general medical practitioner, a nurse, a dentist, a social worker, and support personnel who work as a team to improve the health of patients who seek medical, dental care or preventive services. With the previous help of Peace Corps volunteers, the CMHH continues to help facilitate a clean water project, a women's exercise and empowerment group and a children's literacy project. In addition to the services at CMHH, partnerships have been established with the Tsáchilas people, a traditional indigenous group from Santo Domingo area who live in small, isolated rural communities outside the city limits.

In the spring of 2012, STSG began offering a credit-bearing course as part of the brigade experience. Participants of the program take the interprofessional course prior to brigade departure. The course, "Interprofessional Teamwork in Global Health", covers topics such as how perceptions of health may differ between the United States and Ecuadorian healthcare systems, demystifying the health professions and the scope of their practice and asks students to reflect on their own beliefs and biases.

While it is clear that the STSG program provides a service to an economically resource poor community in Santo Domingo, Ecuador, what is unclear is the impact these experiences have on the approximately 150 participants that travel with the March, May, June and August brigades each year. This study proposes to answer the question of what are the educational, personal and professional impacts that brigade participants experience. The evaluation will explicitly focus on the Shoulder to Shoulder Global (STSG) program at the University of Kentucky as it seeks to improve the health and well-being of resource poor and underserved communities while providing a unique student

learning experience. The target audience of the evaluation are the alumni of the health brigades that are currently professionals or pursuing their professional studies.

To begin exploring these three areas, I first share desired outcomes, followed by a logic model and stakeholder analysis. I then discuss proposed evaluation questions, evaluation methods and an evaluation timeline. The literature review follows, with additional outreach to round out the literature review shared. Lastly, I share a few preliminary findings from a draft of an outcomes measurement tool.

DESIRED OUTCOMES

As a principle piece of the university's global health initiative, the Shoulder to Shoulder Global (STSG) program seeks to improve the health and well-being of resource poor and underserved communities while providing participants a unique interprofessional learning experience. Based on the credit-bearing course and STSG leadership objectives, desired program outcomes are listed below, followed by a program logic model.

Initial:

- Participants learn a global perspective - That we are all interconnected and exist as we are because of others, global events affect us all.
- Participants learn how to effectively work in an interprofessional team
- Participants learn how to listen to their patients - The lack of available equipment and testing options fosters making a human connection.

Intermediate:

- Participants incorporate serving the underserved into their practice as clinicians.

- Participants' career direction is impacted and/or take courses outside of their disciplines based on their interprofessional collaborative experiences.
- Participants become better clinicians as they have learned the importance of listening to their patients.

Long-term:

- Communities become healthier as we all take ownership of global health challenges.
- Patients achieve improved health outcomes due to cohesive interdisciplinary collaboration.
- Communities learn to listen to one another before addressing health problems.

Figure 1.1, below, shares the STSG program’s Inputs, Outputs and Outcomes-Impact as they relate to the program’s Initial, Intermediate and Long-term outcomes (Borie, 2016):

Shoulder to Shoulder Global Logic Model

Situation: Preparing university students, staff and faculty to serve in an interprofessional and global community.

**Model is a recurring process*

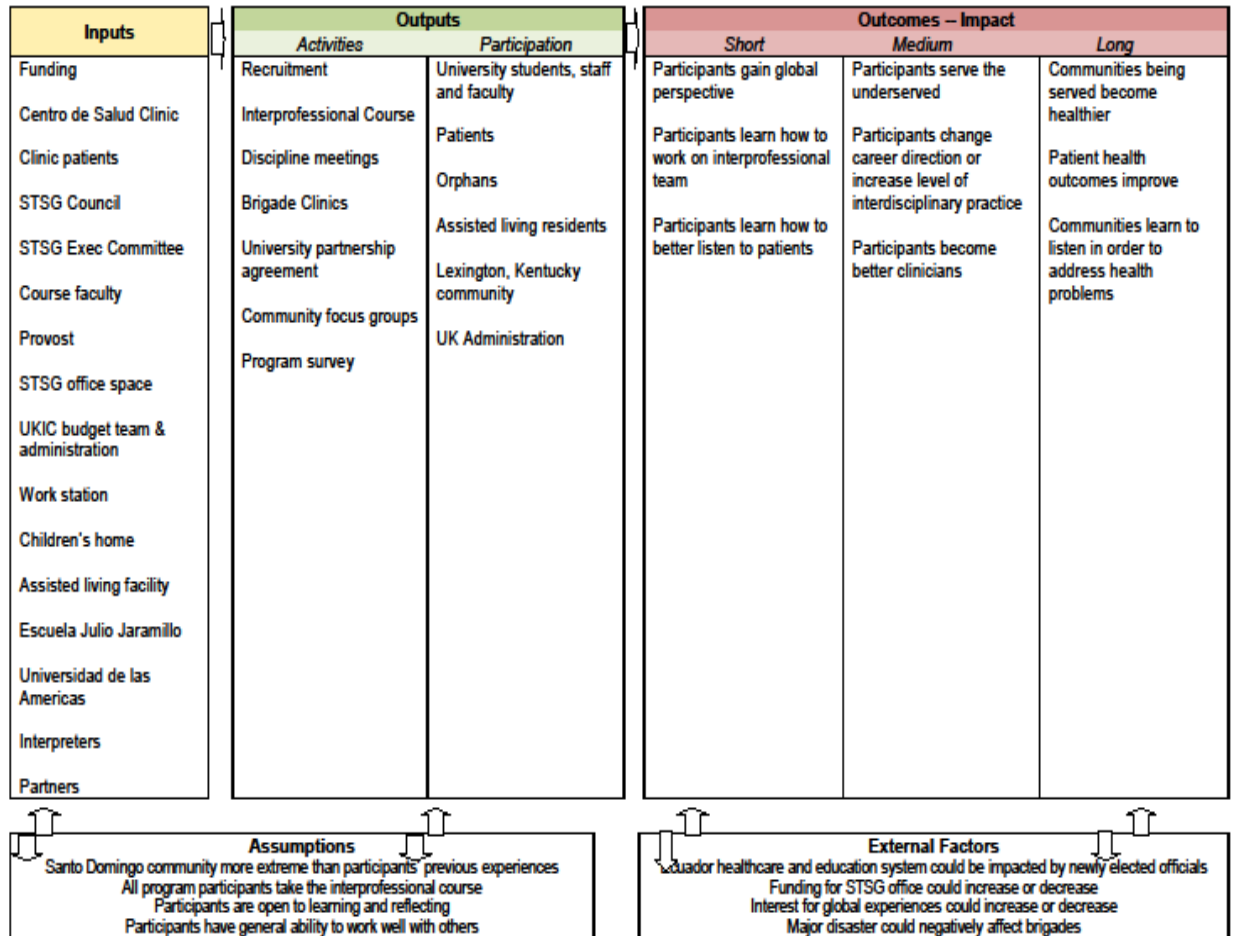


Figure 1.1 Shoulder to Shoulder Global Logic Model

STAKEHOLDER ANALYSIS

The targeted alumni have returned from their experience in Ecuador and help answer the “so what” about their global health brigade experience. The list below is of the stakeholders, why each are interested in the program and what they will want to know.

- The STSG Executive Committee – The Executive Committee is the leadership of the Shoulder to Shoulder Global program. Each member dedicates a large amount of personal and professional resources, such as time and money, to direct the program. They will want to know if the program is having a successful impact on participants. If not, there is a fear that the clinic in Ecuador will close and people will lose jobs while creating the loss of a global health opportunity for students.
- The STSG Program Coordinator – The Shoulder to Shoulder Global Program Coordinator manages the program’s daily affairs and it is a full time professional position. The program also provides a career for this individual. The positive impact the program has on participants is vital to keeping this position employed by the university. The coordinator is interested in if the program is worthwhile for participants as it provides a sense of workplace meaning for the coordinator’s work. In addition, for job satisfaction, the coordinator is interested in knowing if the work being done is making a difference and if so, what kind of difference in the areas of community health and impact on the brigade participants.
- STSG Brigade Participants – The program’s academic consumers, or brigade participants, have an interest in the program as they have each spent approximately \$2,000 and valuable time to take part in the experience to learn about global health and working with other professions.

- STSG Course Faculty – The STSG course faculty manage preparatory course and content. The instructors spend hours preparing curriculum and want to know if what is being taught is valuable to participants.
- Health Clinic in Ecuador – The Centro de Salud Hombro a Hombro is the health clinic in Santo Domingo, Ecuador that manages the brigade educational site. The program provides employment for each member at the health clinic. They want to know if the experience is of positive benefit to brigade and community participants so that the program can continue to receive support for its role in serving the community and the health brigades.
- University of Kentucky Provost – The University of Kentucky’s Provost has a stake in the student learning experience. The provost provides financial support for the program’s coordinator and needs to know if the program is worth the investment. The provost wants to know participant outcomes attributed to the program.

EVALUATION QUESTIONS

The focus of the evaluation is to explore the impact that the Shoulder to Shoulder Global program experience is having on its brigade participants, with attention focused on outcomes. Indicators of success will be if brigade participants share reflections about a global perspective and appreciation for interdisciplinary teamwork in their survey responses. Has the experience changed the respondents’ approach to their practice or discipline post-brigade. Questions to be answered by this evaluation reflect the outcomes desired, such as:

- To what extent did the Shoulder to Shoulder Global program help you learn a global perspective?
- Which components of the Shoulder to Shoulder Global program helped you learn to function effectively when working as part of an interprofessional team?
- What have you found to be the most rewarding post-Shoulder to Shoulder Global program benefits? How has this related to your overall major, specialization or education?
- Due to your Shoulder to Shoulder Global experience, to what extent do you incorporate serving the underserved in your practice as a clinician or professional?
- Have you become a better clinician or professional due to your Shoulder to Shoulder Global experience? If so, how? If not, why?
- As it relates to your Shoulder to Shoulder Global experience, do you pursue interdisciplinary collaboration? If so, why? If not, why not?
- Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program? If so, how?

EVALUATION METHODS

- A Qualtrics survey will be sent to brigade alumni participants via email. A look at why Qualtrics is the preferred tool is provided under the Methodology section of this study.
- Phone contact and email will be used for any follow-up required.

EVALUATION TIMELINE

- *December 15th, 2017*–Receive formal approval from STSG Executive Committee.
- *May 15th, 2018*- Receive University of Kentucky Institutional Review Board (IRB) approval and rollout project. Send out email with link to Qualtrics survey asking alumni to complete.
- *May 30th, 2018* – Follow-up to fill in any missing survey information. Check survey response rate. If low (i.e. less than 35 respondents), work with specific disciplines to garner responses.
- *September 30th, 2018* – Code data, summarize results
- *October 21st, 2018* – Interpret results
- *October 31st, 2018* – Make recommendations
- *November 26th, 2018* - Defend

CHAPTER 2: LITERATURE REVIEW

A quotation credited to Mark Twain states that, “Travel is fatal to prejudice, bigotry, and narrow-mindedness” (Twain, 1869, p. 493). Although Mr. Twain may have been speaking in general terms, it can also be said that there has historically been a lack of information about the impact of medical missions or the longer-term impact of international experiences on participants. This problem is compounded by the relative lack of frameworks available for evaluating them. Literature reviews conducted by Button et al. (2005) and Thompson et al. (2003) confirm that, while there are numerous narratives of positive effects of international experiences, long-term benefits and impacts, are generally not assessed. Most of the information about medical missions focuses on whether medical missions are of benefit to the communities served. An example of this is Nicole Berry’s, “Did we do good? NGOs, conflicts of interest and the evaluation of short-term medical missions in Sololá, Guatemala” (Berry, 2014). She argues that there exists a conflict of interest between the communities that are receiving medical mission services and those doing the serving. While she questions the impact of medical missions in communities around the world, she does not explore the intervener, such as the Shoulder to Shoulder Global (STSG) brigade participant.

For ease of use, the literature review is grouped into related areas, with international service learning and voluntourism topics listed together, with Experiential Learning Theory a separate piece of the literature review. As the literature on international service learning and voluntourism is reviewed, it should be noted that the term health brigades and medical missions are used for this review interchangeably.

International service learning is a type of service learning activity with a skilled volunteer workforce. It is also a form of *voluntourism*, a relatively recent term that, in this case, can apply to the Shoulder to Shoulder Global brigades to Ecuador. Although the terms international service learning and *voluntourism* are similar, the service-learning piece of the first term indicates that there is a formalized structure, such as classroom sessions, for the learning process to occur. Service-learning programs are distinguished from other approaches to experiential education by their intention to equally benefit the provider and the recipient of the service as well as to ensure equal focus on both the service being provided and the learning that is occurring. *Voluntourism*, on the other hand, is the engagement of participants in activities where the primary emphasis is on the service being provided and the primary intended beneficiary is clearly the service recipient (Furco, 1996). The term typically implies that there is a traditional tourist activity involved, too. Examples of tourism might include a tour of a historic site or visiting the beach. Both terms, international service learning and voluntourism, apply to the Shoulder to Shoulder Global brigade experience with its mix of students, staff, faculty and community members. Of note for either term, the literature on this topic may be biased toward a positive or negative view, such as an article about voluntourism in the New York Times Magazine stating, "... we ought to acknowledge the truth that we, as amateurs, often don't have much to offer. Perhaps we ought to abandon the assumption that we, simply by being privileged enough to travel the world, are somehow qualified to help ease the world's ills" (Kushner, 2016). It is possible that there is a spectrum of voluntourism. At one end, it may involve minimal reflection and impact or, it may be extensive in its levels of reflection and impact. Lastly, experiential learning theory is

explored during the literature review with viewpoints shared from the writings of Paulo Freire and David Kolb.

International Service Learning and Voluntourism

As the Shoulder to Shoulder Global program is a type of international service-learning and voluntourism, research was performed to better answer the question, “What is service learning and/or voluntourism as it applies to the Shoulder to Shoulder Global international brigades?”.

International service-learning (ISL) combines academic instruction and community-based service in an international context (Crabtree, 2008). With the modern climate of the need for colleges and universities to internationalize students to be competitive in a global economy while being productive members of their communities, it is not surprising that ISL is becoming increasingly popular each year. At the University of Kentucky, the Shoulder to Shoulder Global international service-learning and/or voluntourism program has doubled in size the past five years, from eighty participants in 2011 to 163 in 2017. The goals for linking international travel, education, and community service include increasing participants’ global awareness and development of humane values, building intercultural understanding and communication, and enhancing civic mindedness and leadership skills (Berry & Chisholm, 1999; Hartman & Roberts, 2000).

International education experiences, of which ISL is a part of, were initially designed with the goal of promoting international understanding and world peace (Crabtree, 2008). International education has developed in significant ways over the past

fifty years and there is a push for colleges and universities to re-examine their international programs around the idea of global citizenship, with concerns around social justice (O'Donovan, 2002). Weaving the fabric of a civil society is the unspoken goal of many ISL programs.

Current trends in service learning point out concerns in regard to how the sometimes-privileged backgrounds of participants can have an influential effect on the ISL experience. For example, local children can become enamored with the foreign students and the material possessions they take for granted. Many students return to pursue courses of study and careers with little apparent divergence from the path of privilege. Members of neighboring communities wonder why no one has come to help them (Crabtree, 2008). All three of these examples from the literature are struggles that the Shoulder to Shoulder Global (STSG) program faces as it works to improve the experience for both students and the citizens of Santo Domingo, Ecuador. STSG leadership is challenged to find ways to maintain the balance of power that each of these three examples imply.

Dr. Tracy George, in her nursing research on the impact of service-learning, shares insights about how to fulfill a service-learning mission as it relates to nursing education. She also addresses the challenges faced by service learning projects through making sure key structural pieces are in place. As a structural guideline, she states that the service learning activity should meet the needs of the community. Often the needs identified by those outside of the community are not what the community itself lists as needs. In the same vein, she found that the partnership between the engaging nursing school and the community should be genuine. She emphasizes that a true partnership

takes time to foster. Her concluding point is that service learning requires student reflection to help the student better understand the role of self as it applies to civic responsibility, nursing and patient advocacy (George, 2015). While her research is a valuable tool to use for all service learning projects, she also states that research on the impact of service learning is lacking and that more valid and reliable instruments to measure this impact are needed.

Findings from a nursing education participatory action study (Kirkham, Van Hofwegen & Pankratz, 2009) address the topic of sustaining social consciousness and a gap that is identified as, "...empirical data is lacking regarding long term benefits and effects of international placements". The study, "Keeping the Vision: Sustaining Social Consciousness with Nursing Students following International Learning Experiences", begins the discussion of long-term learning following international experiences by sharing the findings of Kollar and Ailinger (2002), who prompted the perspectives of twelve graduates about their international experiences. The perspectives confirmed that knowledge, personal growth and interpersonal connections remain as imprints of the experience. The social consciousness study by Kirkham, Van Hofwegen & Pankratz has the objectives to: (1) explore the nature of learning achieved by students regarding social justice in the context of international health experiences, and (2) identify and facilitate strategies that support students in the integration of this learning into personal and professional domains upon return to Canada. The study defines social consciousness as "personal awareness of social injustice" (Giddings, 2005, p. 224). Social injustice in the study refers to unfairness in society's division of rewards and burdens, typically with unequal access to facilities, services, or systems resulting in health disparities (Kirkham,

et al, 2009). The study's results show that translating the learning from the international experience to home is difficult, with the authors noting that there is, "...profound learning but difficult translation and sustainability" (p. 5). In essence, findings show significant learning from the international experience, with personal awareness of social consciousness, however, the challenge that is difficult to overcome is the translating and sustaining the critical awareness upon return home (p. 10).

As consistent with my findings on international service learning, literature on the impact of medical missions on the intervener is not extensive. However, an older study by CeCelia Zorn discusses the long-term impact on nursing students of participating in international education (Zorn, 1996). Zorn discusses the internationalization of the nursing curriculum with data from twenty-seven ISL alumni who completed an International Education Survey (IES), which contained twenty-nine items designed on a 1 to 7 Likert scale. Five of the twenty-nine questions concentrated on the degree that the international education experience has (1) had a long-term impact on practice as a professional nurse, (2) been relevant to a professional career, (3) enhanced effectiveness as a professional nurse, (4) improved efficiency as a professional nurse, and (5) affected progress as a professional nurse. The other three dimensions of the IES as it applied to Zorn's study were changes in international perspectives, personal development, and intellectual development, with an open-ended question at the end to allow respondents to add additional thoughts. The evaluation questions guiding the study are focused on the question: Are nurses educated at the baccalaureate level prepared to provide professional nursing in a variety of health care settings? Impact was the major consideration, defined as the degree to which the long-range implications of the programs

are continuing to produce the desired effects (Veney & Kaluzny, 1984). The study concludes that there are three primary areas in which international education is considered to have an impact (Kauffmann, Martin, & Weaver, 1992): (1) intellectual development primarily through critical or systematic thinking, language study, or change in reading habits; (2) expanded international perspectives described as a global understanding or changed perceptions about one's own or host culture; and (3) personal development as reflected in personal decisions and philosophy, values and beliefs. Descriptive statistical analysis was conducted and qualitative answers from the open-ended question, "What else is important for us to know about your international education experience?" were grouped.

In Zorn's study, a long-term impact was found in all four of the IES dimensions assessed: international education experience, international perspectives, personal development, and intellectual development. The strongest impacts were on the enhancement of one's international perspective of global understanding and facilitation of one's personal growth, personal decision-making, and personal values and beliefs. Results also show that the length of the international education experience is significantly associated with the long-term impact in all four dimensions.

While Zorn's study is quite useful for its mention of the International Education Survey, the limitations as it applies to my study with Shoulder to Shoulder Global are that Zorn used a small, selected sample, making it difficult to generalize beyond her research. The study is also relatively dated, with little empirical documentation to confirm her findings as they relate to interprofessional medical missions.

Much of the literature of service learning, domestic or international, refers to transformative learning. Transformational learning occurs when individuals surface, evaluate, and revise distortions in sets of assumptions through critical reflection and discourse. The main goal of transformational learning is for learners to develop more valid meaning perspectives for interpreting experience and guiding action (Kiely, 2004). Kirkham, Hofwegen and Pankratz (2009) refer to Fink (2003), in his work on creating significant learning experiences. He shares that although some portion of the meaning making process must be done at an individual level, most people find that making meaning entirely by themselves is not the most effective way to accomplish this task because meaning making happens in community.

Service learning (SL) experiences are intended to reciprocally benefit communities and their members in addition to students. SL benefits to students are articulated in more civic, rather than individualistic terms, such as enhanced civic participation, social responsibility, and commitment to community service (Kenny & Gallagher, 2002; Parker & Dautoff, 2007). The course work in the Interprofessional Teamwork and Global Health course and the brigade experience have the intent to transform the brigade participants. Desired transformations facilitated by international service learning (ISL) may include an awakening to self, to others, and to the world; increased knowledge, confidence and language skills; and the development of more complex and personal understandings of other cultures and cultural others, and of community, poverty, and justice (Crabtree, 2008). A transformational learning process is not about accumulating more knowledge, but about seeing the world in a profoundly different way, one that calls for personal commitment and action (Eyler and Giles, 1999).

Mentoring brigade participants through the STSG program is designed to move the consciousness away from a charity style of participation to an increased level of working shoulder to shoulder with the community to address issues. Shoulder to Shoulder Global is a learning organization and the resulting relationships are crucial to a successful ISL or voluntourism program, and I hypothesize, a key element of the impact that the international experience has on participants. As an example, as new brigade participants engage in the work coming from the perspective of their own discipline, they observe other health care professionals working next to them and eventually learn to use each other as resources, learning from each other as part of the programming. Participants eventually quit worrying that they individually will not be of help to the community being served. After the first day of connecting with interprofessional colleagues and receptive patients, participants become active in helping define the brigade learning environment, share in capacity-building of each other and the community and create new relationships that will endure well past the time of their actual brigade work in Ecuador.

Gruidl & Hustedde, 2003, use the learning organization approach to identify questions that can be used as tools in evaluating the impact of programming on an organization. They explored ideas from Senge's Learning Organization model (Senge, 1990) that focuses on building capacity. Of special note for the STSG brigades is the discussion of mental models and team learning. Mental models examine deeply ingrained assumptions, generalizations or images that influence behavior and understanding of the world (Gruidl & Hustedde, 2003). This relates to the changes in world views that occur when brigade participants return to the United States. Their world has not necessarily changed, but their view of the world can be altered. Team learning is also an impact of

the brigades to Ecuador, they learn to respect and value the interprofessional approach to working with a patient to improve health outcomes.

As the literature for ISL frequently discusses the transformation of participants, a relevant longitudinal case study in the *Michigan Journal of Community Service Learning* (Kiely, 2004) expresses the difficulty of participants to change their long-term actions based on a short-term ISL experience. Longitudinal is defined as, “involving the repeated observation or examination of a set of subjects over time with respect to one or more study variables” (Longitudinal, March 30th, 2017). The small study bases results from examining twenty-two undergraduate students and how they experienced transformation from participating in a short-term ISL program to Nicaragua. Three separate learning dimensions of students’ emerging global consciousness are explored – (1) envisioning, (2) transforming forms, and (3) chameleon complex. Envisioning relates to participants’ willingness to act on the moral, political, and intellectual aspects of participant transformation. The various forms of transformational learning can be related to the “chameleon complex”. The “chameleon complex” refers to participants’ ongoing struggle to translate their emerging global consciousness transformation into meaningful action. In other words, the individual’s struggle between conforming to and resisting dominant norms, rituals and practices. This struggle is part of what social theorist Pierre Bourdieu refers to as *habitus*. *Habitus* is the set of acquired dispositions that reflect the history of a person and a place. In simplest form, it is socialization and the individual internalization of structure. Emerging from the socialization is *doxa*. *Doxa* loosely means what is universally accepted in a particular area or field (Bourdieu and Eagleton, 1992). As it relates to ISL, it is the transformation of what is perceived as normal, or part of a

generally accepted routine, and changing how one interprets it based on a global experience. Changes in the participants' world-view were found in at least one of six dimensions: political, moral, intellectual, personal, spiritual and cultural. The six dimensions are offered as a framework for understanding the multiple ways that ISL participants might experience transformation. The findings conclude that the long-term impact of students' perspective transformation on their ability to change their lifestyle habits, resist cultural norms, and engage in social action is often ambiguous and problematic (Kiely, 2004) and that research on the effects of international service-learning (ISL) is limited and anecdotal in nature (Kraft, 2002). Brookfield (1994) also shares another side of fostering critical reflection and transformative learning in that the process of critical reflection frequently has an explicit political dimension that signifies questioning cultural hegemony and relations of power through ideology critique (Brookfield, 2004). For the Shoulder to Shoulder Global brigades to Ecuador, does the brigade experience change the behavior of the brigade participant? After the brigade experience, is this individual an influence maker in his or her field? Does the interprofessional brigade experience foster, for example, a personal commitment to question existing discipline specific protocol due to the learned approaches of other health professions?

Much of the literature on international education experiences focuses only on the short-term and positive transformative effects of international service-learning (ISL) on undergraduate students (Crabtree, 1998; Grusky, 2000; Hartman & Rola, 2000; Kadel, 2002; Kraft & Dwyer, 2000; O'Donnell, 2000). Grusky writes in her abstract that if the program is well-developed, international service learning can be a transformational

learning experience that could have relevance for subsequent academic and career choices (Grusky, 2000, p. 858-867). Hartman and Rola (2000) share that students, because of their ISL experience, are transformed as individuals, and, “change their career focus, and all become more informed, caring and affirmed students”. Consistent with literature on the subject, Hartman and Rola also state that, “we do not know whether these changes continue throughout a lifetime, but the short term changes are all positive” (p. 21).

Research shows that there are several types of transformation that may occur during ISL experiences. Multiple studies have looked at transformative ISL experiences in regard to changing participant perspectives. This is known as perspective transformation. Mezirow (1991) defines perspective transformation as, “...the process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand and feel about our world; of reformulating these assumptions to permit a more inclusive, discriminating, permeable and integrative perspective; and of making decisions or otherwise acting on these new understandings” (p. 14).

Eyler and Giles (1999) conclude that students experience perspective transformation from their participation in service-learning as: (1) a new understanding of the locus and solution to social problems as linked to existing social arrangements, (2) questioning current social and institutional arrangements, (3) a commitment to social justice, and (4) an intent to act in ways that change social policies and institutions to alleviate social problems (p.149). Their study indicates that students do not experience perspective transformation frequently. There is also a trend in this study and similar

studies (Eyler & Giles, 1999; Rhoads, 1997) that shows that perspective transformation in service-learning means substantial moral, political and intellectual change, but that most studies have not examined the impact of students (or participants) over time, with data showing an intention to act versus the action itself (Kiely, 2004).

As part of the transformation of Shoulder to Shoulder Global brigade participants, many participants anecdotally express an increased level of clinical skill self-efficacy and general self-confidence. Pigg (2002) explores how empowerment manifests from personal knowledge, attitudes and behavior. The brigade challenges participants to help individuals and communities by offering opportunities to increase health education levels while simultaneously encouraging the participant to examine his or her own values and beliefs. Pigg refers to this as Self-Empowerment through Individual Action (p. 112). Kouzes & Posner also explore empowerment in organizations, with research noting that, "...sharing of leadership responsibility and power such that each person who's on the team can contribute to the whole task for which the team is responsible more fully and completely, with all their skills and initiative" (Kouzes & Posner, 1987, p. 138). This type of empowerment is illustrated in the interprofessional work of the Centro de Salud Hombro a Hombro clinic and the Shoulder to Shoulder Global brigades. As a third type of empowerment, Pigg looks at Empowerment and Social Action. This type of empowerment has a non-personal, holistic dimension (Rappaport, 1984), with individuals coming together within communities to address issues such as an imbalance of power or privileges between a disadvantaged group and society at large. Empowerment and Social Action includes critical consciousness and community leadership, topics touched upon as

part of the Shoulder to Shoulder Global brigade course, Interprofessional Teamwork in Global Health.

As a Returned Peace Corps Volunteer (RPCV) and a Shoulder to Shoulder Global brigade alumnus, I can agree that it is not an unreasonable question to ask if the twenty-seven-month Peace Corps experience has similarities in impact to the much shorter Shoulder to Shoulder Global ten-day brigades to Ecuador. Dr. Angene Wilson (Wilson, 1986) attempted to answer two questions related to impact about RPCVs who were teaching social studies:

1. What is the impact of the Peace Corps experience on RPCVs in regard to how they teach?
2. What implications does this have for the social studies profession?

The questions are important as the Peace Corps experience is, in some ways, the ultimate service-learning experience. Peace Corps, created in the 1960s under John F. Kennedy, has the primary mission to promote world peace and friendship by fulfilling three goals (Peace Corps, 2017):

1. To help the people of interested countries in meeting their need for trained men and women.
2. To help promote a better understanding of Americans on the part of the peoples served.

3. To help promote a better understanding of other peoples on the part of Americans.

To collect data for her study, Dr. Wilson visited the classrooms of seventeen RPCVs as they served in teaching roles. She observed classes for each and conducted an hour-long interview. The interview focused questions about the effect of the Peace Corps on teaching. Dr. Wilson finds that the most important and lasting impact of the Peace Corps experience on the teachers interviewed and surveyed was in the area of being more accepting and appreciative of differences (Wilson, 1986). She also found that these RPCV social studies teachers agree that the following common characteristics are part of being an effective Peace Corps volunteer and an effective teacher: accepting of and relating to all kinds of people; adaptable/flexible; awareness of and respect for differences; able to deal with problems; caring; and openness to new ideas and experiences (Wilson, 1993, p. 27).

As part of my research for this study and to better understand her work (Wilson, 1986), an in-person discussion was held with Dr. Wilson, a retired University of Kentucky Professor from the Department of Curriculum and Instruction and current Kentucky Peace Corps Association board member (A. Wilson, personal communication, May 1, 2017). Dr. Wilson was a Peace Corps volunteer in the 1960s and later served as the Associate Director of the Office of International Affairs at the University of Kentucky. Her husband Jack previously served as the Peace Corps Country Director in Fiji. Dr. Wilson states that Peace Corps does not publicly track the medium and long-term impacts of the volunteer experience on Returned Peace Corps Volunteers.

During the discussion, Dr. Wilson points out a chapter titled, “The Impact of International Experience” in her book, “The Meaning of International Experience for Schools” (Wilson, 1993). In the research for her book, Dr. Wilson reviewed a study that showed how studying abroad can increase a student’s interest in reflective thought and tolerance for ambiguity (Kauffmann, 1982). In a follow-up study conducted one year later, this increase in the students’ interest in reflective thought and tolerance for ambiguity persisted. Dr. Wilson writes in the impact chapter of the book that various Peace Corps studies report independence and related characteristics as important, although it is not clear that the international experience resulted in increased independence (Wilson, 1993, p. 23). Perhaps independence may have been a characteristic enabling a person to join the Peace Corps.

Although the impact of both programs, Shoulder to Shoulder Global and the Peace Corps, are similar in that they can both be called international service-learning (ISL) types of programs, there are a number of key differences between a Peace Corps experience and the Shoulder to Shoulder Global brigade experience:

1. The Peace Corps experience involves integration with the community, versus the brigade experience of clinical observation.
2. The Peace Corps experience provides a living allowance versus the Shoulder to Shoulder Global brigade experience that is funded by the participant. This can create an employee versus consumer difference in perspectives. In essence, the Peace Corps experience provides the participant, the Peace Corps

volunteer, with a living. The brigade participant isn't being provided a living but is paying to receive a quality learning experience.

3. The Shoulder to Shoulder Global brigade experience is an interprofessional team experience that includes short interactions with individual community members.
4. The Peace Corps experience is individual with integrated and extended interactions with community members.

As reviewed, there are articles that focus on the study abroad experience, including some impact data, but not all relate to experiences that are similar to the interprofessional, short, medium and long-term outcomes that the educational STSG health brigades offer. Wendy Mistretta, in her doctoral dissertation (Mistretta & Roe-Clark, 2008), discusses the impact of education abroad on five general categories; (1) intellectual development, (2) expanded international perspectives, (3) personal development (Kauffman et al., 1992), (4) family life, and (5) community involvement (Carlson et al., 1990). Additionally, Mistretta's & Roe-Clark's study identifies a long-term effect on two other categories: (1) professional accomplishments, and (2) hobbies, interests and activities. The questions that Mistretta & Roe-Clark ask as part of the survey are substantially relevant to what my evaluative study aims to answer: In what ways are former participants in the Shoulder to Shoulder Global program impacted in terms of their intellectual development, international perspectives, and personal development? In what ways are these effects incorporated into the various areas of their lives? The themes in Mistretta's study could apply to how STSG brigade participants' intellectual

development, expanded international perspectives, personal development, family life, community involvement, professional accomplishments and hobbies, interests and activities change.

As part of their research, Mistretta & Roe-Clark (2008) also refer to the Institute for the International Education of Students (IES). IES surveyed alumni from its own study abroad programs from 1950 to 1999 (Dwyer, Peters, 2004). The survey found that almost half of the 3,400 respondents have engaged in international work or volunteerism since studying abroad. However, the findings support the idea that programs that are six weeks long or longer in duration have the most impact, leaving the direct impact of programs similar to the Shoulder to Shoulder Global brigades as unknown or speculative in nature.

Wallace (1999) is one of a few that investigated the long-term impact of U.S. study abroad on alumni careers. Wallace surveyed and interviewed forty-eight alumni ten years after their participation during the 1985 to 1986 academic year in Pomona College's Study Abroad Programs. The programs were located in ten countries and were one to two semesters in length. Providing additional context from Wallace's data, Norris & Gillespie (2008, p. 382-397) find that fifty-nine percent of respondents in Wallace's study reported that their study abroad experience had a moderate to very significant influence on their career development and/or advancement. Seventy-one percent of respondents identified that their careers had been constructively influenced by studying abroad.

The American Journal of Pharmacy Education published an article titled, "A Medical Mission to Guatemala as an Advanced Pharmacy Practice Experience"

(Werremeyer & Skoy, 2012) that relates to the health brigade experiential learning aspect. As previously stated, medical missions are similar to STSG health brigades. Although the article mentions interdisciplinary education, the focus is on the discipline of pharmacy. Part of the research refers to the Inventory for Assessing the Process of Cultural Competence – Student Version, or IAPCC-SV (Campinha-Bacote, 2008). This tool measures cultural competence of undergraduates in the health professions and may be useful as part of the quantitative data that will be gathered for the STSG study. The tool accomplishes this goal by comparing baseline and endpoint scores. This tool could be used with the STSG participants by having participants answer the 4-point Likert-type scale questions at the beginning of the interprofessional course, after completion of the interprofessional course and finally after the completion of the health brigade to Ecuador, with a follow-up given at least one year after the brigade experience. This tool has two weaknesses: 1) It does not directly reflect any possible increases in clinical skills for the participants and 2) The usefulness of the data. Coffman, Shellman, and Bernal (2004), authors of the Cultural Self-Efficacy Scale (CSES), recommend avoiding this tool with students as "students may lack the experience needed to be aware of what they do not know" (Coffman, et al, 2004, p. 184). The study notes that comments from the mission experience are given by participants in order to improve future medical missions. This will be an item of importance for STSG brigade participants, to have the satisfaction of knowing they are influencing future brigades, even if this tool is ultimately not used in my study. An ethical consideration that is not addressed in the study is what happens to the patients after the brigade leaves. Do the patients later have access to medications for a chronic condition, such as diabetes or hypertension?

The next article considered as part of the service-learning and voluntourism piece of the literature review is from the *International Journal of Intercultural Relations* and is titled, “Short-term Study Abroad and Intercultural Sensitivity: A Pilot Study”. (Anderson, Lawton, Rexeisen & Hubbard, 2006). The article references Hammer and Bennett’s Intercultural Development Inventory, or IDI (Hammer, Bennett, & Wiseman, 2003). The focus is on cross-cultural sensitivity. The review of this quantitative tool explains that a short-term study abroad experience, such as the STSG brigades, can provide skills improvement in academics, professional, personal and intercultural areas, but only indirectly hints at possible clinical skills improvement, an area that should be important for the STSG brigade participants. The article asserts that the increased competitiveness for resources is difficult for study abroad programs as they lack the specific data to validate their worth (Anderson, et al, 2006, p. 458). This last piece is a current challenge for STSG and is a contributing reason for my research. The study also suggests that increasing cultural awareness is important, but that the methods to achieve this do not have to be through studying abroad. There is discussion in the article about how an increase in cultural awareness could emerge through training at a local level, but no conclusions are shared. Several hypotheses are also discussed in regard to how a study abroad experience might be beneficial, but the information does not show the impact to participants in the areas of education, personal or professional skills. The most useful idea to glean from this research is about a follow-up to the initial study several years later, to see if participants still feel the same about their study abroad experience (Anderson, Lawton, Rexeisen & Hubbard, 2006, p. 468). This idea is applied to this study to see if STSG brigade participants still feel the same about the impact of their brigade

experience several years later as they did upon their immediate return from the experience, a perception-based longitudinal study. The idea of a perception-based longitudinal study is discussed in the future implications section at the end of my study.

An article in the *Journal of Mental Health, Religion and Culture* titled, “Reduction in Burnout may be a Benefit for Short-Term Medical Mission Volunteers” (Campbell, Campbell, Krier, Kuehlthau, Hilmes, & Stromberger, 2009) explores quantitative changes in burnout scores following short-term medical mission experiences. In the article, a quotation begins to capture the essence of the brigade experience impact on participants. The quotation comes from a Nicaraguan resident of a poor community and is based on what missionaries tell him about their experience in his community. The missionaries often state, “I didn’t realize how much I would benefit from doing this. I thought I was giving to them, but they actually gave to me” (Campbell, Campbell, Krier, Kuehlthau, Hilmes, & Stromberger, 2009, p. 627). Another quotation from a faith-based journal states, “They come here thinking that they’re going to give something to us, but many discover that instead they receive, from people who have almost nothing, a new experience of hope, faith and love” (Jeffrey, 2001, p. 6). These statements suggest that there are possible impacts to brigade participants but do not specifically define whether the impacts to participants are in the areas of education, personal growth or professional skills. The Reduction in Burnout article also asserts that an environment with relatively limited resources and equipment allows health care workers to interact with patients in a more direct and personal manner. Information about the tool used to measure burnout, the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1986) correlates participant stressors, such as exhaustion, cynicism and inefficiency, with burnout scale

scores. Positive changes in personal appraisal, worldview or work perspectives continue to develop after return from the mission experience (Campbell, Campbell, Krier, Kuehlthau, Hilmes, & Stromberger, 2009). These factors may be why participants wish to take part in medical missions, but the article lacks precise data about what the causes of the positive impacts are. While the information offers assistance to this study, most of the data centers around faith-based missions instead of secular medical missions and some terminology used in the article is also slightly dated, with the authors referring to Third World countries instead of a more modern term such as relatively resource limited countries or The Global South.

LITERATURE REVIEW PERSONAL STATEMENT

As part of the literature review in regard to how service-learning and voluntourism impact participants and wanting to learn more about the medium and long term impacts of similar programs, I am reminded of how sometimes a community has a much larger impact on the intervener than the work that the intervener is attempting to accomplish. This is true for the work, whether it is international service learning or voluntourism, that stakeholders do with the Shoulder to Shoulder Global program and the impact that the program has on participants' being, affecting the way we live our lives and challenging us to question decisions we make in our personal and professional lives. While the primary focus of this study is not about program participant schedules, the impact of the program's work on the community in Ecuador or how multiple brigade experiences may help manage burnout (Campbell, et al. 2009). All three of these topics are relevant for future studies of the Shoulder to Shoulder Global program. As an

example on a personal level, I have never really learned to be still, and ironically, find it difficult to find inner peace. It is ironic as peace is part of what we are struggling to achieve as activists in the brigades to Ecuador. Hustedde (2998) argues that it is important for activists to be still within the noise and activity of community. Otherwise, their frenzied activism is a form of violence which negates the sense of inner and collective wisdom. The article could easily refer to Shoulder to Shoulder Global program participants when it talks about overwork as a form of violence, with individual brigade volunteers attempting to help everyone who comes to see them, regardless of the time of day or how mentally and physically exhausted the volunteer feels. This self-imposed form of violence that can be prevalent for health care and community development practitioners. Most participants have likely not thought of what we do to ourselves in the program or back home as destructive. Brigade students tend to be leaders academically and in student groups. Despite the hectic schedules of most Shoulder to Shoulder Global students, most do well academically while committing to multiple leadership obligations, each student helping to build healthier communities with a sense of comradery. In reality, one of the reasons for the popularity of the brigades to Ecuador could be due to its short time frame, allowing students to work internationally without missing almost overwhelming academic and social obligation. One can see how, "The frenzy of the activist neutralizes his work for peace. It destroys the fruitfulness of his own work, because it kills the root of inner wisdom which makes work fruitful" (Merton, quoted in Parry, 1991, p. 41). Since beginning my work as the Program Coordinator of Shoulder to Shoulder Global in 2011, I work about fifty to sixty hours per week, go to school, volunteer with seven refugee families and serve on the board of several organizations. In

the words written on many brigade applications, “I just want to help”. I feel battered and exhausted most days and do not really connect with what I am doing to myself; it could be considered a form of violence. I am in too much of a frenzy to actively think many days, leaving me in a poor state to consistently help the refugee families or anyone else with any wisdom that I may possess. To think of stillness as an activity could be considered a radical way of thinking to some and should be introduced as part of the nightly reflections during the brigade experience. A way to be that is vital for those who have continued work with communities and who must continue to take care of their health. It is ironic that the brigades promote healthy living, when in reality, as brigade participants we are all on our own road to self-improvement, including the need to change some of our own unhealthy habits. In this way, Hustedde’s article is pertinent for many of the Shoulder to Shoulder Global participants who wish to make a difference in their educational, professional and personal lives.

As the international service learning and voluntourism literature review in this section demonstrates, there are a fair number of studies that discuss the short-term impacts on participants of their international experiences, experiences that are from a variety of programs. The literature for ISL and voluntourism shows promise towards researching the impact of the international experiences on participants, however, relatively little data unequivocally describes the medium and long-term impacts of these experiences on participants. This not only includes the interveners, but the communities served. There is also scant literature in regard to how the interprofessional piece of an ISL or voluntourism experience, such as that which the Shoulder to Shoulder Global

program offers, impacts the participants longer term. Examples might include stepping outside of one's profession years later due to the brigade experience or finding improved community health outcomes due to the brigade alumni's previous experience with interprofessional collaboration.

For the next piece of this review, I examine how experiential learning theories can help serve as a guide through the interpretation and analysis of the project data collected.

EXPERIENTIAL LEARNING THEORY

My convergent mixed methods study is to explore the educational, personal and professional impacts on the participants of the UK Shoulder to Shoulder Global (STSG) brigades to Santo Domingo, Ecuador. Based on the idea of learning through experience, the theory utilized for my study is experiential learning theory. To give the reader a better understanding of the theory, I will explore experiential learning theory through the literature as it applies to the STSG brigade experience.

Paolo Freire, in his book *Pedagogy of the Oppressed* (Freire, 2000), explores the idea of a banking concept of education. In his view of the traditional way of teaching, the action of the students extends only as far as receiving, filing, and storing educational information called deposits. With the teacher making deposits and the students doing little more than memorizing material, the question is how much learning is really happening. Freire states, "Apart from inquiry, apart from praxis, individuals cannot be truly human. Knowledge emerges only through invention and re-invention, through the restless, impatient, hopeful inquiry human beings pursue in the world, with the world, and each other" (Freire, 2000, p. 72).

While the deposit concept of education is one way to learn, experiential learning is a more pragmatic form of learning that occurs during the STSG health brigades. David Kolb, a theorist of experiential learning, has created what he calls a “simple description of the learning cycle” (Kolb,1984, p. 21). There are three models of experiential learning that Kolb describes. The Lewinian Experiential Learning model is the most relevant of the three for the purpose of my proposed study. The diagram below, FIGURE 2.1, is based on the work of Kurt Lewin (Kolb,1984, p. 21). The cycle begins with a concrete experience, followed by observation and reflection, which are absorbed into the formation of abstract concepts and generalizations, from which implications for action are deduced. Finally, these lead to testing implications of concepts in new situations, followed by another concrete experience, which starts the cycle again.

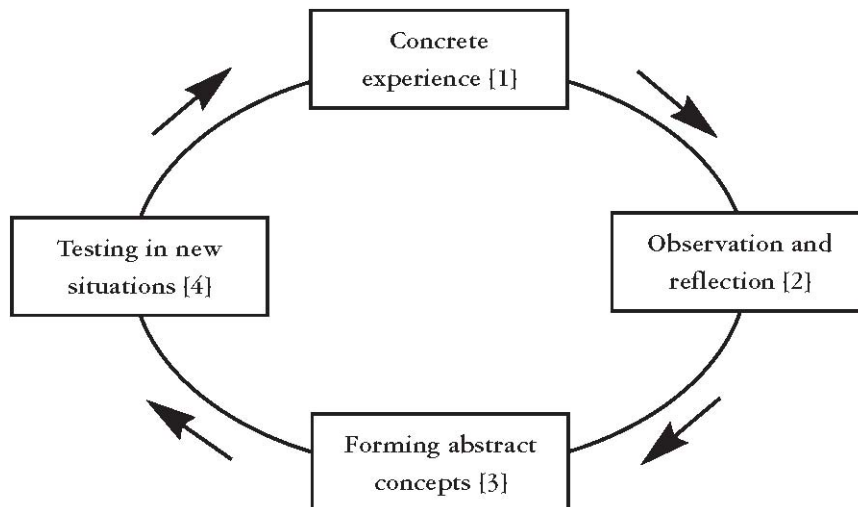


Figure 2.1 The Lewinian Experiential Learning Model

This model is a useful tool for helping to explain the process by which students abroad can integrate the actual global experience with the analysis of their global

experience. The first part of the cycle is the concrete experience, such as working as a participant of the health brigade. The reflection stage involves taking a step back from the experience and noticing what is different, comparing and contrasting what is known with experiences that are new. This is an important part of learning, being able to form abstract concepts, where participants generalize and interpret events. This stage or step where the participant reflects on the meaning of the experience is where his or her training from the STSG Interprofessional Teamwork in Global Health course directly applies. Participants apply lessons learned during the course, such as cultural humility, medical anthropology and reflection capabilities, to form abstract concepts about the significance of their experiences. This also occurs during the actual health brigades, where we meet each night after dinner to ask participants to reflect on their day. As a group, we help guide each other through many new thoughts and feelings. Again, this is essential to understanding the relationships or general principles and theories that explain the experience. The final step of the Lewinian Experiential Learning model is testing the new theory or concept in various situations. This is where the transfer of new knowledge into concrete actions takes place; it reflects our intent with the brigades and for each of the participants.

In essence, experiential learning theory involves the participant in a concrete experience and engages the specific learner in critically analyzing the situation in order to form new knowledge that can be used the next time a similar situation is encountered. This basic idea may help explain the educational, personal and professional impacts that brigade participants experience.

As experiential learning helps explain the impact of the brigade on participants, an independent variable in my study is the health brigade experience to Santo Domingo, Ecuador. An independent variable is defined as, “A variable whose values are specified first or before an experiment is performed and are used to find values of an expression, another variable, or a function that depends on the first variable” (Merriam-Webster, 2017).

The actual impact of the brigade on the educational, personal and professional aspects of the participants is considered the dependent variable. This variable is considered dependent as this variable changes depending on the quality of the impact of the brigade experience.

In closing, the literature review helps us, if not fully, answer the question of what are the educational, personal and professional impacts that brigade participants experience. We see through various studies that travel can be rewarding for the intervener, often not by what they can give, but by what they learn about the world and themselves. We also see that there has been a lack of information on the impact of medical missions or the long-term impact of international experiences on participants. This has contributed to the relative lack of frameworks available for evaluating them. Multiple literature reviews conducted by researchers confirm that, while there are numerous narratives of positive effects of international experiences, longer term impacts are generally not assessed.

As part of the outreach to complete the literature review, a short questionnaire was sent to a few brigade alumni in order to receive feedback about questions to be asked of alumni during the Fall 2017 semester implementation of this project. The questions were

sent in an attempt to better understand the medium to long-term impacts on former students of the Shoulder to Shoulder Global Brigades to Ecuador. The summary of the feedback is shared after the Additional Outreach for Literature Review, along with a reference to a draft of the outcomes measurement tool.

The literature review helps describe related research in the field of international education experiences and of medical brigades. To describe the mechanics of how my study, “Medium to Long Term Impacts on Former Students of the Shoulder to Shoulder Global Brigades to Ecuador” is implemented, a Methodology section is included after the Additional Outreach for Literature Review.

PRELIMINARY OUTREACH TO COMPLEMENT LITERATURE REVIEW

As a part of the research of organizations similar to Shoulder to Shoulder Global, Kate Schedel, Director of Programming and Evaluation for Timmy Global Health, was contacted via email (C. Borie, personal communication, April 27th, 2017) to ask if her organization has information regarding the impact that their program has on participants. Timmy Global Health is an organization based in Indianapolis, Indiana that provides a brigade experience that is similar in style to the Shoulder to Shoulder Global program. A key difference is that Timmy Global Health does general collaboration with multiple sites in multiple countries versus Shoulder to Shoulder Global, an organization that continues to focus on a specific clinic in Santo Domingo, Ecuador. Timmy Global Health also incorporates a larger number of undergraduate students, including a slightly less diverse array of professional disciplines. Schedel does not have data other than the short-term impact of the Timmy Global Health brigade experience, in other words, data collected

immediately upon the return of the brigade student participants. Schedel states, “I just went on brigade with a doctor who was a Timmy student in Jamaica (back when we still operated there); she chose medical school because of her trip and just returned as a provider” (K. Schedel, personal communication, April 28th, 2017). Schedel states that she believes there are more stories like this, but that the information is not easily available nor been analyzed.

An in-person discussion with Miko McFarland, Executive Director of Education Abroad at the University of Kentucky, also occurred (C. Borie, personal communication, March 8th, 2017). McFarland states that she is not aware of data where the medium and long-term impacts of programs similar to Shoulder to Shoulder Global have been measured.

SUMMARY OF PRELIMINARY RESPONSES TO OUTCOMES MEASUREMENT INSTRUMENT

For the outcomes measurement tool, or survey, used for this evaluative study, please see Appendix B. A few preliminary highlights of the qualitative reactions are listed below. The outcomes measurement tool was shared with five brigade alumni on April 30th, 2017, including a draft of the proposed survey questions. The drafted questions presented to these five alumni can be found under this study’s Reliability and Validity section. Feedback on the brigade experience and suggestions to improve the tool and corresponding questions were shared. For a more effective implementation of the outcomes measurement tool, more action-based examples needed to be solicited in order

to help explain more explicitly the overall medium and long-term impacts. Participants wanted to share about their brigade experience by answering some of the tool's impact focused questions. These general brigade feedback responses are listed below, with the specific brigade alumni suggested improvements listed subsequently:

- A 25-year-old white male pharmacist, a pharmacy student at the time of his 2014 May brigade, states “The brigade experience was unparalleled in terms of learning and growing. To see health care professionals practice with such fervor and impact a community that needed it more than words can describe was inspiring, to say the least”.
- A 28-year-old white female dentist, a dental student at the time of her August 2013 brigade, states that “Ecuador taught me unexpected things not only about life outside of the United States, but also about myself”.
- A 22-year-old black male law student, a sophomore at the time of his March 2015 brigade, states “I understood a stronger personal emphasis on why the brigades need to be community-led. I/we (University of Kentucky delegates) are not experts in indigenous health and Ecuadorian culture. It would be not to the interest of the patients' health to demand that health mirrors what it does in America. Doing so would further the toxic American exceptionalism and would discredit the true experts of the brigade, the people in Ecuador”.

- A 26-year-old white male pharmacist, a pharmacy student at the time of his August 2016 brigade, states “The educational impact was not as great as the personal and professional impact that the actual brigade provided. The course itself was well managed and [for pharmacy students] even had a pharmacy-specific component to it. However, I’m not sure I learned that much from the (interprofessional) course. One of the main things that I learned was about interpretation and translation and how interpreters functioned in healthcare. It was cool to understand all that goes into body language, positioning, and even technique and is something that I use in my practice as a pharmacist”.
- A 31-year-old white female physician, a medical resident at the time of her May 2012 brigade, states “Working with other healthcare professionals to provide patient care, as opposed to simply learning alongside them in a classroom, definitely helped to break down stereotypes. Each profession carries with it a certain amount of baggage and stereotypes that are portrayed in the media and pop culture. In reality, it's important to remember that each healthcare professional is their own individual and (the in-person collaboration is) guaranteed to be more interesting and complex than the stereotypes that may follow their chosen profession”.

Brigade alumni suggested the following approaches for measuring outcomes:

- Ask for specific examples in regard to the answers requested in each question. This may include how the brigade alumni incorporates the item in their daily lives or practice.
- Define age and other demographic categories. Although listed in the above sampling through other sources, information was not available on survey. This might include asking gender and race.
- Ask if brigade alumni has volunteered internationally or domestically since taking part in the brigade instead of just asking about international volunteering.
- Consider behavioral based questions, like “Tell me about a time in your current practice when you used something you learned on the brigade?”.

Final Implementation of Preliminary Responses to Outcomes Measurement Instrument

For the Fall 2017 semester, the outcomes measurement tool was sent once again to six STSG stakeholders, including the Program Coordinator for the Office of Global Health at the University of Kentucky. Individual feedback from each of the six stakeholders is listed as part of this proposal in Appendix C, “Final Implementation of Preliminary Responses Feedback to Outcomes Measurement Instrument”. As in previous solicitations of preliminary measurement instrument feedback, suggestions to improve the tool are shared below.

Suggested Outcomes Measurement Tool Improvements

- Consider asking for any negative experiences from the alumni’s brigade experience.

- A request to consider more multiple choice instead of open ended questions.
- Be careful of open-ended questions causing respondent burden.

FINAL IMPLEMENTATION OF PRELIMINARY RESPONSES TO OUTCOMES MEASUREMENT INSTRUMENT

For the Fall 2017 semester, the revised outcomes measurement tool was sent again to six STSG stakeholders, including the Program Coordinator for the Office of Global Health at the University of Kentucky. Individual feedback from each of the six stakeholders is listed as part of this proposal in Appendix C, “Final Implementation of Preliminary Responses Feedback to Outcomes Measurement Instrument”. As in previous solicitations of preliminary measurement instrument feedback, suggestions to improve the tool are found below.

SUGGESTED OUTCOMES MEASUREMENT TOOL IMPROVEMENTS

- Consider asking for any negative experiences from the alumni’s brigade experience.
- A request to consider more multiple choice instead of open ended questions.
- Be careful of open-ended questions causing respondent burden.

CHAPTER 3: METHODOLOGY

The Methodology for this study is designed to answer the question of what are the educational, personal and professional impacts that brigade participants experience. The explicit focus is on the Shoulder to Shoulder Global (STSG) program at the University of Kentucky as it seeks to improve the health and well-being of impoverished and underserved communities while providing a unique student learning experience. The study's methodology helps analyze the impacted target audience, the alumni of the health brigades that are currently professionals or professional students.

Since 2012, STSG has been structured so that student participants from UK and the Lexington community prepare for the brigade to Ecuador through the Interprofessional Teamwork in Global Health course. The syllabus includes four main goals of the course as they relate to students (Aleshire, et al., 2013):

1. Explore values and ethics for interprofessional practice when serving patients and communities in a global health or other limited access setting.
2. Explore roles and responsibilities of members of the interprofessional health care team in serving patients and populations in a global health or other limited access setting.
3. Develop skills in interprofessional communication with members of the health care team, patients and families in diverse populations.
4. Develop team and relationship building values and principles within healthcare teams to perform effectively in varying team roles to plan and deliver patient/population-centered care in a global health or other limited access setting.

After training is provided, participants then go to Ecuador to work at the Centro Médico Hombro a Hombro. As a part of this study, I look at the in-class and in-field components and the impact on the participants in both of these areas, analyzing any differences in the outcomes for participants based on the year of participation. A mixed methods design is used in my study. A mixed methods design is, “An approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks” (Creswell, 2014, p. 4). After much consideration, the decision was made to collect both quantitative and qualitative data in order to secure a more thorough understanding of the impact of the brigades on participants and the mixed methods design provides an appropriate structure.

The primary tool that I use in my mixed methods study is a survey with both quantitative and qualitative questions. A survey is the preferred instrument as the data can be quickly gathered and analyzed. Responses are coded, or grouped into categories. All participants in the interprofessional course and participating in the brigades were emailed the survey, along with brigade participants that went to Ecuador before the course was offered. This includes approximately 502 student or medical resident participants that have participated since 2012, with a reduced number of participants for the years 2007 – 2011. The reduced number of available participants is due to the lower levels of participation in the brigades before the hiring of a Shoulder to Shoulder Global program coordinator in September 2011. The use of an existing survey instrument is utilized in order to be able to more easily establish the tool’s validity and reliability. The tool selected is able to work with the preferred requirements listed above and is able to offer

close-ended and open-ended questions to help format my questions in regard to the educational, personal and professional impacts on the participants of the STSG brigades to Santo Domingo, Ecuador.

A discussion of methodology would not be complete without discussing the data sources, data collection methods, data management and data analysis of my study. After the methodology sections, there is a section on reliability and validity, bias and ethical considerations and future implications of my study.

DATA SOURCES

Data was collected from respondent emails sent to 915 brigade participants that were a part of the 2007 to 2017 brigades to Santo Domingo, Ecuador. These participants have been selected to help answer my study's research question, "What are the educational, personal and professional impacts on the participants of the UK STSG brigades to Santo Domingo, Ecuador?".

To better illustrate the sources of brigade participants, *Figure 3* is a pie chart that the STSG office has created that shows the percentage ratios of participation from each of the disciplines that are represented during the brigades to Ecuador. Each area includes faculty, staff and students based on data maintained in the Shoulder to Shoulder Global office. One of the limitations of this chart is that it only shows total participation from 2008-2016 while this study focuses on brigade participants from 2007 – 2017.

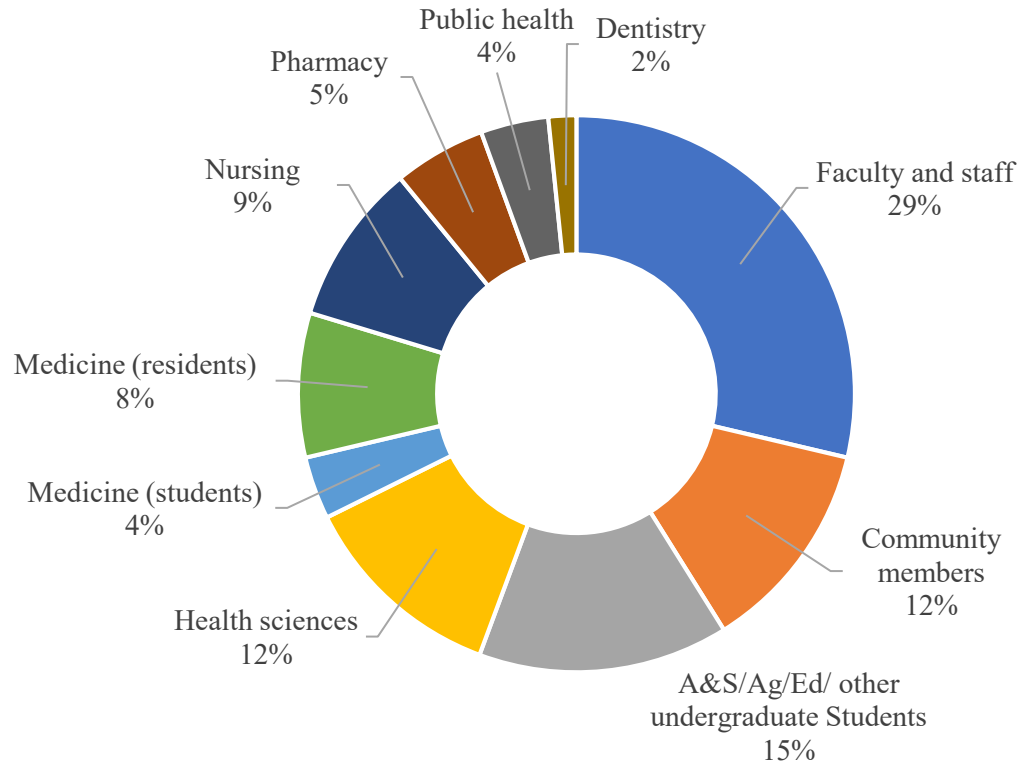


Figure 3.1 Percentage ratios of each brigade discipline relative to the entire brigade population for the total of years 2008 -2016

DATA COLLECTION METHODS

The data collection method used for my study involved a survey about the educational, personal growth and professional skill impacts on the participants of the University of Kentucky STSG brigades to Santo Domingo, Ecuador. As indicated earlier, a preliminary ease of use survey was used with members of the target survey population to help understand what features of the survey inhibit response and what modifications need to be done to improve user ease and response rates. Short cognitive interviews also

occurred to help identify wording, question order, visual design and navigation problems (Dillman, 2014, p. 243). The data from the preliminary ease of use survey was added before the study implementation.

The survey is designed using Qualtrics survey software. Qualtrics is a known company within the University of Kentucky community. The software is currently used by the Associate Provost at the University of Kentucky's International Center and the tool is relatively easy to use, offers multiple question types and multiple survey templates. The Sample Network, an online market research solutions company, gave Qualtrics a 19.5 stars out of 25 stars rating. Qualtrics also received a national award for overall excellence in survey design (Survey Sampling International, 2012).

Dillman (2014, p. 304) describes four key dimensions to consider when choosing software for a survey. The four dimensions below contain a brief explanation about how they apply to this study:

1. Design flexibility and difficulty – Simplistic design and easy to create questions.
2. Control over the data - HITECH (Health Information Technology for Economic and Clinical Health Act) updated HIPAA rules to ensure that data are properly protected and best security practices followed. Qualtrics safeguards all customer data and uses secure data centers to ensure the highest protection as per HITECH requirements. <https://www.qualtrics.com/security-statement/>
3. Data access and reporting – Qualtrics allows a download of raw data to the surveyor's server, allowing easier reporting and archiving.

4. Cost – Qualtrics survey is free for use as a staff member and student as the University of Kentucky.

I created a log-in account and trained how to use the software. For my study, I have formulated the survey using quantitative and qualitative data questions (See Appendix A). The questions with ovals represent the quantitative data that is captured in the Qualtrics survey. The questions are asked in this format as the intent is to get a better overall understanding of the participant who is responding to the questions to see if any connections can be made with the data collected. The easiest, most practical and cost-effective way to send the survey to all STSG brigade participants is through email. The email will remind the participant of the purpose of the survey and include a link to the Qualtrics survey.

Potential participants of this study received a preliminary email from Dr. Tom Young, Chair of Shoulder to Shoulder Global, stating the importance of taking the survey. This initial email was sent on May 29th, 2018. Craig Borie, the STSG Program Coordinator then sent the survey to potential participants on June 6th, 2018. A follow-up email was sent on July 13th, 2018 to potential participants that had not clicked on the link to complete the survey.

I would like to discuss a few areas about the survey design. Asking participants if they have volunteered internationally since their first Shoulder to Shoulder Global brigade is designed to understand if the brigade's impact has resulted in any phenomenon that relate to the participant's brigade experience. This is also true for the question, "Do

you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”

In order for the Qualtrics survey’s design to be legible, a sans serif font, Calibri, has been chosen, with a 12-point font size (Dillman, 2014, p. 187). To present the brigade alumni with a consistent format, the Qualtrics survey for this study uses the same format as the yearly individual brigade experience surveys that are sent immediately after participants return home from the brigade experience.

The qualitative questions of the Qualtrics survey are all related to the research question posed by my study: What are the educational, personal and professional impacts on the participants of the UK STSG brigades to Santo Domingo, Ecuador.

As a pre-cursor to this study, a 2016 unstructured approach was taken with a qualitative interview involving two convenience-sampled participants that were a part of the August 2013 brigade to Santo Domingo, Ecuador. The simple question was, “What is an educational, personal growth or professional skill impact that you experienced during the August 2013 brigade to Santo Domingo, Ecuador?”. Below are a few of the responses that reflect some key themes:

- Interviewee one, a 24-year-old white male pharmacy student stated that, “The brigade experience was unparalleled in terms of learning and growing. To see health care professionals practice with such fervor and impact a community that needed it more than words can describe was inspiring, to say the least”.
- Interviewee two, a 26-year-old white female dental student stated that, “Ecuador taught me unexpected things not only about life outside of the United States, but also about myself”.

As shown later in this study as part of the analysis sections, more in-depth responses to program impact is explored compared to the qualitative interview information listed above.

DATA MANAGEMENT

After this study is complete and the data analyzed, the hardcopy data that is produced, which includes the survey results, will be stored in a locking, metal file cabinet in the office of Shoulder to Shoulder Global. The on-line data from the Qualtrics survey is password protected and hosted on a secure server. As the Shoulder to Shoulder Global coordinator, I have access to the original hardcopy data that has not been coded and shared with the Executive Committee of the Shoulder to Shoulder Global program.

DATA ANALYSIS

The data analysis for my study follows an interpretive pattern. I compared the data gathered from both the mixed methods type survey and compared with the grouped data received during preliminarily convenience sampling. My notion was that the data collected should have similar groupings that I could converge. To give an idea of how this looks, the statistical results from the survey are reported and the qualitative findings are grouped into themes to either help confirm or disconfirm the survey's statistical results, which are also grouped. I have not found that the data analysis shows a disconfirmation between the quantitative and qualitative data and the preliminary samples, meaning an investigation into a cause of disconfirmation through an analysis of the data collection process is not necessary.

Charts were created in Excel and Word as a means to better visualize the results under this study's section of Quantitative Data Brigade Experience Results. Chi-square tests were also performed to check the hypotheses for several groups categorized from the data. The chi-square test is, "commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis" (Fisher, Yates, 2018).

CHAPTER 4: RELIABILITY AND VALIDITY

As mentioned in the Data Collection Methods section, it is preferable to use an existing survey instrument for the quantitative data in my study to be able to more easily establish the tool's validity and reliability. For the qualitative data, several strategies are incorporated in order to lend credibility to the information gathered from the qualitative questions. The information is triangulated during the coding process to capture the main themes. Triangulation for my study occurs through comparing the themes of the mixed methods survey with the feedback themes received from the preliminary samples. As the program coordinator for STSG, I keep regular contact with brigade participants and was able to use the member checking validity procedure (Creswell, 2000) to help confirm that the data gathered is an accurate reflection of what participants in the survey intended to convey.

To assist in the validity of the questions of the mixed methods survey, extensive work was done as part of a University of Kentucky graduate level course, CLD 665, Program Development and Evaluation. The course is designed to help students design, implement, and evaluate educational and social programs using a logic-based framework (University of Kentucky, n.d.). Design of this study and the study's survey questions are a product of this course.

The focus of the mixed methods survey for this study is to show the impact that the Shoulder to Shoulder Global program experience is having on its participants, with attention placed on the previously mentioned initial, medium and long-term outcomes. Indicators of success will be if brigade participants share reflections of a global perspective and interdisciplinary teamwork in their survey responses and how the

experience changed how the respondents approach their practice or discipline post-brigade. Questions for this study are based on these indicators and reflect the outcomes desired. They include:

- To what extent did the Shoulder to Shoulder Global program help you learn a global perspective?
- Which components of the Shoulder to Shoulder Global program helped you learn to function effectively when working as part of an interprofessional team?
- What have you found to be the most rewarding post-Shoulder to Shoulder Global program benefits? How has this related to your overall major, specialization or education?
- Due to your Shoulder to Shoulder Global experience, to what extent do you incorporate serving the underserved in your practice as a clinician or professional?
- To what extent have you become a better clinician or professional due to your Shoulder to Shoulder Global experience?
- As it relates to your Shoulder to Shoulder Global experience, to what extent have you observed improved health outcomes due to cohesive interdisciplinary collaboration?
- Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program? Explain.

Reliable responses to these questions follow a pattern of what is described in Bennett's Hierarchy (Bennett, 1975). The seven-step model, along with examples of how the seven levels relate to the Shoulder to Shoulder Global experience, is shared

in Appendix A. The first four steps of the hierarchy are about the process. The last three steps are about outcomes. The approach used is academic consumer-orientated, with the brigade participants viewed as customers. STSG provides brigade participants with a global service-learning experience where the brigade participant preparedness relates to the quality of the classroom learning. Brigade activities are designed to bring awareness to participant reactions during the brigade experience. As listed in the analysis section of this study, previous participants state that the experience has had an impact on their academic course of study, added valuable skills and changed mindsets, such as choosing a career working for a non-profit or human services-oriented organization after graduation.

Additional preliminary research was performed to gain insight into possible survey question improvements. As the drafted survey questions were being refined, feedback was requested for two items:

1. Are the questions appropriate to better understand the effects that the program has on participants?
2. What suggestions do you have on how the questions might be improved?

The questions were emailed on April 30th, 2017 to five former brigade participants that were convenience sampled. Feedback for the questions was requested by May 2nd, 2017.

The preliminary, drafted survey questions presented to the five former brigade participants are below, with the final mixed methods survey questions located in

Appendix B :

1. What has been the educational impact to you as a participant of the Shoulder to Shoulder Global Interprofessional Teamwork in Global Health course?

2. What has been the educational impact to you as a participant of the Shoulder to Shoulder Global brigade to Santo Domingo, Ecuador?
3. What has been the personal impact to you as a participant of the Shoulder to Shoulder Global Interprofessional Teamwork in Global Health course?
4. What has been the personal impact to you as a participant of the Shoulder to Shoulder Global brigade to Santo Domingo, Ecuador?
5. As a participant of the Shoulder to Shoulder Global Interprofessional Teamwork in Global Health course, what professional impact do you believe the course offered you?
6. As a participant of the Shoulder to Shoulder Global brigade to Santo Domingo, Ecuador, what professional impact do you believe the brigade offered you?
7. Have you volunteered to do community service domestically or internationally since the first time you went on the health brigade with Shoulder to Shoulder Global?
8. Please add below any additional comments that would be useful in assessing the impact on participants of the Interprofessional Teamwork in Global Health course and/or the brigade to Santo Domingo, Ecuador.

Based on the preliminary question feedback and research, note that the final survey questions located in Appendix B are more inclusive of participants who did not take the Interprofessional Teamwork in Global Health course before participating in the brigades, include multiple choice selections, drop down menus and leave an option for the respondent to leave contact information.

To gauge how the professional areas of respondents are represented in this study compared to the professional areas of total program alumni, the percentage of respondents from each discipline was matched to the professional area percentages represented by each discipline of total alumni from 2007 – 2017. For this context, discipline refers to the area of expertise, field of study or general area of profession. Table 1, *Representation Percentages by Discipline* illustrates that the seventy-five total study respondents are closely representative of the total number of Shoulder to Shoulder Global program alumni in the areas of Administration, Arts & Sciences, Medicine, Nursing, Pharmacy and Public Health. Of the three disciplines with the largest percentage of program participation, the largest difference occurs in the area of Health Sciences, with Health Sciences representing 28% of this study’s total respondents versus representing 21.3% of total brigade alumni from 2007 to 2017.

Table 1.1 Representation Percentages by Discipline

Discipline, Area of Study or Profession	% of Total Alumni	% of Study Respondents
<i>Administration</i>	1.2	1.3
<i>Agriculture</i>	1	0
<i>Arts & Sciences</i>	2.5	4
<i>Education</i>	1	0
<i>Health Sciences</i>	21.3	28
<i>Interpreting</i>	1	0
<i>Medicine</i>	19.3	21.3
<i>Nursing</i>	17	16
<i>Other</i>	2.8	4
<i>Pharmacy</i>	9.3	10.7
<i>Public Health</i>	6.2	8
<i>Undergraduate Studies - General</i>	6	4
Total %	98.67	100

Table 1 Notes:

- % of Total Alumni represents the percentage of total program alumni for that discipline in comparison to total of all program alumni
- % of Study Respondents represents the percentage of total study respondents for that discipline in comparison to the total of all study respondents
- *Administration* includes University of Kentucky staff or administration, such as college deans
- *Other* includes members which do not have a discipline listed
- *Undergraduate Studies – General* represents University of Kentucky students that do not have a discipline listed
- Percentages are rounded up or down to the nearest tenth

BIAS

I performed the research understanding that I do have a bias as to why it's important to participate in a study abroad program, including the health brigades to Ecuador. As an undergraduate student, I participated in Semester at Sea, a floating university that circumnavigates the globe. Semester at Sea provided what I frequently consider to be some of the best experiences of my life. While I do have this positive bias about my own study abroad experience, my focus for this research proposal is about the impact of the health brigade experience to STSG participants, not the importance of my semester long study abroad experience that did not incorporate a professional component. Another area where awareness of bias is considered is in regard to my position as a program coordinator for STSG. This role means that I participate in the health brigades,

often traveling with the teams of participants to help facilitate the various logistical needs and to serve as an interpreter. While being aware of any bias that I may have with the program, the data I collected uses the strategies listed previously and passed through a faculty committee to help maintain perspective. The faculty committee is composed of the College of Agriculture's Community and Leadership Development faculty, Dr. Ron Hustedde and Dr. Ken Jones, along with Shoulder to Shoulder Global Executive Committee member Dr. Melody Ryan, faculty in the College of Pharmacy. I also kept field notes of reactions from participants or myself that may affect the study's outcome.

CHAPTER 5: RESULTS AND DISCUSSION

Participant Demographics

As is common with Education Abroad programs, under which the Shoulder to Shoulder Global brigades fall, levels of gender and race diversity have remained relatively low and this is reflected in the results of this study. Social scientist Alan Dessoiff writes, “For a wide variety of physical, social, economic, cultural, and academic reasons, certain populations in U.S. higher education tend to be underrepresented in education abroad programs. But, many educators in the field are working diligently to open up these important educational opportunities to more students” (Dessoiff, 2006). More than seventy percent of survey respondents identified as female, with just less than a quarter identifying as male. Of note in the survey is a third option, left blank and allowing the respondent to input text as desired. While no text was entered, about five percent of respondents selected this option.

Confirming Dessoiff’s research while adding a few more categories to support the interprofessional makeup of the brigades, Shoulder to Shoulder Global brigade participants ranged from a variety of disciplines and ages, with survey results showing less diversity in the area of race. Almost twenty-three percent of survey respondents identified as a UK (University of Kentucky) faculty member in a health profession during the brigade experience. Community members in a health profession is the next largest group at 17.57%, with the largest group of students, 14.86%, identifying as UK Undergraduate students receiving academic credit for their brigade experience. Over half of survey respondents, 53.3%, have a current age between twenty to thirty-four years old.

Current ages of respondents range from the traditional undergraduate age in the early twenties to over seventy years old.

Hispanic, Latino, or Spanish origin participants made up a relatively smaller amount of brigade participants, with just five of the seventy-five survey respondents identifying in this category. An additional question to better understand how survey respondents identify was, “Which of the following describes your race?”. Participants could select more than one answer in this question in order to best represent identity. Combining the results from both race related questions shows us that approximately ten percent of all brigade participants identified as either Hispanic, Latino, Spanish origin, Asian or Asian American, Black or African-American or other. In other words, about one in ten brigade participants since 2007 identify as non-white.

Figure 4.1 Which category of participant best described your occupation during your Shoulder to Shoulder Global brigade?

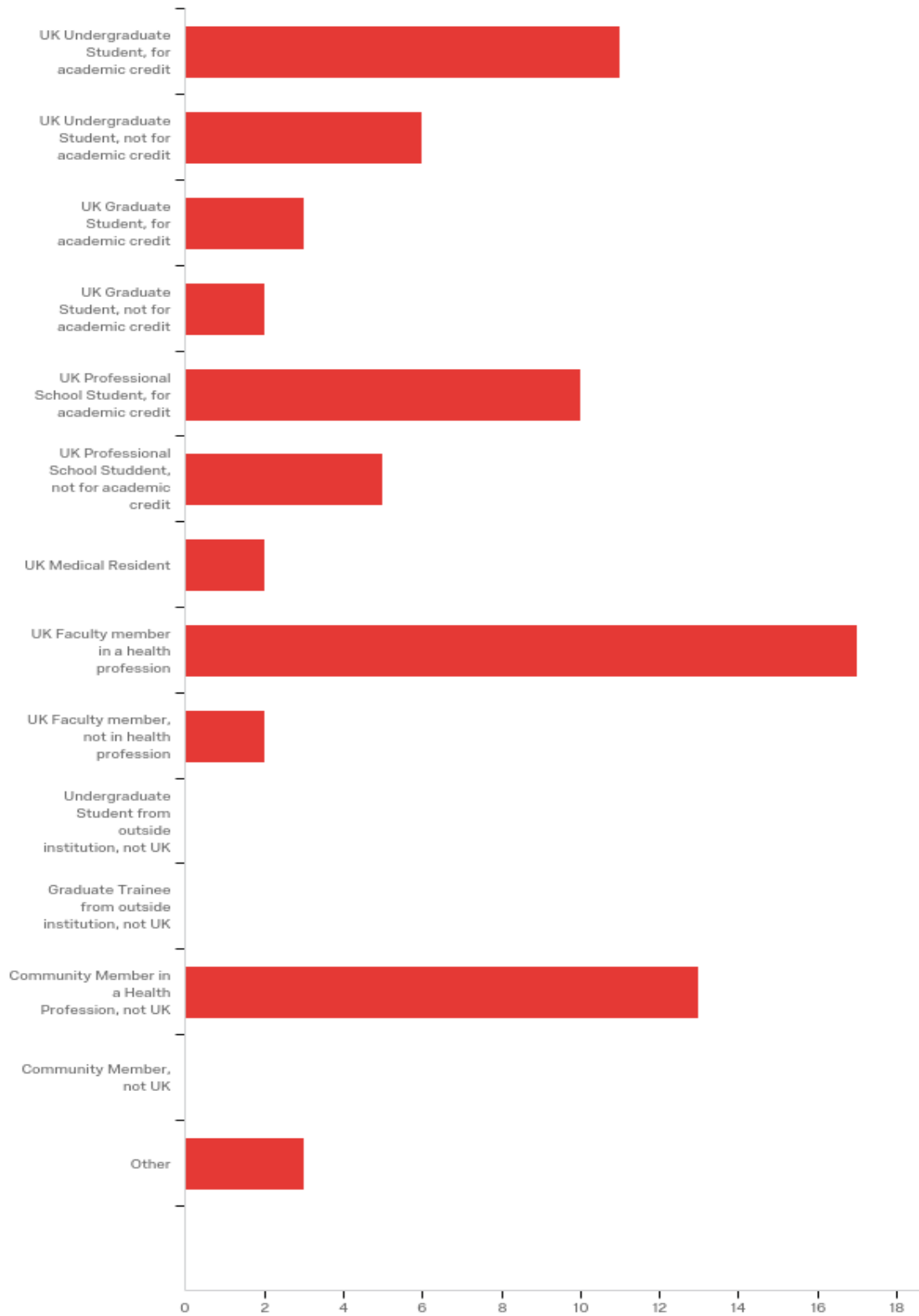


Figure 5.1 Current age, in years

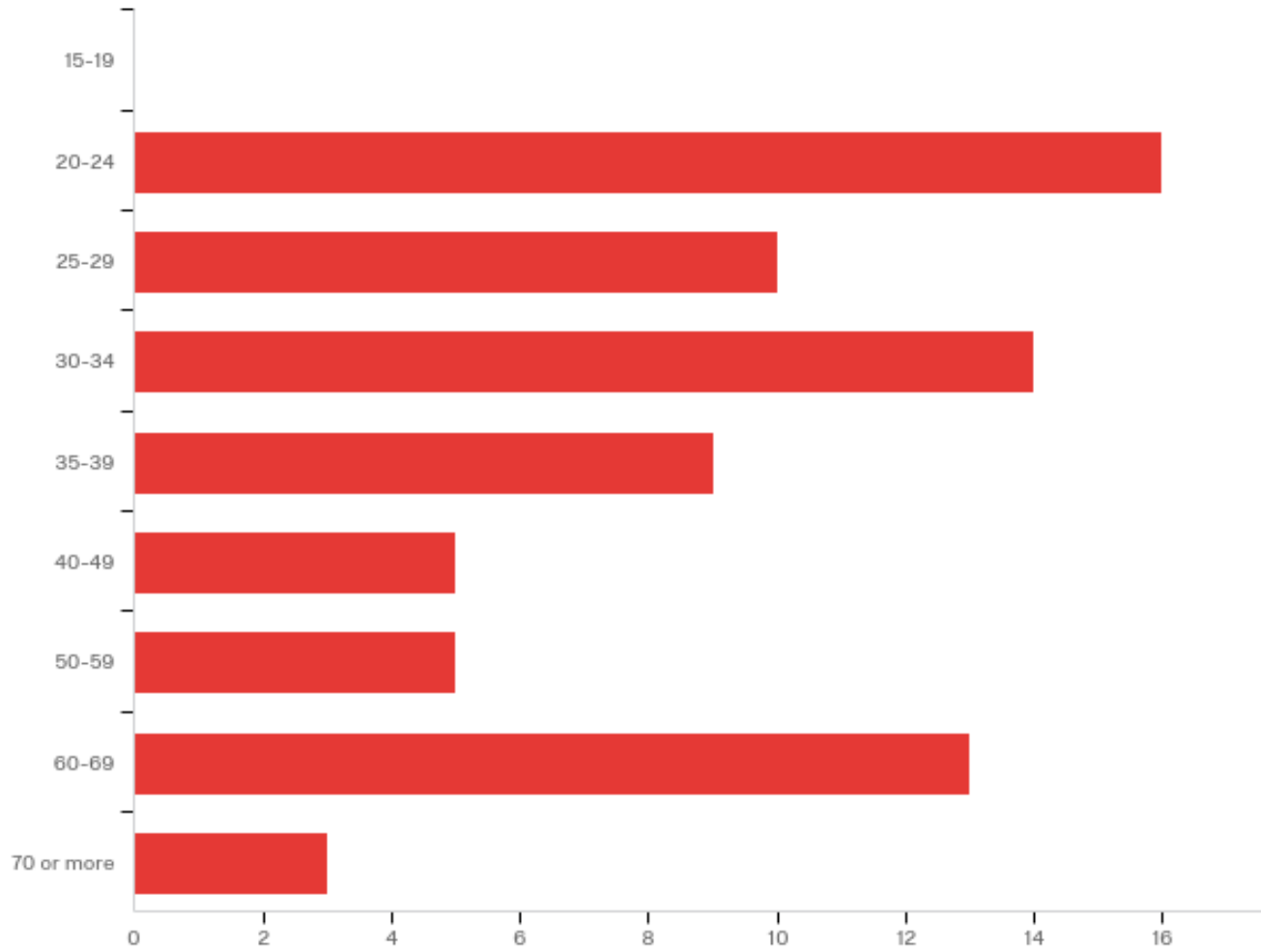


Figure 6.1 Gender by total number of respondents in each category

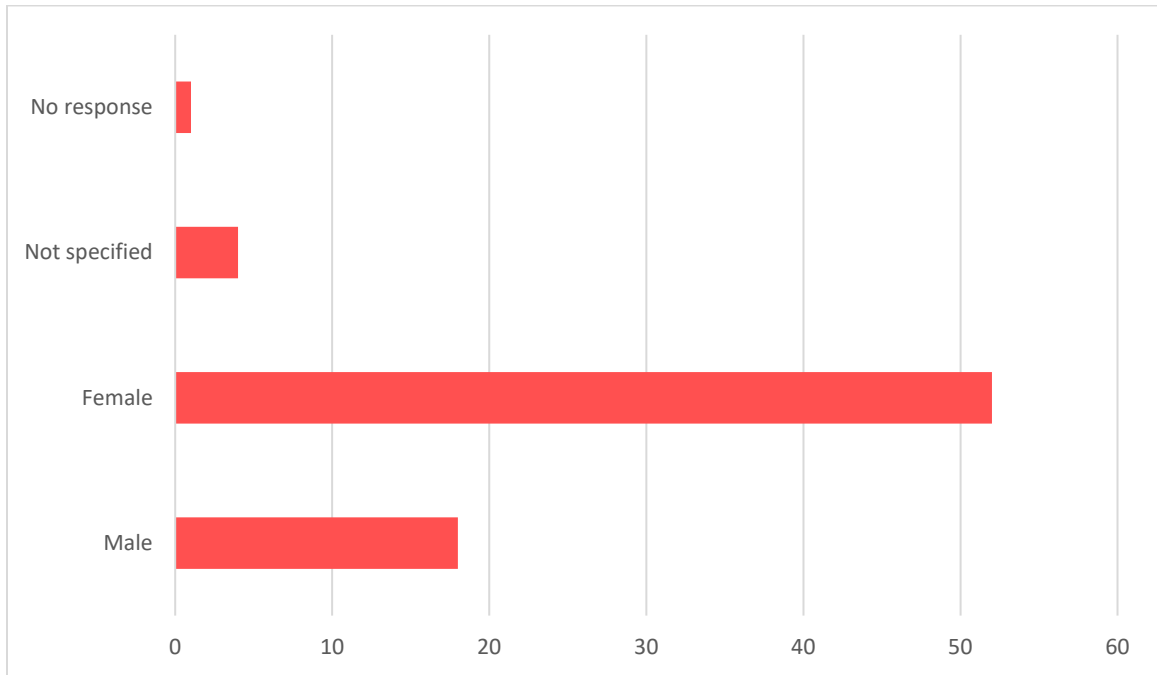


Figure 7.1 Are you of Hispanic, Latino, or Spanish origin, such as Ecuadorian, Mexican, Puerto Rican or Cuban?

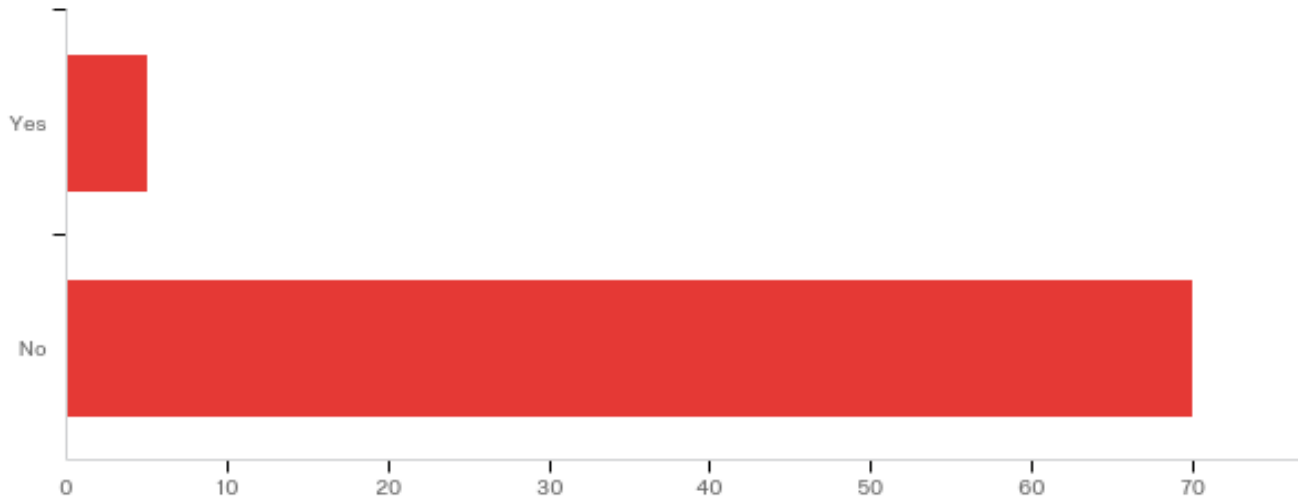
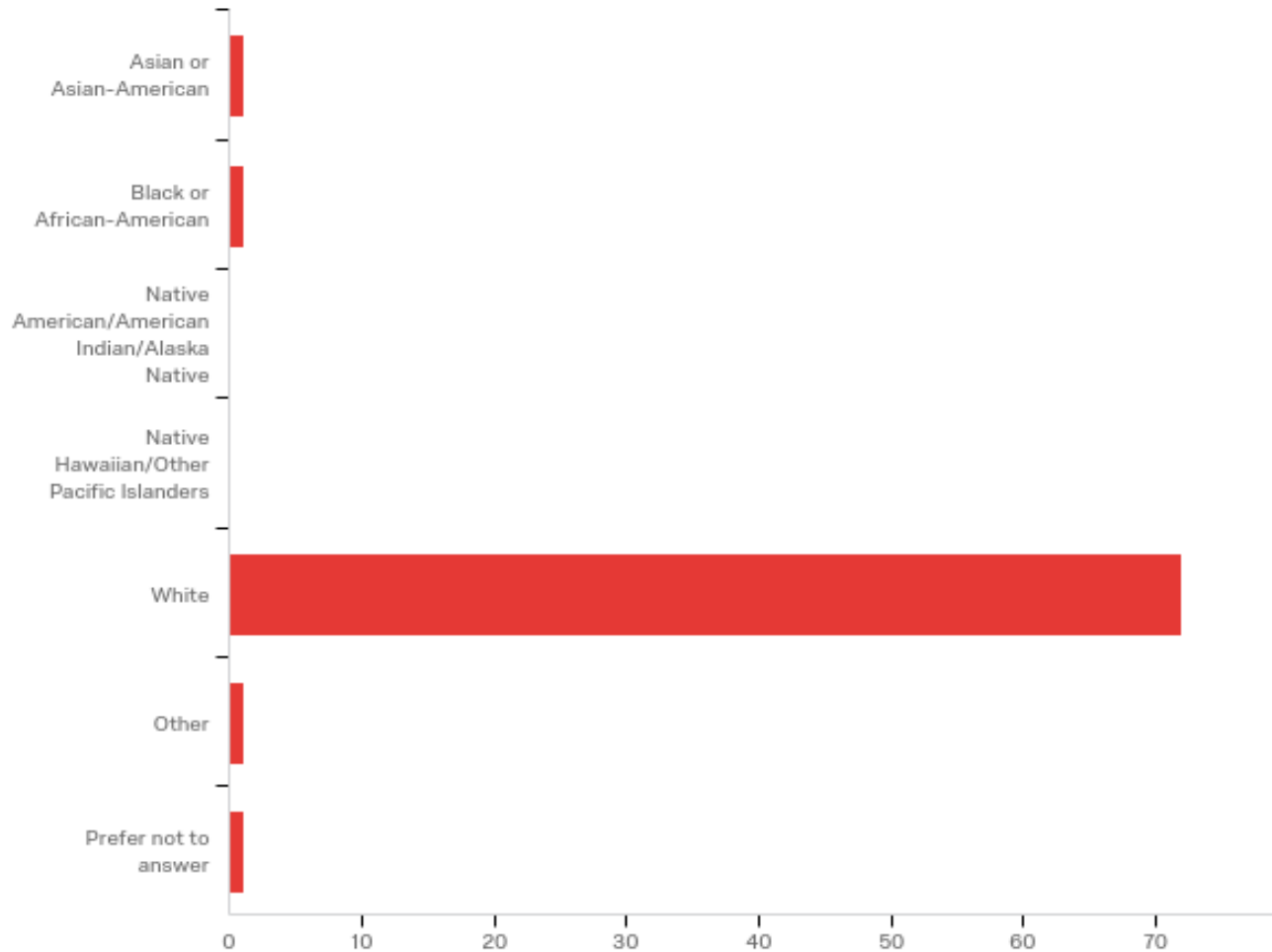


Figure 8.1 Which of the following describes your race? You can select as many as apply.



QUANTITATIVE DATA BRIGADE EXPERIENCE RESULTS

Over forty percent (41.10%) of all survey respondents state that they approach working with community health education differently because of participation in the Shoulder to Shoulder Global program. About one in five (20.55%) of respondents indicate that they have made some change or changes in the way they approach the subject and approximately one quarter (23.29%) indicating that they have made minor changes in their approach. As a follow-up to this question, survey respondents were also

asked to briefly explain their response. This information is shared as part of the qualitative results of this study.

The Education Abroad office at the University of Kentucky has stated that brigade participants appear to have a high rate of loyalty to the program. This study does not probe the question of how the loyalty of brigade participants is expressed. However, survey respondents could check survey boxes to indicate how many times the participant was a part of the brigade experience. Over seventy percent (72%) indicate a one-time participation in the brigade. Almost fifteen percent (14.67%) have been twice while 8% of respondents have participated more than four times.

To get an idea of when the survey respondents took part in the brigade experience, respondents also marked the year or years of their participation in the brigades to Ecuador. Over half of all survey respondents had their brigade experience or experiences beginning in 2015 or later. Explanations for the larger number of participants in more recent years might include the steadily growing number of participants over the past eleven years and a higher number of valid email addresses for more recent participants. The University of Kentucky may not keep former students', staff or faculty members' email accounts active indefinitely, resulting in a higher likelihood that the former participant of the brigades to Ecuador never received the survey related to this study. The survey was emailed to 915 former brigade participants from a list of alumni maintained by the Shoulder to Shoulder office. Out of this number, a total of 177 email addresses were rejected because email addresses were invalid and were sent back as undeliverable. This figure represents approximately nineteen percent of all intended survey recipients, leaving a total of 738 possible respondents. Out of this 738, seventy-

five brigade alumni responded to the survey. This resulted in a 10.16% response rate, providing a confidence level of 90% and a margin of error of 10%. While this population size does not appear large, the absolute number of seven-five participants is relatively high in comparison to studies such as Zorn's (1996) study of twenty-seven alumni, Kiely's (2004) study of twenty-two undergraduate students and Wallace's (1999) study of forty-eight alumni.

Survey respondents were asked to self-rate their level of Spanish proficiency. As can be seen in the graph and table, about half of participants describe having no Spanish or only able to communicate at a basic level during their brigade experience. Also, at the time of each participant's brigade, about one quarter of participants were able to speak and understand in simple contexts. The remaining approximate twenty-five percent of participants rated themselves as conversational or better for the brigade experience, including an ability to have independent, spontaneous interactions up to understanding finite shades of meaning during complex interactions. The levels in the survey express Spanish proficiency and are from a Spanish language school in Panama, Habla Ya (Habla Ya, 2018), with this Panamanian model a derivative of the Common European Framework of Reference for Languages (CEFR). The CEFR is an international standard for describing language levels on a six-point scale, from beginner to a proficient user of the language (Council of Europe, 2018). While it can be argued that both models could use improvement as frameworks for language acquisition, the Habla Ya model is used for its relative simplicity of comprehension.

Seventy-four respondents answered the question, "Due to the Shoulder to Shoulder Global brigade experience, I am...", instead of the total number of survey

respondents of seventy-five. This indicates that one respondent chose to skip this question, as was optional for each of the quantitative questions. More than half (54.05%) of brigade respondents indicate that they are more aware of cultural differences and how those differences might impact their field. Respondents were only allowed to mark one area. One respondent wrote that she would like to have been able to mark all fields as she feels more capable in each area since her brigade experience. More than one in four respondents (27.03%) mark that they are seeking to engage in more international experiences in general, while almost three percent (2.70%) of participants indicate more involvement with policy development within their professional fields.

Respondents could mark multiple responses to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. Many respondents (31.94%) feel inspired to learn or improve skills with a foreign language. Of note to the question often brought to International Service Learning (ISL) programs like Shoulder to Shoulder Global, “Why should we send our students abroad when there are so many needs in the United States?”, more than one in four participants (25.69%) indicate that they are better listeners during professional interactions due to the brigade experience abroad. In addition, increased levels of civic engagement and volunteering more within the United States is mentioned by almost twenty-five percent of respondents.

Working in the Shoulder to Shoulder Global office, we often hear of how individuals have changed their major or career path due to the time spent as part of the brigade experience. Thirty-three out of seventy-five respondents state that their career direction shifted due to the Shoulder to Shoulder Global brigade experience. This is equal to 44% of all respondents. Approximately forty-one (41.3%) state that the experience has

not changed or has not really changed their career direction. This could be an indicator that many respondents are already in a chosen career path that meets their goals and aspirations.

Figure 9.1 Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?

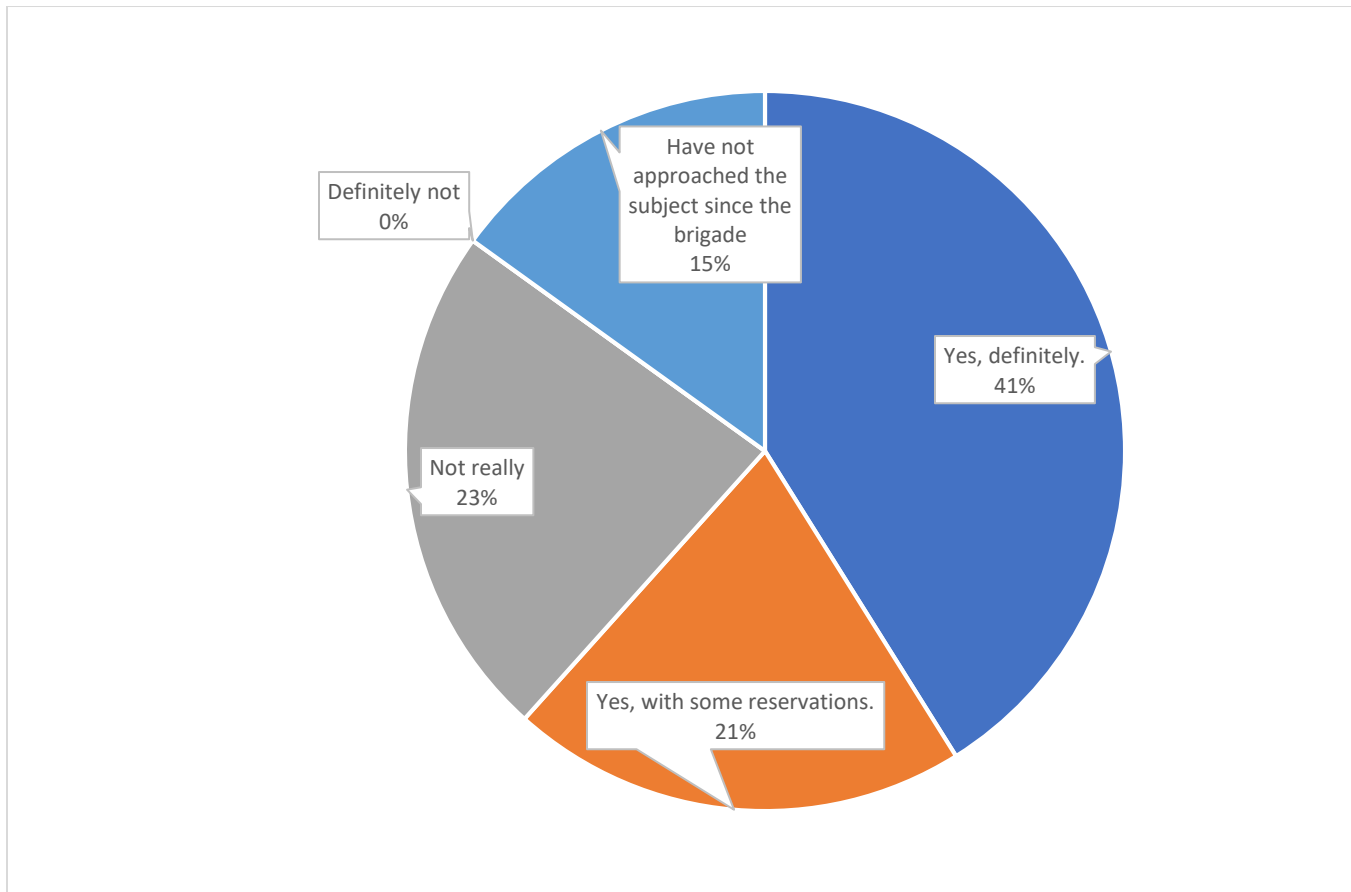


Figure 10.1 How many times have you participated in the Shoulder to Shoulder Global brigades to Ecuador?

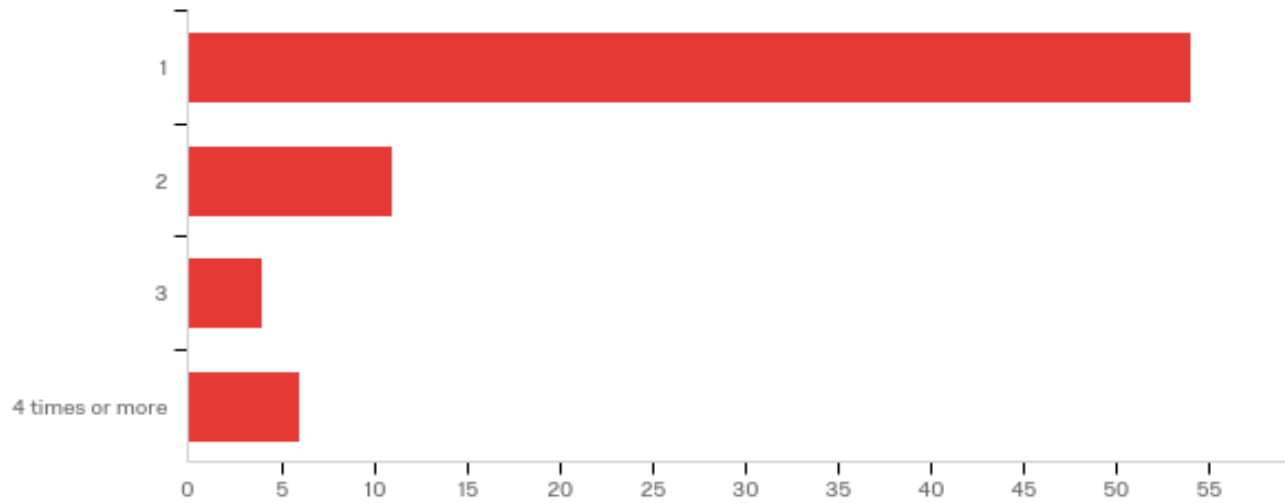


Figure 11.1 In which year or years did you participate in the Shoulder to Shoulder Global brigades to Ecuador? Please select all that apply.

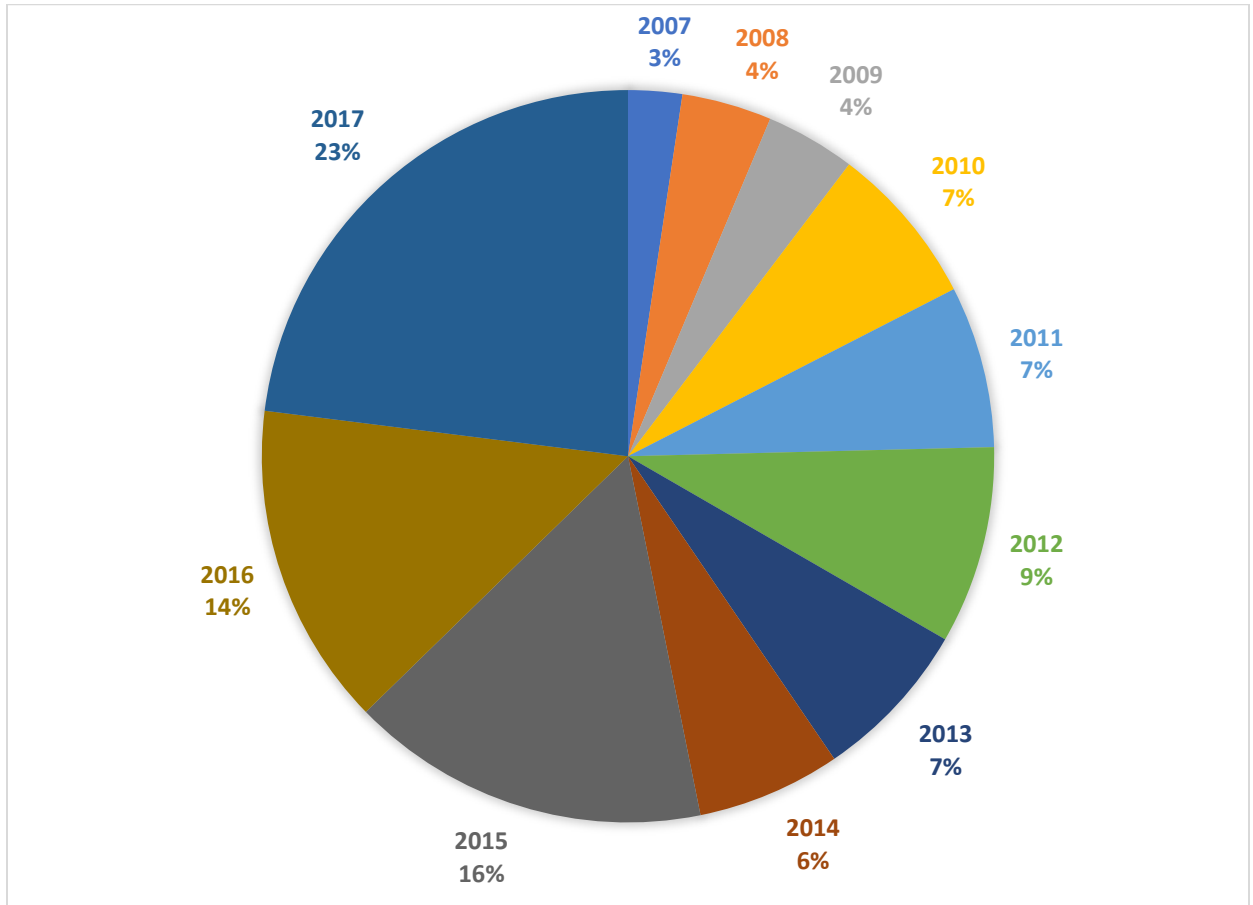


Figure 12.1 Please describe your Spanish proficiency during your brigade experience.

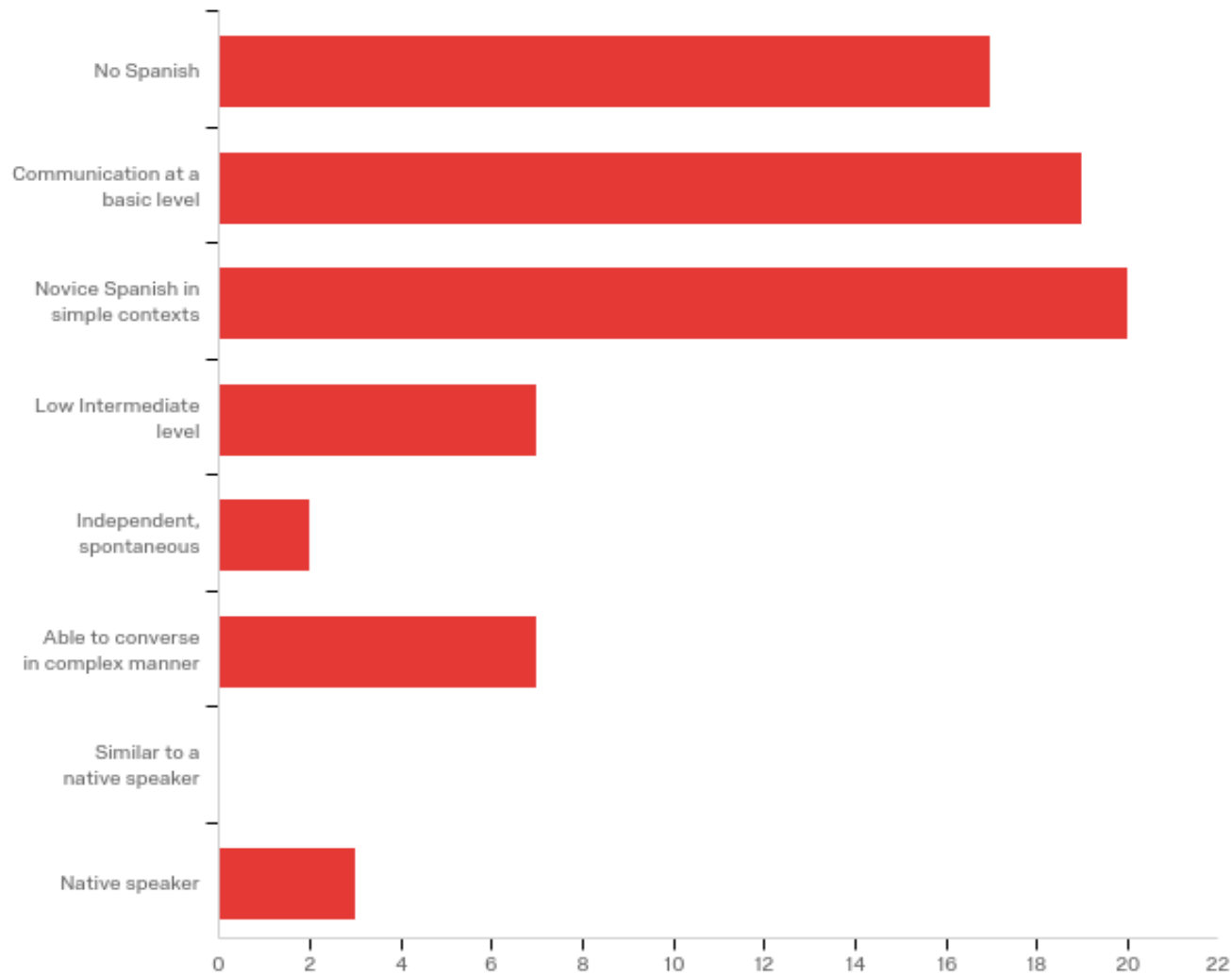


Figure 13.1 Due to the Shoulder to Shoulder Global brigade experience, I am:

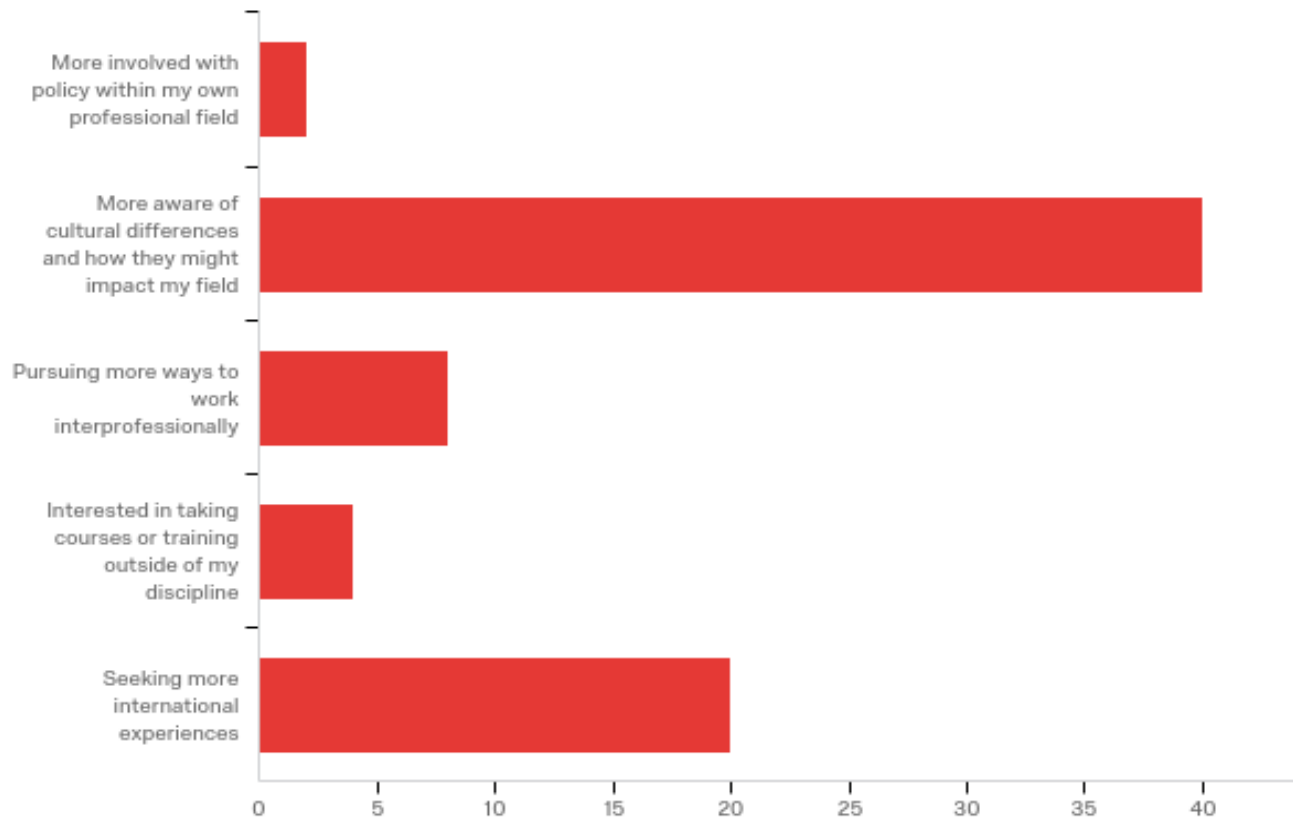


Figure 14.1 Due to the Shoulder to Shoulder Global brigade experience, I have:

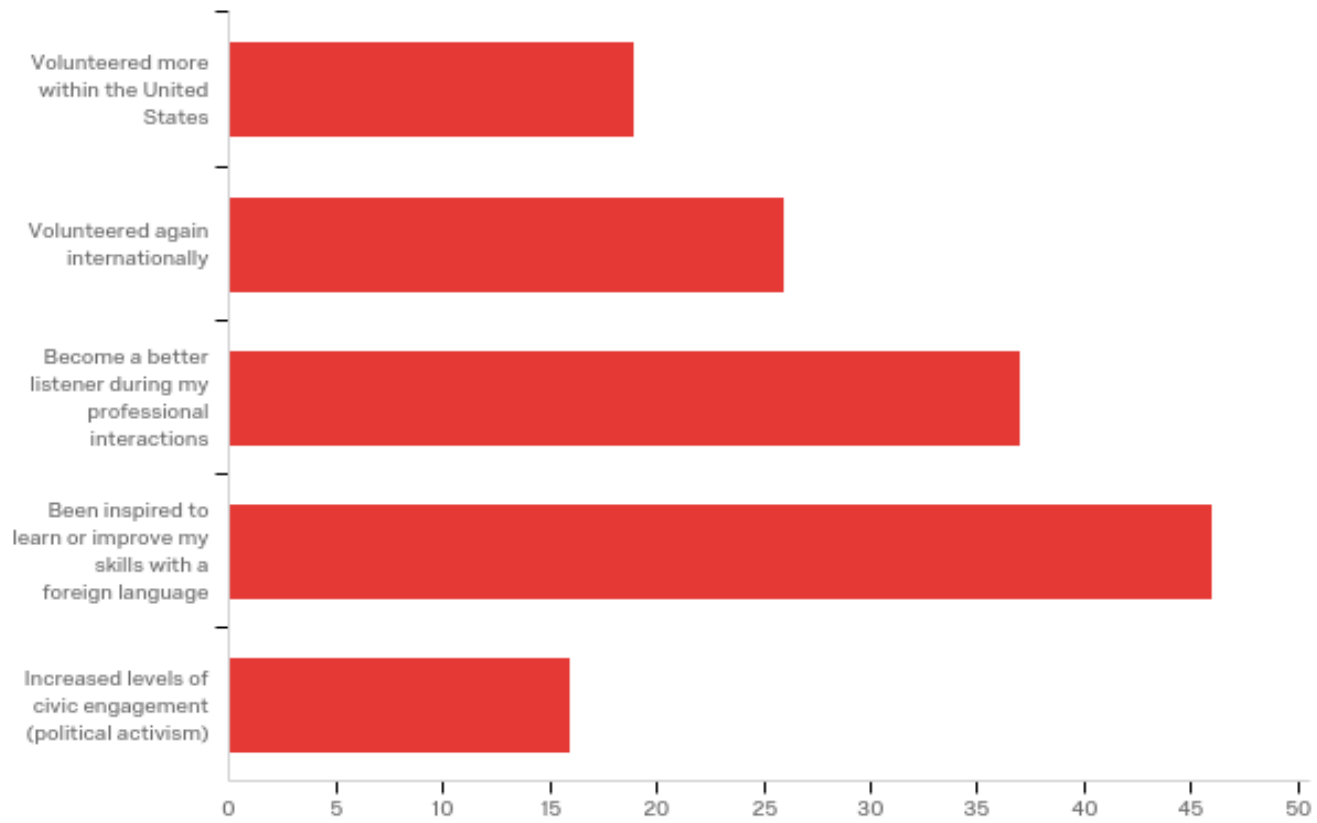
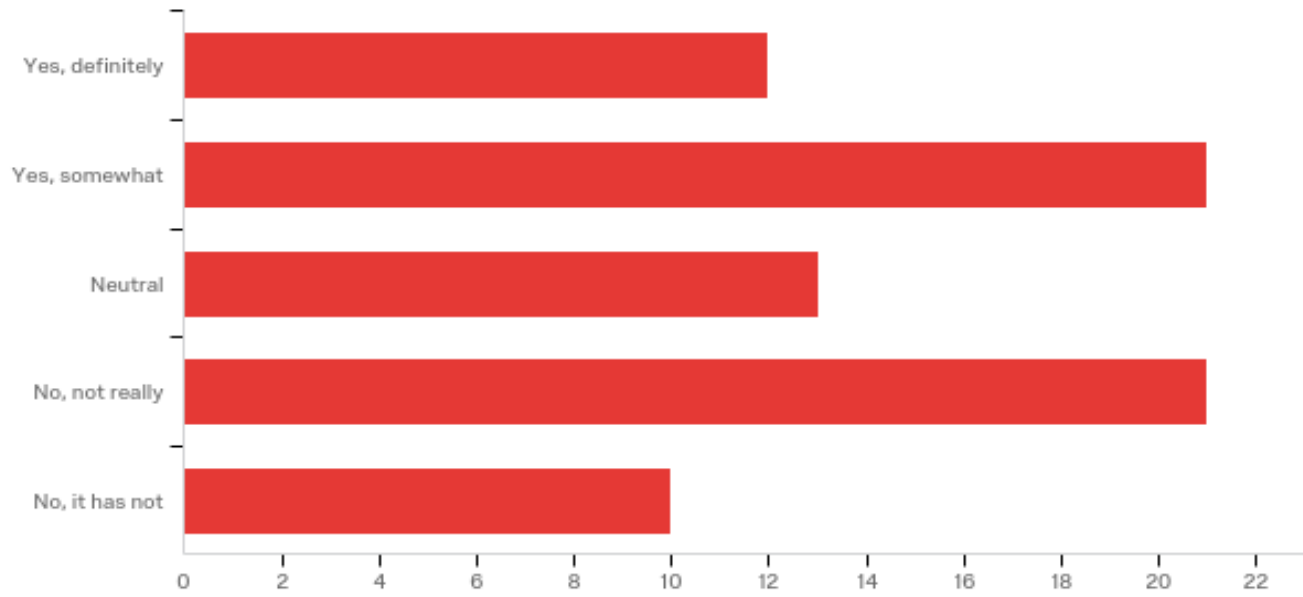


Figure 15.1 Has your career direction shifted due to your Shoulder to Shoulder experience?



COMPARATIVE DIFFERENCES USING PERCENTAGES AND CHI-SQUARE ANALYSIS

While percentages show interesting comparative differences, chi-square test results below the bar charts for each question help us better understand if there is a statistical significance, or alternative hypothesis, for the relationship between the various variables. The chi-square tests use an online chi-square analysis calculator to test for the independence of the variables (Turner, L, 2018). Analysis is considered for the areas of the respondent's gender, if the respondent is in nursing, if the respondent's first brigade experience was before 2012 and if the respondent's language level is sufficient to be self-rated as able to work independently or higher.

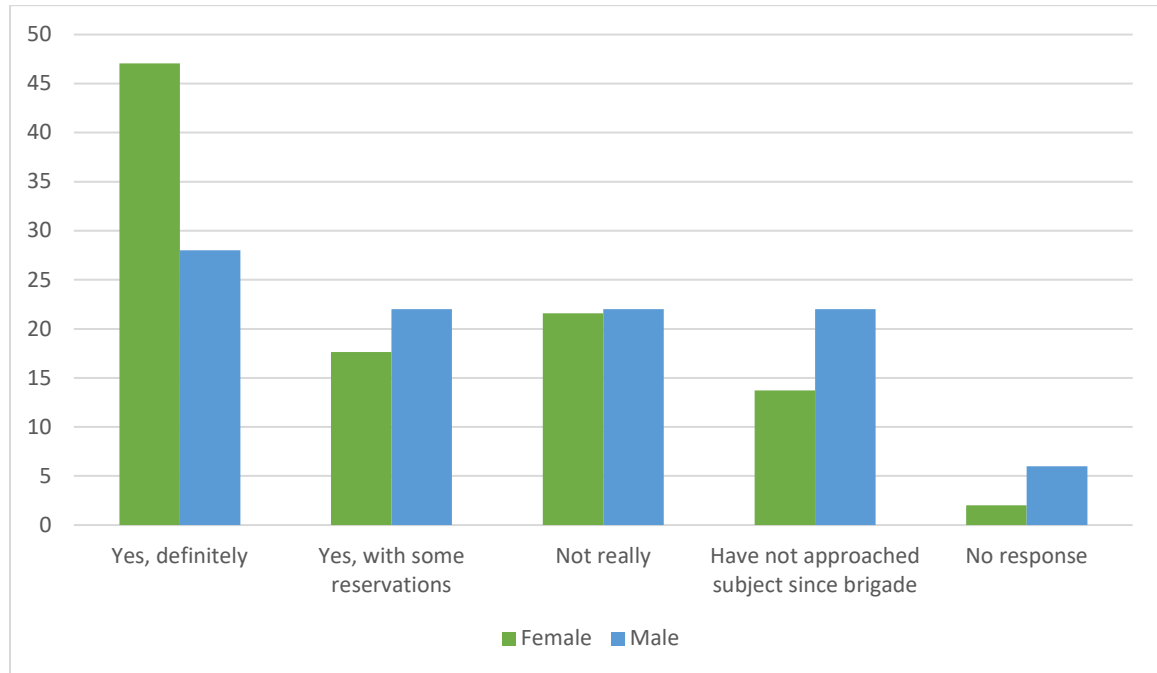
Are there differences in responses to survey questions based on the respondent's gender?

The first analysis of variables focuses on if there are differences in responses to survey questions based on if the respondent identifies as female or male. Respondents listing any other gender identification total five and are not included in the analysis of gender due to the small number of respondents.

Approach working with community health education differently because of participation in the Shoulder to Shoulder Global program:

Performing a comparison, using percentages, between responses for females and males, we can see that females responded with a higher rate (47.06% vs. 28%) of "Yes, definitely" regarding if they approach working with community health education differently because of participation in the Shoulder to Shoulder Global program.

Table 2.1 Percentage of respondents, by gender, that approach working with community health education differently



	Yes, Definitely	Yes, Reservations	Not Really	Not Approached	No response	Total
Female	24 21.54 (0.28)	9 9.66 (0.04)	11 11.14 (0.00)	7 8.17 (0.17)	1 1.49 (0.16)	52
Male	5 7.46 (0.81)	4 3.34 (0.13)	4 3.86 (0.01)	4 2.83 (0.49)	1 0.51 (0.46)	18
	29	13	15	11	2	70

$$\chi^2 = 2.542, \quad df = 4, \quad P(\chi^2 > 2.542) = 0.6372$$

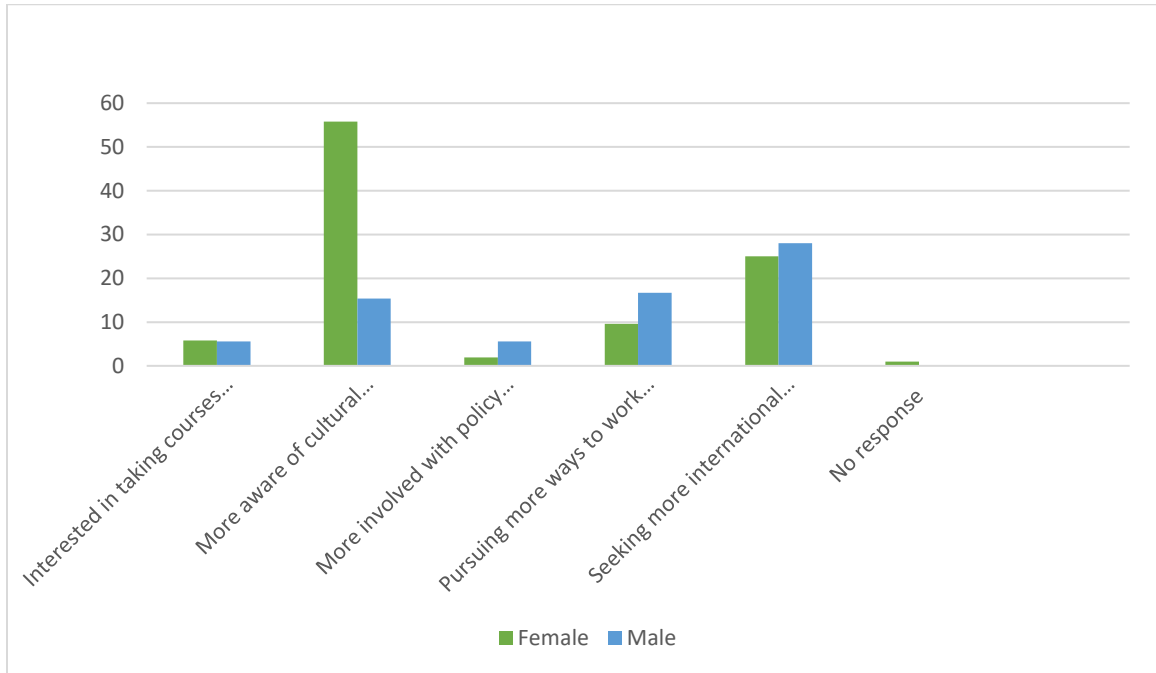
The percentage charts indicate that there may be a tangible difference in responses between females and males. However, the above table lists total responses of females and males from the chi-square test (χ^2) that was performed to better understand if there is an alternative hypothesis between female and male answers to the question, “Do you approach working with community health education differently as a result of your

participation in the Shoulder to Shoulder Global program?”. Results show a χ^2 of 2.542, with degrees of freedom = 4, with a P value of .6372. The P value is only significant if $P \leq 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses between females and males to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”.

Due to the Shoulder to Shoulder Global brigade experience, I am:

We can also see another area where female respondents responded differently than males with the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”. Females responded higher than males, 55.77% of female respondents versus 15.4% of male respondents, that the Shoulder to Shoulder Global brigade experience helped them be more aware of cultural differences and how those differences might impact their field.

Table 3.1 Percentage that state, "Due to the Shoulder to Shoulder Global brigade experience, I am:"

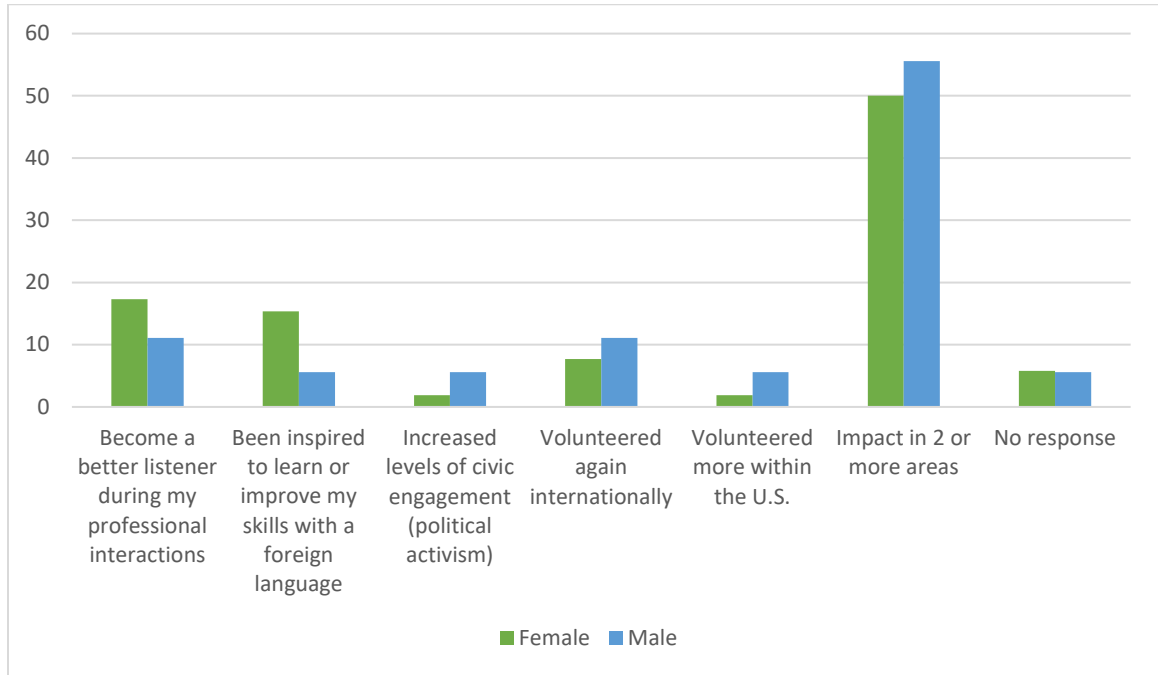


	Interest ed in taking courses or training outside of my discipline	More aware of cultural differences and how they might impact my field	More involved with policy within my own professional field	Pursuing more ways to work interprofession ally	Seeking more internatio nal experiences	No respon se	Total s
Femal e	3 2.97 (0.00)	29 27.49 (0.08)	1 1.49 (0.16)	5 5.94 (0.15)	13 13.37 (0.01)	1 0.74 (0.09)	52
Male	1 1.03 (0.00)	8 9.51 (0.24)	1 0.51 (0.46)	3 2.06 (0.43)	5 4.63 (0.03)	0 0.26 (0.26)	18
Total	4	37	2	8	18	1	70

$$\chi^2 = 1.911, \quad df = 5, \quad P(\chi^2 > 1.911) = 0.8613$$

Again, the above table lists total responses of females and males and a chi-square test was performed to better understand if there is a significant difference in response between the female and male answers to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”. Results show a χ^2 of 1.911, with degrees of freedom = 5, with a P value of .8613. The P value is only significant if $P < 0.05$. This indicates that there is not a significant difference between the responses between females and males to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”.

Table 4.1 Percentage that state, "Due to the Shoulder to Shoulder Global brigade experience, I have:"



	Become a better listener during my professional interactions	Been inspired to learn or improve my skills with a foreign language	Increased levels of civic engagement (political activism)	Volunteered again internationally	Volunteered more within the United States	No response	Total
Female	27 24.89 (0.18)	33 29.16 (0.51)	7 9.24 (0.54)	15 17.78 (0.43)	11 12.09 (0.10)	3 2.84 (0.01)	96
Male	8 10.11 (0.44)	8 11.84 (1.25)	6 3.76 (1.34)	10 7.22 (1.07)	6 4.91 (0.24)	1 1.16 (0.02)	39
Total	35	41	13	25	17	4	135

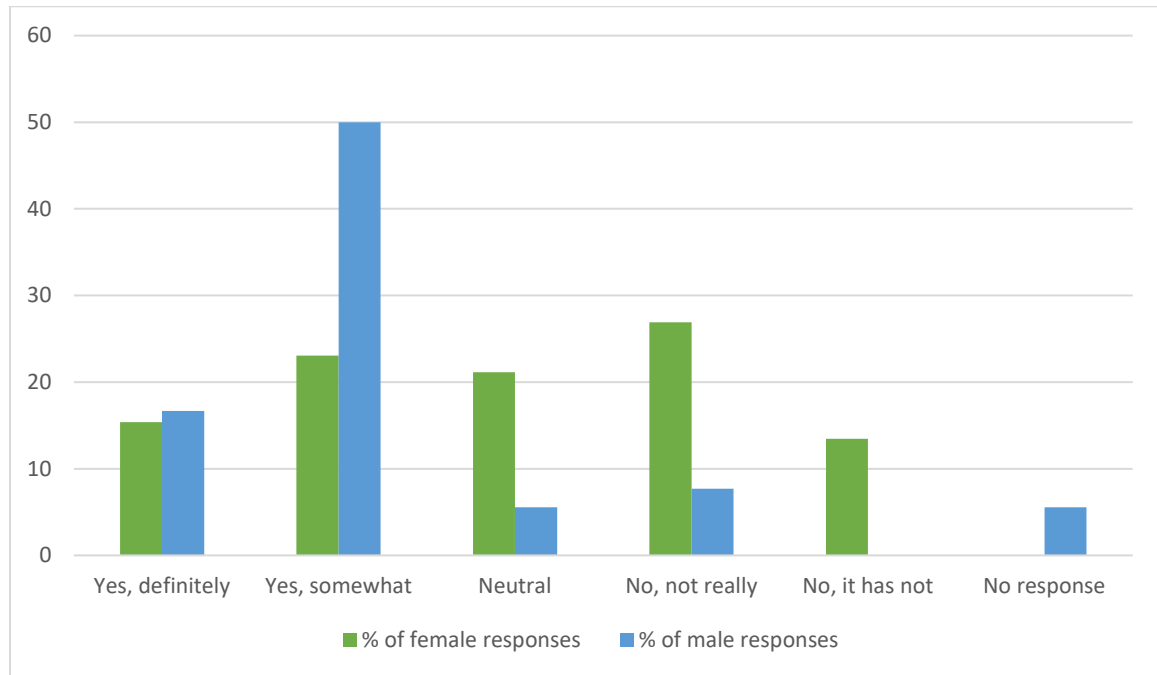
$\chi^2 = 6.132$, $df = 5$, $P(\chi^2 > 6.132) = 0.2936$

Following our pattern, a chi-square test was performed to better understand if there is a statistically significant difference, or alternative hypothesis, in response between the female and male answers to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. Results show a χ^2 of 6.132, with degrees of freedom = 5, with a P value of .2936. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a significant difference, between the responses between females and males to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”.

Has your career direction shifted due to your Shoulder to Shoulder experience?

As mentioned previously, the Shoulder to Shoulder Global office staff often hears of how individuals have changed their major or career path due to the time spent as part of the program experience. To look at the long-term impact of the program experience, respondents were asked to respond to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”. Based on percentages of responses, more than twice as many males, 50% of males versus 23.08% of females, indicated that their career direction had shifted somewhat due to the Shoulder to Shoulder program experience. No males indicated that the experience had not shifted their career direction and only 13.46% of females indicated that the experience had not shifted their career direction.

Table 5.1 Has your career direction shifted due to your Shoulder to Shoulder Global experience?



	Yes, definitely	Yes, somewhat	Neutral	No, not really	No, it has not	No Response	Totals
Female	8 8.17 (0.00)	12 15.60 (0.83)	11 8.91 (0.49)	14 13.37 (0.03)	7 5.20 (0.62)	0 0.74 (0.74)	52
Male	3 2.83 (0.01)	9 5.40 (2.40)	1 3.09 (1.41)	4 4.63 (0.09)	0 1.80 (1.80)	1 0.26 (2.15)	18
Totals	11	21	12	18	7	1	70

$$\chi^2 = 10.569, \quad df = 5, \quad P(\chi^2 > 10.569) = 0.0606$$

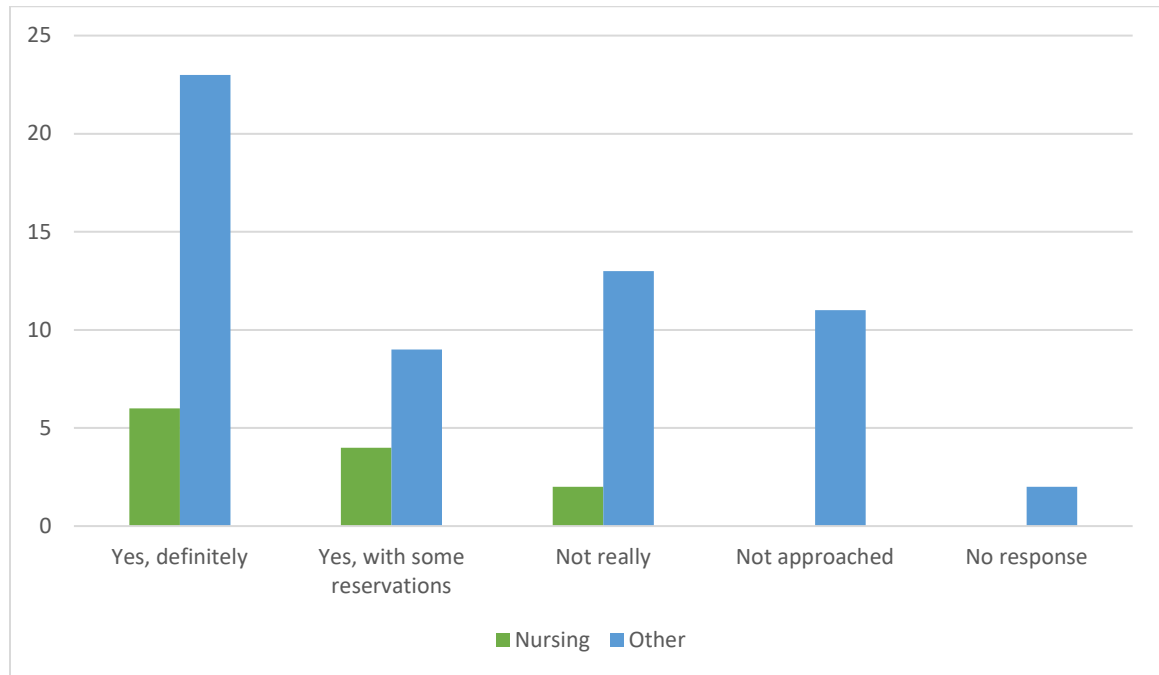
For the final question as it relates to gender analysis, a chi-square test was performed to better understand if there is a statistically significant difference in responses between the female and male answers to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”. While percentage comparisons in the bar

graph above indicate that there may be some difference, chi-square results show a χ^2 of 10.569, with degrees of freedom = 5, with a P value of .0606. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses of females and males to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”.

Are there differences in responses to survey questions for nursing versus the other respondents?

Nursing participants can play a slightly unique role during the brigade experience. Their focus can either be entirely clinical, can be entirely focused on health education, or have the same role as the other professions during the brigade experience, which includes a bit of both clinical and health education. Does this mean that nursing participants have been impacted differently by the Shoulder to Shoulder Global program experience?

Table 6.1 Percentage of nursing that approach working with community health education differently



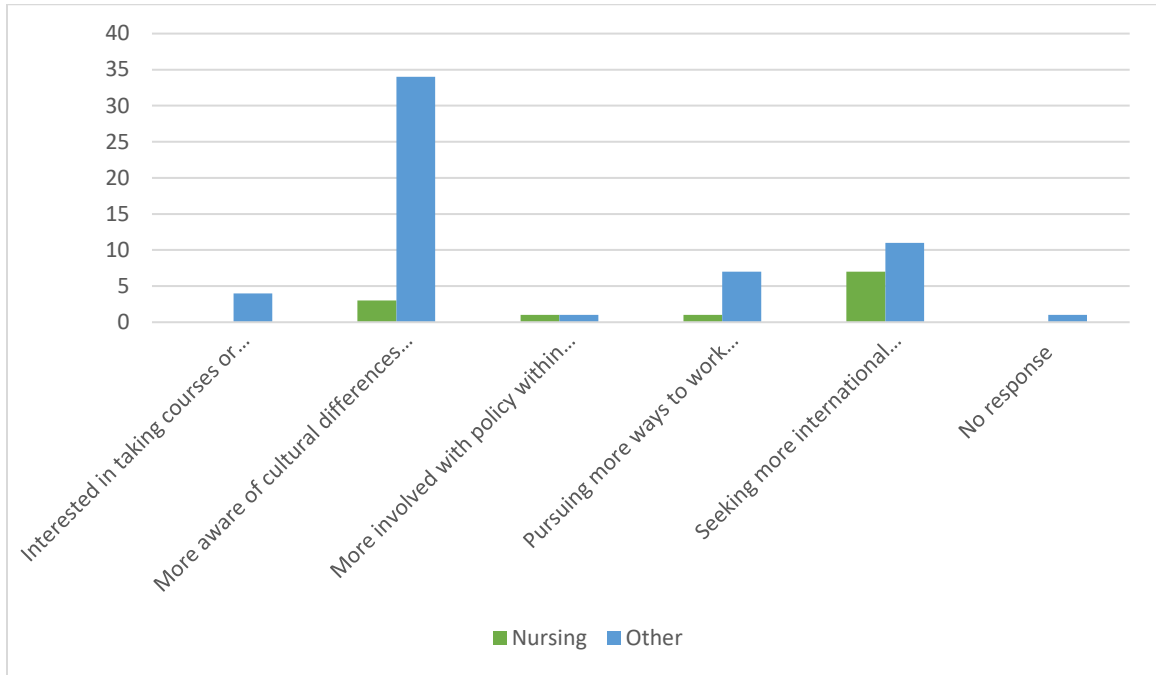
	Yes, definitely	Yes, with some reservations	Not really	Not approached	No response	Totals
Nursing	6 4.97 (0.21)	4 2.23 (1.41)	2 2.57 (0.13)	0 1.89 (1.89)	0 0.34 (0.34)	12
Others	23 24.03 (0.04)	9 10.77 (0.29)	13 12.43 (0.03)	11 9.11 (0.39)	2 1.66 (0.07)	58
Totals	29	13	15	11	2	70

$$\chi^2 = 4.799, \quad df = 4, \quad P(\chi^2 > 4.799) = 0.3085$$

A chi-square test (χ^2) was performed to better understand if there is an alternative hypothesis between nursing participants and other brigade participants, defined as “Others”, to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”.

Results show a χ^2 of 4.799, with degrees of freedom = 4, with a P value of .3085. The P value is only significant if $P \leq 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses of Nursing and Others to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”.

Table 7.1 Percentage of nursing that states, "Due to the Shoulder to Shoulder Global Program, I am:"



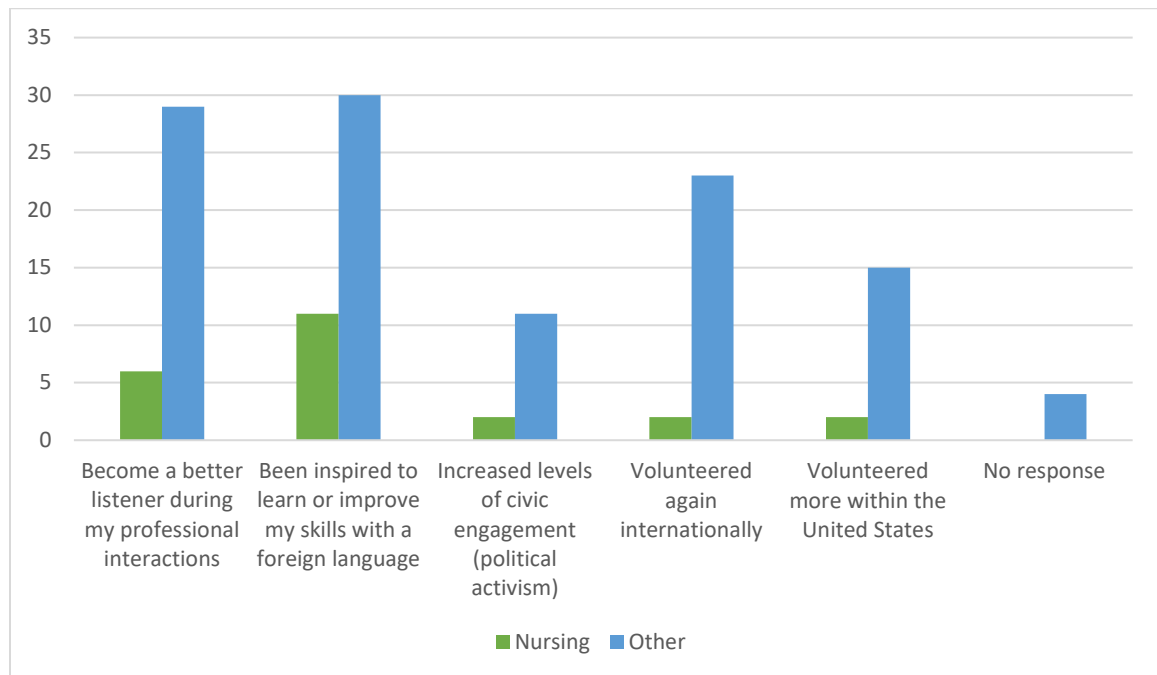
	Intereste d in taking courses or training outside of my disciplin e	More aware of cultural differenc es and how they might impact my field	More involved with policy within my own profession al field	Pursuing more ways to work interprofessiona lly	Seeking more internation al experiece s	No respons e	Total s
Nursin g	0 0.69 (0.69)	3 6.34 (1.76)	1 0.34 (1.26)	1 1.37 (0.10)	7 3.09 (4.97)	0 0.17 (0.17)	12
Others	4 3.31 (0.14)	34 30.66 (0.36)	1 1.66 (0.26)	7 6.63 (0.02)	11 14.91 (1.03)	1 0.83 (0.04)	58
Totals	4	37	2	8	18	1	70

$$\chi^2 = 10.795, \quad df = 5, \quad P(\chi^2 > 10.795) = 0.0556$$

A chi-square test was performed to better understand if there is a significant difference in response between nursing participants and other brigade participants,

defined as “Others”, to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”. Results show a χ^2 of 10.795, with degrees of freedom = 5, with a P value of .0556. The P value is only significant if $P < 0.05$. This indicates that there is not a significant difference between the responses between nursing participants and other brigade participants to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”.

Table 8.1 Nursing vs. Others - Due to the Shoulder to Shoulder Global brigade experience, I have:

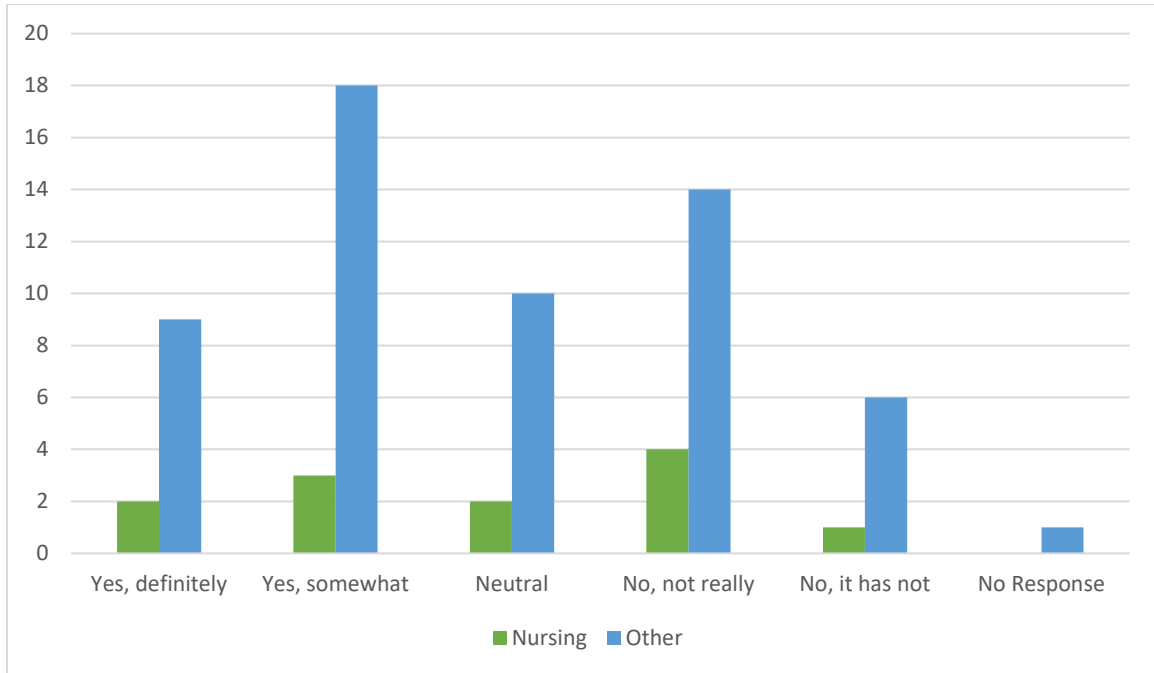


	Become a better listener during my professional interactions	Been inspired to learn or improve my skills with a foreign language	Increased levels of civic engagement (political activism)	Volunteered again internationally	Volunteered more within the United States	No response	Totals
Nursing	6 5.96 (0.00)	11 6.99 (2.31)	2 2.21 (0.02)	2 4.26 (1.20)	2 2.90 (0.28)	0 0.68 (0.68)	23
Others	29 29.04 (0.00)	30 34.01 (0.47)	11 10.79 (0.00)	23 20.74 (0.25)	15 14.10 (0.06)	4 3.32 (0.14)	112
Totals	35	41	13	25	17	4	135

$\chi^2 = 5.407$, $df = 5$, $P(\chi^2 > 5.407) = 0.3682$

Continuing the pattern of analysis, a chi-square test was performed to better understand if there is a statistically significant difference, or alternative hypothesis, in response between Nursing and Others to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. Results show a χ^2 of 5.407, with degrees of freedom = 5, with a P value of .3682. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a significant difference, between the responses between Nursing and Others to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”.

Table 9.1 Nursing vs. Others - Has your career direction shifted due to your Shoulder to Shoulder experience?



	Yes, definitely	Yes, somewhat	Neutral	No, not really	No, it has not	No Response	Totals
Nursing	2 1.89 (0.01)	3 3.60 (0.10)	2 2.06 (0.00)	4 3.09 (0.27)	1 1.20 (0.03)	0 0.17 (0.17)	12
Others	9 9.11 (0.00)	18 17.40 (0.02)	10 9.94 (0.00)	14 14.91 (0.06)	6 5.80 (0.01)	1 0.83 (0.04)	58
Totals	11	21	12	18	7	1	70

$$\chi^2 = 0.705, \quad df = 5, \quad P(\chi^2 > 0.705) = 0.9827$$

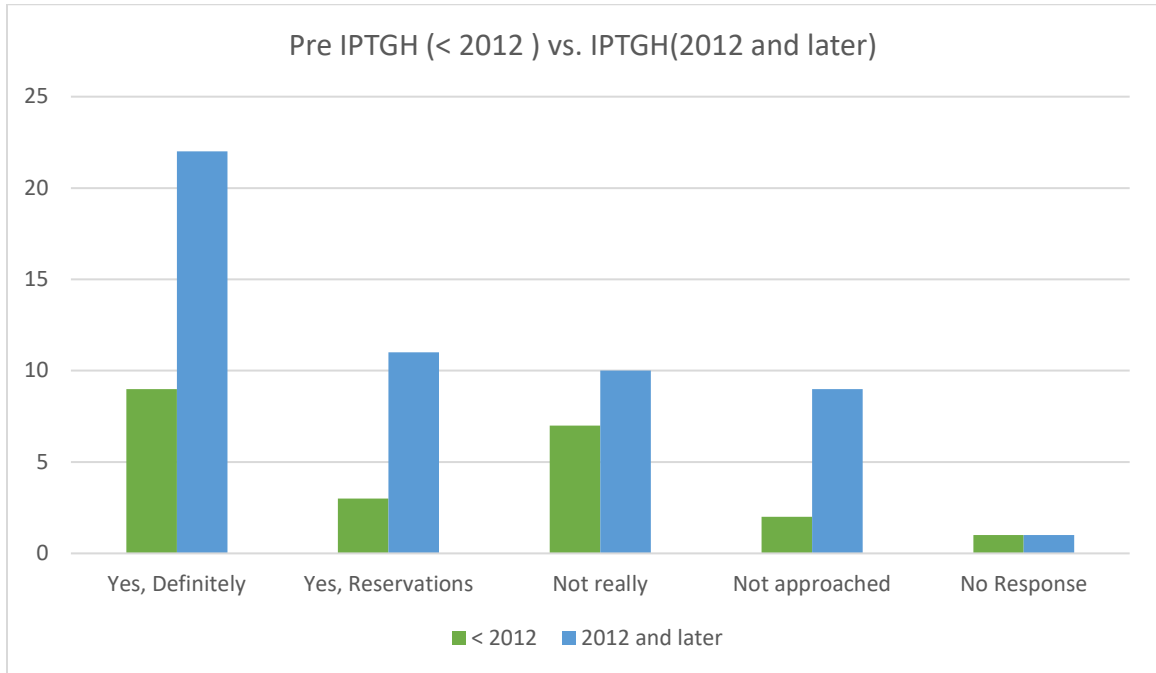
A chi-square test was performed to better understand if there is a statistically significant difference in responses between Nursing and Others to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”. Chi-square results show a χ^2 of .705, with degrees of freedom = 5, with a P value of .9827. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a

statistically significant difference, between the responses of Nursing and Others to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”.

Before and After IPTGH course in Spring 2012 Analysis

As previously mentioned, beginning in 2012 the course, Interprofessional Teamwork in Global Health (IPTGH), provided training for brigade participants by using an interprofessional faculty team to guide students through topics such as how health in another culture might be viewed differently, how to work with an interpreter, addressing stereotypes about various healthcare professions and even a mock interprofessional clinic day. UK’s former Director of International Studies, originally from Ecuador, also gives an overview of the country, which includes a brief history of the people, racism, culture and politics. Although the course is required for all fulltime University of Kentucky students, other brigade participants are encouraged to attend as observers and several of the course’s lectures are available on-line to brigade participants. This study hypothesizes that respondents to the brigade survey might differ in their answers to the if the participant has received the Interprofessional Teamwork in Global Health course training. The analysis below compares those respondents that did not have the opportunity to participate in the course by signifying with, “< 2012” that the participant went on the brigades before the course implementation in 2012. Participants that were required or offered the opportunity to take the course are identified as, “2012 and later”. Below are the results to the questions listed in bold.

Table 10.1 Approach working with community health education differently because of participation in the Shoulder to Shoulder Global program:



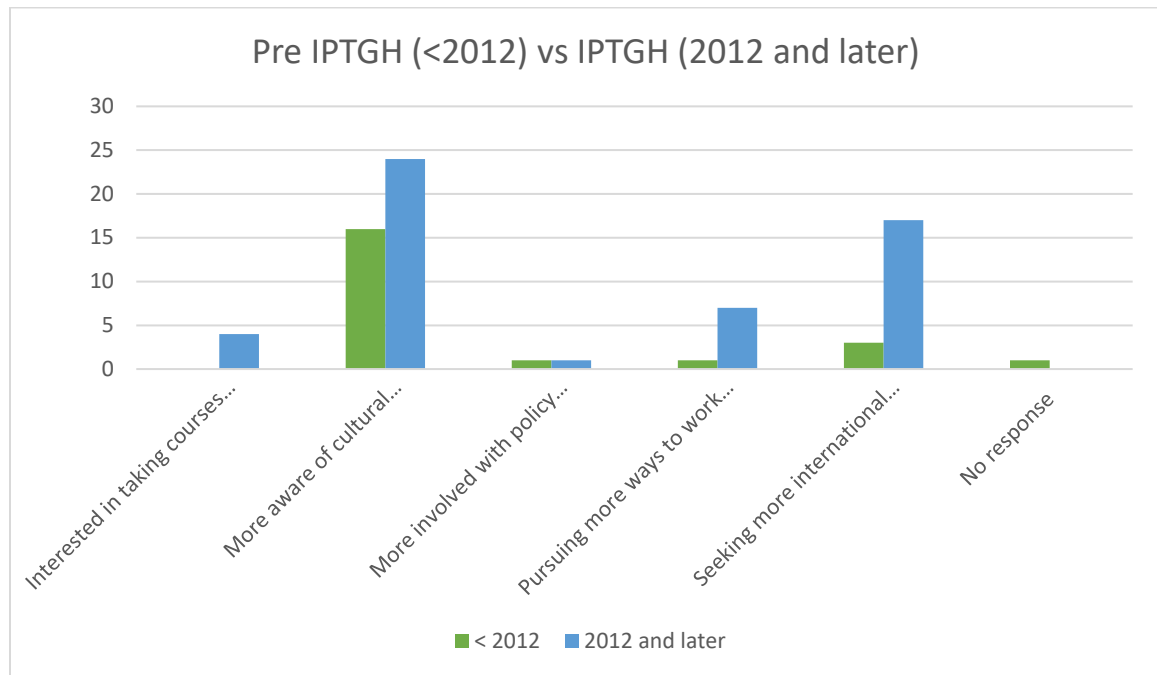
	Yes, Definitely	Yes, Reservations	Not really	Not approached	No Response	Totals
< 2012	9 9.09 (0.00)	3 4.11 (0.30)	7 4.99 (0.81)	2 3.23 (0.47)	1 0.59 (0.29)	22
2012 and later	22 21.91 (0.00)	11 9.89 (0.12)	10 12.01 (0.34)	9 7.77 (0.19)	1 1.41 (0.12)	53
Totals	31	14	17	11	2	75

$$\chi^2 = 2.646, \quad df = 4, \quad P(\chi^2 > 2.646) = 0.6188$$

A chi-square test (χ^2) was performed to better understand if there is an alternative hypothesis between < 2012 participants and 2012 and later participants to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”. Results show a χ^2 of 2.646, with degrees of freedom = 4, with a P value of .6188. The P value is only significant if $P \leq 0.05$. This indicates that there is a null hypothesis, or not a statistically

significant difference, between the responses of < 2012 and 2012 and later participants to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”.

Table 11.1 Due to the Shoulder to Shoulder Global brigade experience, I am:



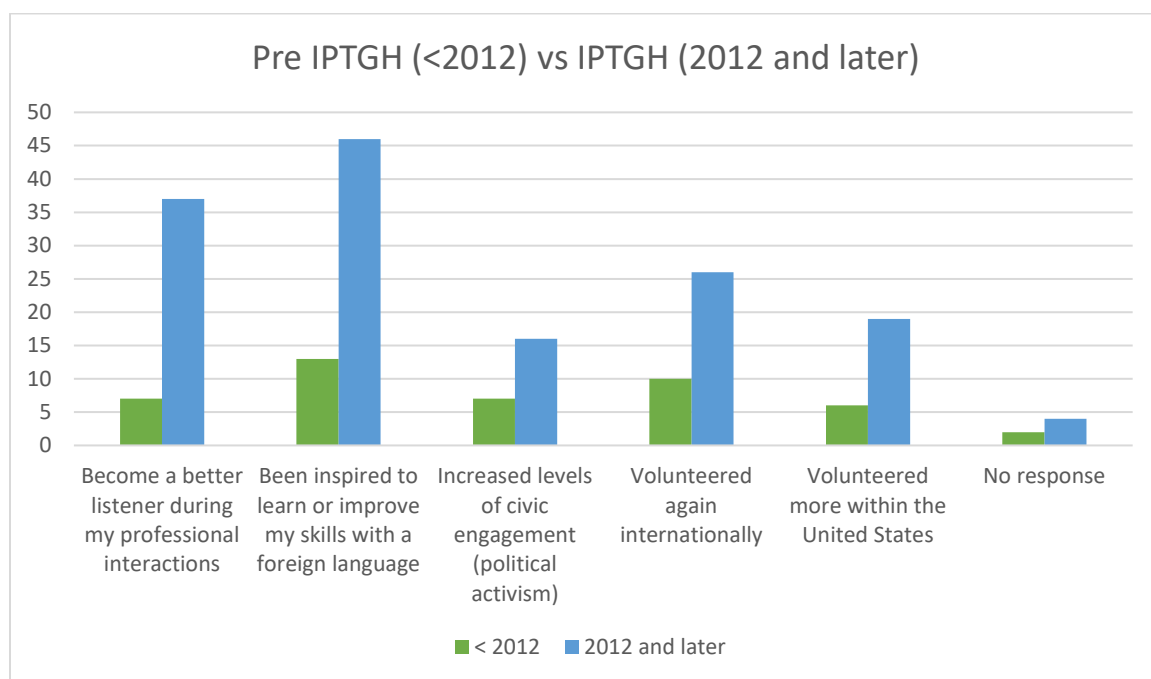
	Interested in taking courses or training outside of my discipline	More aware of cultural differences and how they might impact my field	More involved with policy within my own professional field	Pursuing more ways to work interprofessionally	Seeking more international experiences	No response	Totals
< 2012	0 1.17 (1.17)	16 11.73 (1.55)	1 0.59 (0.29)	1 2.35 (0.77)	3 5.87 (1.40)	1 0.29 (1.70)	22
2012 and later	4 2.83 (0.49)	24 28.27 (0.64)	1 1.41 (0.12)	7 5.65 (0.32)	17 14.13 (0.58)	0 0.71 (0.71)	53
Totals	4	40	2	8	20	1	75

$$\chi^2 = 9.753, \quad df = 5, \quad P(\chi^2 > 9.753) = 0.0825$$

A chi-square test was performed to better understand if there is a significant difference in response between < 2012 and 2012 and later program participants to the

question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”. Results show a χ^2 of 9.753, with degrees of freedom = 5, with a P value of .0825. The P value is only significant if $P < 0.05$. This indicates that there is not a significant difference between the responses between < 2012 and 2012 and later program participants to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”.

Table 12.1 Due to the Shoulder to Shoulder Global brigade experience, I have:

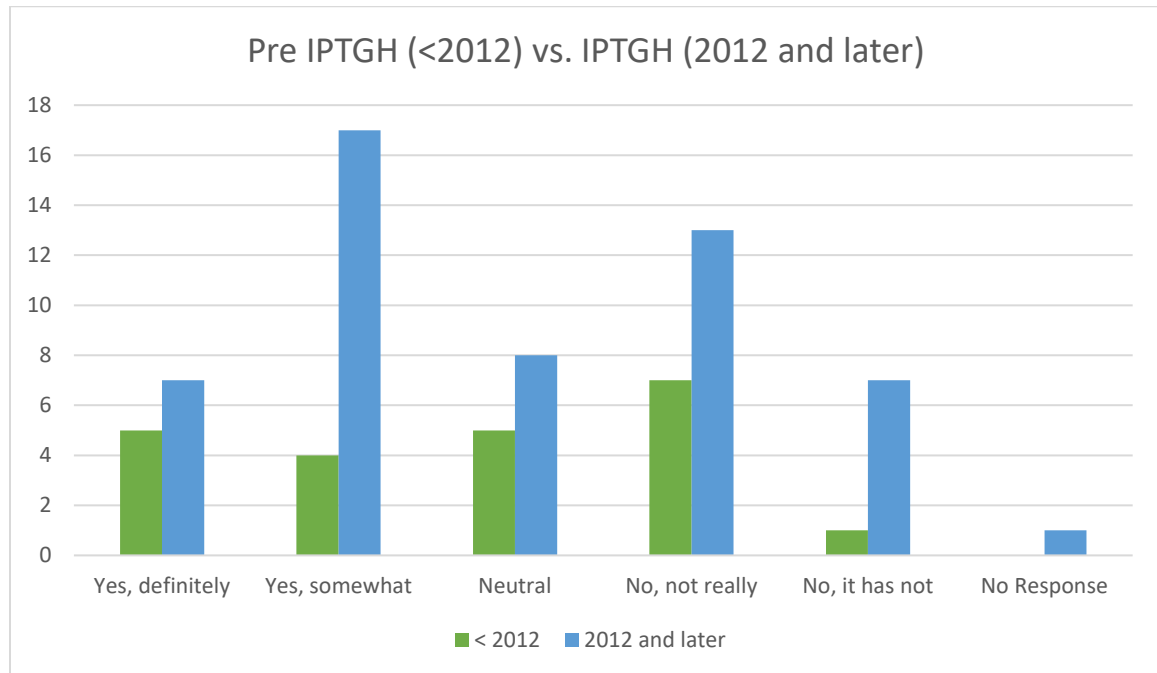


	Become a better listener during my professional interactions	Been inspired to learn or improve my skills with a foreign language	Increased levels of civic engagement (political activism)	Volunteered again internationally	Volunteered more within the United States	No response	Totals
<2012	7 10.26 (1.04)	13 13.76 (0.04)	7 5.36 (0.50)	10 8.39 (0.31)	6 5.83 (0.01)	2 1.40 (0.26)	45
2012 and later	37 33.74 (0.31)	46 45.24 (0.01)	16 17.64 (0.15)	26 27.61 (0.09)	19 19.17 (0.00)	4 4.60 (0.08)	148
Totals	44	59	23	36	25	6	193

$$\chi^2 = 2.800, \quad df = 5, \quad P(\chi^2 > 2.800) = 0.7307$$

Continuing the pattern of analysis, a chi-square test was performed to better understand if there is a statistically significant difference, or alternative hypothesis, in response between < 2012 and 2012 and later program participants to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. Results show a χ^2 of 2.800, with degrees of freedom = 5, with a P value of .7307. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a significant difference, between the responses between < 2012 and 2012 and later program participants to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”.

Table 13.1 Has your career direction shifted due to your Shoulder to Shoulder experience?



	Yes, definitely	Yes, somewhat	Neutral	No, not really	No, it has not	No Response	Totals
< 2012	5 3.52 (0.62)	4 6.16 (0.76)	5 3.81 (0.37)	7 5.87 (0.22)	1 2.35 (0.77)	0 0.29 (0.29)	22
2012 and later	7 8.48 (0.26)	17 14.84 (0.31)	8 9.19 (0.15)	13 14.13 (0.09)	7 5.65 (0.32)	1 0.71 (0.12)	53
Totals	12	21	13	20	8	1	75

$$\chi^2 = 4.293, \quad df = 5, \quad P(\chi^2 > 4.293) = 0.5080$$

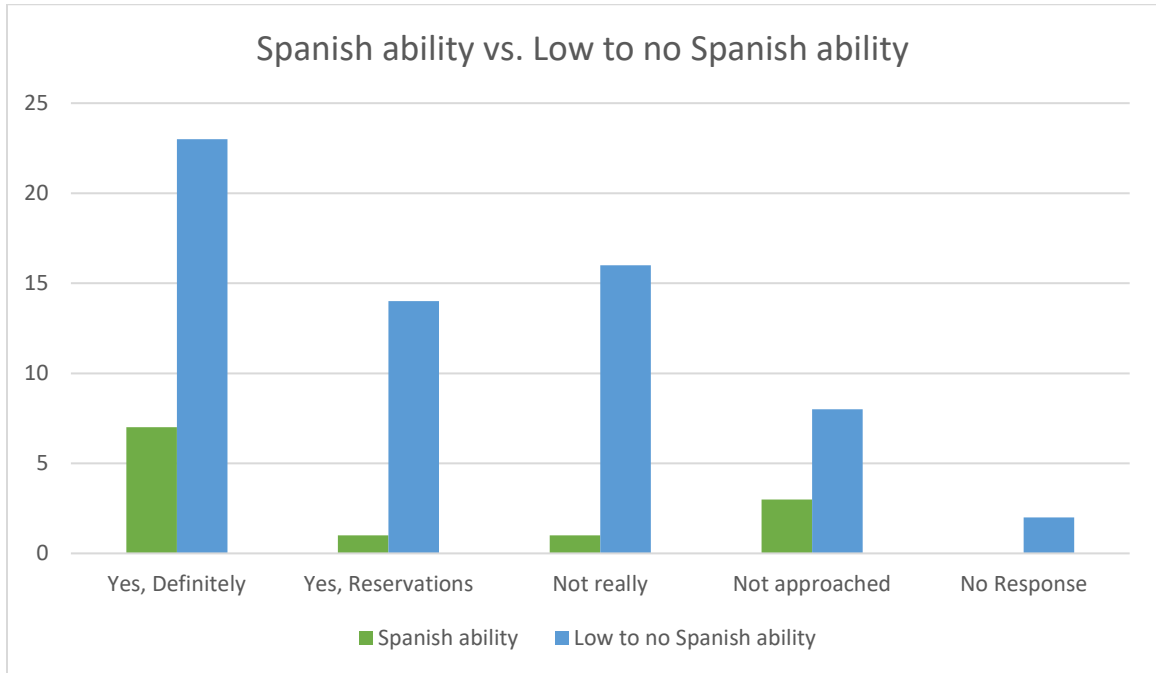
A chi-square test was performed to better understand if there is a statistically significant difference in responses between < 2012 and 2012 and later program participants to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”. Chi-square results show a χ^2 of 4.293, with degrees of freedom =

5, with a P value of .5080. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses of < 2012 and 2012 and later program participants to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”.

Spanish Analysis – Does speaking Spanish at a higher-level impact the participants’ experience?

Year after year, annual Shoulder to Shoulder Global brigade specific surveys consistently indicate that the biggest challenge for brigade participants during the brigade experience is the struggle to communicate in Spanish with patients and community partners. Related to this challenge, the survey question asked participants in this study is, “Please describe your Spanish proficiency during your brigade experience”. We want to better understand how language skills might impact the Shoulder to Shoulder Global program experience and in which areas. The hypothesis is that the brigade experience might be different for Spanish speakers than it is for non-Spanish speakers. To test this hypothesis, two groups have been created based on the self-rated Spanish of respondents. The first group is classified as “Spanish speakers” and includes native speakers, participants that can converse in a complex manner and participants who identify that their Spanish skills are sufficient to work independently and can interact spontaneously. This group is able to converse fluidly. The second group is categorized as “low level” Spanish communicators with participants who identify that their language skills are at a low intermediate level, can communicate at a basic level, are able to communicate at only a novice level in simple contexts or have no Spanish language abilities.

Table 14.1 Approach working with community health education differently because of participation in the Shoulder to Shoulder Global program:

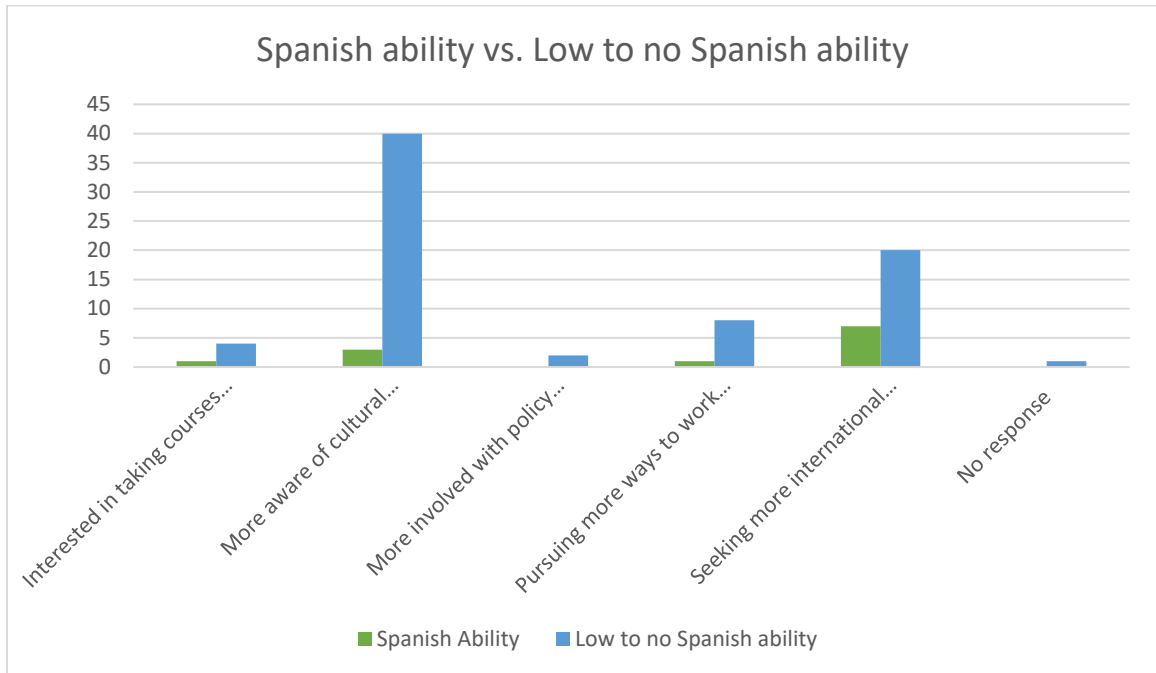


	Yes, Definitely	Yes, Reservations	Not really	Not approached	No Response	Totals
Native speaker, Able to converse in complex manner, Independent, spontaneous	7 4.80 (1.01)	1 2.40 (0.82)	1 2.72 (1.09)	3 1.76 (0.87)	0 0.32 (0.32)	12
Low Intermediate Level, communication at a basic level, Novice Spanish in simple contexts, No Spanish	23 25.20 (0.19)	14 12.60 (0.16)	16 14.28 (0.21)	8 9.24 (0.17)	2 1.68 (0.06)	63
Totals	30	15	17	11	2	75

$\chi^2 = 4.888$, $df = 4$, $P(\chi^2 > 4.888) = 0.2989$

A chi-square test (χ^2) was performed to better understand if there is an alternative hypothesis between Spanish speakers and lower level Spanish communicators to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”. Results show a χ^2 of 4.888, with degrees of freedom = 4, with a P value of .2989. The P value is only significant if $P \leq 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses of Spanish speakers and lower level Spanish communicators to the question, “Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?”.

Table 15.1 Due to the Shoulder to Shoulder Global brigade experience, I am:



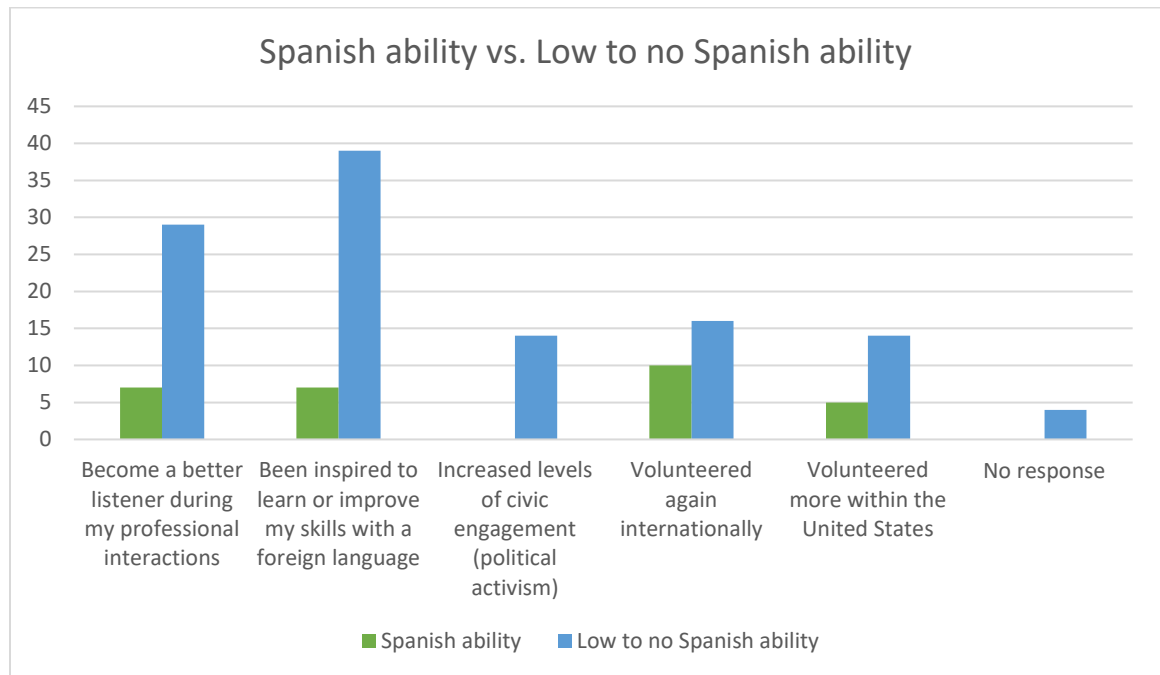
	Interested in taking courses or training outside of my discipline	More aware of cultural differences and how they might impact my field	More involved with policy within my own professional field	Pursuing more ways to work interprofessionally	Seeking more international experiences	No response	Totals
Native speaker, Able to converse in complex manner, Independent, spontaneous	1 0.69 (0.14)	3 5.93 (1.45)	0 0.28 (0.28)	1 1.24 (0.05)	7 3.72 (2.88)	0 0.14 (0.14)	12
Low Intermediate Level, communication at a basic level, Novice Spanish in simple contexts, No Spanish	4 4.31 (0.02)	40 37.07 (0.23)	2 1.72 (0.04)	8 7.76 (0.01)	20 23.28 (0.46)	1 0.86 (0.02)	75
Totals	5	43	2	9	27	1	87

$$\chi^2 = 5.719, \quad df = 5, \quad P(\chi^2 > 5.719) = 0.3345$$

A chi-square test (χ^2) was performed to better understand if there is an alternative hypothesis between Spanish speakers and lower level Spanish communicators to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”. Results show a χ^2 of 5.719, with degrees of freedom = 5, with a P value of .3345. The P value is only significant if $P < 0.05$. This indicates that there is not a significant difference

between the responses between Spanish speakers and lower level Spanish communicators to the question, “Due to the Shoulder to Shoulder Global brigade experience, I am:”.

Table 16.1 Due to the Shoulder to Shoulder Global brigade experience, I have:



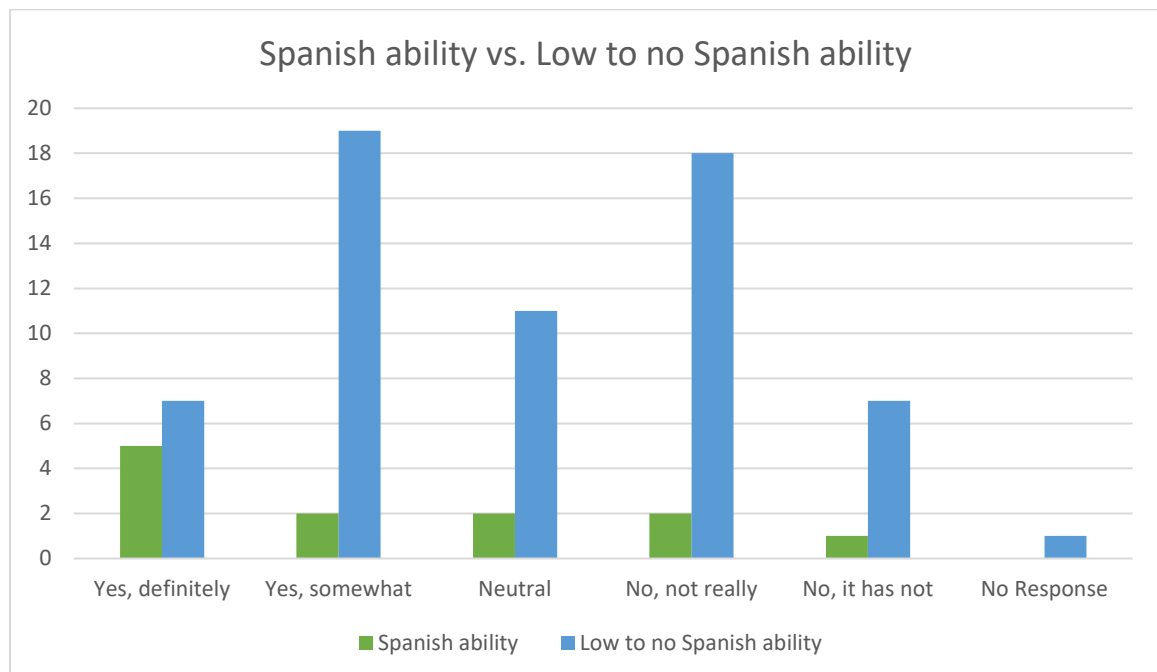
	Become a better listener during my professional interactions	Been inspired to learn or improve my skills with a foreign language	Increased levels of civic engagement (political activism)	Volunteered again internationally	Volunteered more within the United States	No response	Totals
Native speaker, Able to converse in complex manner, Independent, spontaneous	7	7	0	10	5	0	29
Low Intermediate Level, communication at a basic level, Novice Spanish in simple contexts, No Spanish	29	39	14	16	14	4	116
Totals	36	46	14	26	19	4	145

$$\chi^2 = 11.177, \quad df = 5, \quad P(\chi^2 > 11.177) = 0.0480$$

Continuing the pattern of analysis, a chi-square test was performed to better understand if there is a statistically significant difference, or alternative hypothesis, in responses between Spanish speakers and lower level Spanish communicators to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. Results show a χ^2 of 11.177, with degrees of freedom = 5, with a P value of .0480. The P value is

only significant if $P < 0.05$. This indicates that there is an alternative hypothesis, or a statistically significant difference, between the responses of Spanish speakers and lower level Spanish communicators to the question, “Due to the Shoulder to Shoulder Global brigade experience, I have:”. To clarify, this indicates that the program experience impact is greater for Spanish speakers in the areas of becoming a better listener during professional interactions, inspiration to learn or improve skills with a foreign language, increasing levels of civic engagement (political activism), volunteering again internationally, and volunteering more within the United States. A possible reason for this difference is how the Shoulder to Shoulder Global program experience helps participants understand the value offered by their Spanish language skills for multiple professions in multiple settings. This understanding can lead to empowerment in the form of confidence in the above stated categories.

Table 17.1 Has your career direction shifted due to your Shoulder to Shoulder experience?



	Yes, definitely	Yes, somewhat	Neutral	No, not really	No, it has not	No Response	Totals
Native speaker, Able to converse in complex manner, Independent, spontaneous	5 1.92 (4.94)	2 3.36 (0.55)	2 2.08 (0.00)	2 3.20 (0.45)	1 1.28 (0.06)	0 0.16 (0.16)	12
Low Intermediate Level, communication at a basic level, Novice Spanish in simple contexts, No Spanish	7 10.08 (0.94)	19 17.64 (0.10)	11 10.92 (0.00)	18 16.80 (0.09)	7 6.72 (0.01)	1 0.84 (0.03)	63
Totals	12	21	13	20	8	1	75

$$\chi^2 = 7.340, \quad df = 5, \quad P(\chi^2 > 7.340) = 0.1966$$

A chi-square test was performed to better understand if there is a statistically significant difference in responses between Spanish speakers and lower level Spanish communicators to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”. Chi-square results show a χ^2 of 7.340, with degrees of freedom = 5, with a P value of .1966. The P value is only significant if $P < 0.05$. This indicates that there is a null hypothesis, or not a statistically significant difference, between the responses of Spanish speakers and lower level Spanish communicators to the question, “Has your career direction shifted due to your Shoulder to Shoulder experience?”.

QUALITATIVE DATA BRIGADE EXPERIENCE RESULTS

Survey respondents have a lot to say about how the brigade has impacted their lives. Words such as joy, love, interprofessional and awareness are just some of the terms to describe responses. This section confirms a congruency between the quantitative data and the qualitative results mentioned in this study's Data Analysis section.

To what extent did the Shoulder to Shoulder Global program help you learn a global perspective?

The first open-ended question explores the extent that the program helps to learn a global perspective. Respondents share about themes such as eye-opening exposure, understanding and increased levels of awareness. Often, having limited resources and being in an environment quite different than home can increase one's skills as a practitioner and helps to realize how we are each connected to the rest of the world. A 2017 Doctor of Physical Therapy student wrote that, "Shoulder to Shoulder empowered me to reach outside of my comfort zones to delve into populations and locations different than my own. Since the experience, I have been able to relate experiences in Ecuador to experiences locally to impact the quality of care I am able to provide to patients. From being able to simply introduce myself to a Spanish speaking patient to having a better concept of living below the poverty line. The experience helped me to better understand and truly incorporate the idea that each patient is an individual and should be treated as such regardless of biases and stereotypes placed upon people of certain geographical regions, religions, race, or cultures". A 2017 brigade nurse stated that, "Working with and for Ecuadorians opened my eyes to new ways of communicating and to a different system

of medicine. I also witnessed how principles of nursing and the western medical model can be both applied and adapted in another area of the world.

Eye-opening exposure and an understanding of similarities also describes this statement from a pharmacist that participated as a pharmacy student in 2013 states, “There is really only so much that you can learn in the classroom about health disparities and how healthcare can be delivered in various parts of the world - you really need to just experience it. We spoke a lot in class about cultural differences in both healthcare and in general, but to be able to be there and see it first hand was a completely different and unique experience. The poverty was likely the most striking thing for me...the health needs were still the same - we were serving patients with several of the same chronic and acute conditions that we saw in the United States in much the same way”.

Many participants shared how the experience inspired and changed them. A 2016 undergraduate business major stated, “I found that I loved working interprofessionally - alongside doctors, nurses, pharmacists, PTs (Physical Therapists), etc. Being the only member on my brigade without a medical background, I was able to gain a unique perspective on how applied economics and business tactics can help address issues outside of the typical workplace setting and into the medical field. I found that working in a multidisciplinary, team-based environment allowed me to utilize my strengths in business management and innovative thinking...to creatively solve complex problems and ameliorate the impoverished community” This business student was inspired to pursue a Master of Health Administration degree and is nearing completion of her studies.

Participants also remarked on how the experience empowers, increases cultural competency and makes for a better practitioner. A more than four-time brigade participant in physical therapy expresses, “I grew up without much experience with individuals who were different racially, ethnically, or culturally from me. As I grew older, I realized that the world was vast...I learned how simple and complex international service can be. Being immersed in the clinic and working side by side my colleagues at Centro de Salud Hombro a Hombro...helped me better understand our global community: barriers to access healthcare, government programs and resources, current efforts to address health in the region, cultural and ethnic influences on health and well-being, and limitations in implementing wide spread use of healthcare services. When I return to the US after every health brigade experience, I look at our healthcare delivery system differently. I see the pros and cons more clearly. I strongly believe that my compassion and ability to connect with Latin American clients in a successful manner is directly related to the knowledge, skills, and experience I have built as a member of the STSG community”.

Which components of the Shoulder to Shoulder Global program helped you learn to function effectively when working as part of an interprofessional team?

Solidarity and the fostered collaboration with interprofessional teammates is high on the list of respondent comments about their brigade experience. Merriam-Webster’s dictionary defines solidarity as, “Unity (as of a group or class) that produces or is based on community of interests, objectives, and standards” (Solidarity, 2018). Bhattacharyya (2004, p. 12) explores the definition of solidarity by describing it as a shared identity

derived from place, ideology or interest, with a code for conduct or norms. The brigade respondents report that the togetherness, the shared spaces, the accessibility of their interprofessional teammates, nightly reflective discussions and the prework required before the brigade all had an impact on their ability to be a part of an interprofessional team during and since the brigades. A 2017 pharmacy student writes about how the treatment of participants, from students up to retired practitioners, impacts her view of interprofessional teaming. She wrote, “Being able to directly talk with other professionals, like clarifying with the doctors face to face was extremely important. I loved how everyone on the brigade treated the other professions as equals and treated the students as young professionals”.

Food is mentioned frequently in the reflective thoughts to this question. Not for the nutritional benefits, but for how being together for meal times develops a sense of comradery. A 2017 Doctor of Physical Therapy student stated, “The entire process: from packing, to providing care, to even eating meals. Throughout the entire experience you are interacting with someone from another profession”. A pediatrician and three-time brigade participant adds, “Traveling together, assembling the care delivery areas, dining together, participating in community discussions on the experiences of the day...Each activity contributed something to the acquisition of interprofessional experiences”.

The prework required for many participants is also mentioned in respondent comments as they reflect on how the Shoulder to Shoulder Global brigades have helped them learn how to function as part of an interprofessional team. Beginning in 2012, the course, “Interprofessional Teamwork in Global Health”, approached training for brigade participants by using an interprofessional faculty team to guide students through topics

such as how health in another culture might be viewed differently, how to work with an interpreter, addressing stereotypes about various healthcare professions and even a mock interprofessional clinic day. UK's former Director of International Studies, originally from Ecuador, also provided an overview of the country, giving a brief history of the people, racism, culture and politics. A 2015 nursing student explained, "Being able to work with a multidisciplinary team during this program was so useful. From the time we were taking the classes and collaborating with other teams, to when we were actually setting up clinic in Ecuador, we were always playing a small role in a much bigger picture in delivering comprehensive healthcare to the people". The course also helped some to be better prepared technically to work with their interprofessional teammates. A 2015 pharmacy student shares that, "The pre-coursework was helpful in preparing students prior to arriving to Ecuador. It helped discuss prevalent health issues and develop a pharmacy formulary for treating common disease states".

What have you found to be the most rewarding post-Shoulder to Shoulder Global program benefits? How has this related to your overall major, specialization or education?

Joy, relationships, cultural competency, community development, skills development and career focus all define participants' views of the post Shoulder to Shoulder Global program benefits. The sense of usefulness, the creation of friendships and a feeling of gratitude that participants felt serving others has continued after the brigade experience.

Expressions of joy are a theme in participant responses, including on how the interactions with the community has changed careers and lives. A 2017 pharmacy student states, “I am (now) working on my MPH and this really opened my eyes to healthcare outside of the US. I have never had more patients express such sincere gratitude for what we did that it really was a rewarding experience”. A pediatrician that has participated more than four times in the brigade experience speaks of the joy she feels while on the brigade, “I really enjoy the reactions of the students who are working and travelling internationally for the first time, and also the ability to do some teaching both with our students and with the Ecuadorian medical students”.

A physician and two-time brigade participant states, “I have continued to have relationships with other participants and the opportunity to improve medical Spanish contributes to my daily work as a physician”. A part of the joy and life-changing experiences comes from the relationships and networking that often occurs during the experience. A 2016 undergraduate student shares how the relationships have helped her find her future, “I always knew I wanted to work in healthcare, I just didn't know what field. I went on this trip as a business student/Spanish interpreter. However, during my time there, I fell in love working alongside a diverse team of physicians and getting to participate in problem solving discussions. One of the physicians on the trip asked me if I had ever looked into Health Administration. I had never heard of this degree...but it was the first thing I looked up at the airport upon our return. I am now pursuing that master's degree and...am motivated and inspired to succeed”. A 2007 participant that is now a physician assistant remarks that the relationships made are still a part of her life, “Interacting with people from all different professions/ specialties and networking. I am

still in contact with some of the people I met during my first gig translating for STSG in 2007”.

Cultural competency is a frequent theme in the survey results. Respondents cover how they have become more aware of cultural differences and how the differences can impact their work, making them feel more compassionate. A 2015 pharmacy student brigade participant noted changes in, “My compassion for people, I now help Spanish speakers if I see that they're lost in the hospital to redirect them...” to a 2017 brigade psychologist who responded that, “The intensive involvement with the patients of Ecuador...has been particularly helpful in my work with Latino patients at my clinic in Lexington”.

Participants often find themselves thinking and working in a community development role after their brigade experience. A 2017 nursing student states, “An increased understanding of the importance and benefits of public/community health. Prior to the brigade, I only had an understanding of nursing in the hospital setting and the brigade provided a lot of perspective of preventative care and how this can improve the overall health of an individual and subsequently, the community”. A 2015 brigade pharmacy student states, “After STSG, it reaffirmed my desire to work in medically (under)served patient populations. I’m completing a PGY2 (postgraduate year two residency) in Ambulatory Care in Denver starting this July and hope to continue to go on medical missions throughout my career”. The brigade experience and this project also brought the community advocate role out of some participants. A 2011 participant questions, “I want to point out that this survey is very focused on what the participant got out of the mission but very little focus on the impact on the local peoples we worked

with. I would be interested in getting information on what impact STSG was to make on the people we helped."

Skill development of participants is also noted in respondent comments. Learning how to work in a resource limited setting can promote creativity and adaptivity once the participant has returned. A three-time brigade participant in public health explains how the experience helped him adapt at home, "I reviewed my microbiology and re-learned my field sanitation. I saw conditions in Ecuador that I have NEVER seen in the U.S. Gave me a more practical perspective that techniques which might work well in one setting, may not work at all in a different setting. So, we have to be innovative and creative in our thinking and approach to dealing with problems". A two-time physical therapy participant shares, "Post STSG I have felt more confident in my interactions with other professionals. I have a better understanding of not only my skills and knowledge, but also a variety of other disciplines. This trip improved how I communicate with other professionals about my patients".

Impact to career has also been a part of the post program benefits. As a program coordinator, and now a program manager, for STSG, this question and the answers received hold significant meaning for me. A 2013 brigade pharmacy student shares the impact the program has had on his life, "It has inspired a feel and desire for service that I continue to focus on in my career - I went on to pursue a residency focused on serving underserved patients, chose a program that had an international brigade similar to STSG, graduated and went on to work for a federally qualified health center, and now volunteer at a local clinic that serves immigrants and other underserved patients". A 2017 brigade undergraduate student and EMT states, "It has helped to shape my specialization as a

future PA to focus on underserved or reach groups both in America and globally. Additionally, it has influenced me to apply to the Peace Corps in upcoming months”. A brigade physical therapist described at length how her 2013 brigade and previous activities has resulted in fulfilling work post experience opportunities, “I have had the opportunity to explore physical therapy workforce issues and professional preparation programs within Ecuador - supporting the need for a unified physical therapy curriculum (adopted by the Ecuadorian Government in 2016) and development of a larger, more highly trained workforce. I have become more involved in global professional preparation activities (through the World Congress of Physical Therapy - WCPT), especially related to pediatric physical therapy; visited/interviewed program directors at 3 Ecuadorian physical therapy educational programs; collaborated with the Ecuadorian Society of Physical Therapy on earthquake relief services, professional preparation and post-professional continuing education; and worked with a University in Ecuador to develop a new PT (physical therapy) Program”.

A more than four-time participant in the brigades, first going as a physical therapy student and now as a faculty member and physical therapist sums up post program benefits: “The primary benefit is my depth of understanding and experience with the Latin American culture. It has allowed me to adjust my approach to care for my Latin American patients in the US. I can connect better with those patients and find a way to address their concerns while empowering them to use my recommendations to help their pain and improve their function. The other rewarding benefit is how inspired I feel after each experience. I relish the connections built with my colleagues in Ecuador, my colleagues on the brigade experience, and the students during what is usually a

transformative learning environment...I usually have new ideas for how we can improve our work both in Ecuador and in the US”.

Due to your Shoulder to Shoulder Global experience, to what extent do you incorporate serving the underserved in your practice as a clinician or professional?

Shoulder to Shoulder Global’s website, <http://international.uky.edu/stsg>, states that, “Shoulder to Shoulder Global (STSG) is a UK Global Health Initiatives organization that integrates academic and community partners to improve the health and well-being of an underserved community in Santo Domingo, Ecuador”. Respondents for this project often share how they seek to do more since their program experience, how the experience reinforced or confirmed their commitment to serving the underserved and how it has inspired them.

Participants have a lot to say about their desires to serve the underserved abroad and locally. A 2017 brigade nursing participant shares how she is preparing herself to do just that, “I am going on to pursue my Doctor of Nursing Practice with a focus in underserved populations because of my experience”. A 2012 brigade dentist states, “I have always had interest in working with the underserved but after Shoulder to Shoulder I started a new job which is about 80% underserved”. A 2007 and 2011 brigade participant shares, “After graduating from PA (Physician Assistant) school...I was a med tech the first time a volunteered and a PA (physician assistant) student the second time...I began working in homeless outreach in (Washington) DC”. A four-time brigade dentist states, “I have a nonprofit that now helps provide medical access to the rural villages of Liberia”.

Many program participants come to the program and have their beliefs to serve others confirmed and validated. A 2017 brigade pediatrician states, “A high percentage of my current practice caring for the underserved. Shoulder to Shoulder solidified for me the importance of that work. A 2015 brigade third year medical student states, “I don't know that it's due to STSG, but the trip was a way to practice my goal of serving the underserved, which has continued in my education, such as being in the Rural Physicians Leadership Program at UK”.

Inspiration is also a theme of many respondents. A 2017 nursing student states, “Since the brigade, I have chosen to begin my nursing career in a smaller town with plans to pursue a primary care graduate program. I have gained a lot of appreciation for those who provide care to underserved individuals and hope to continue to serve in a global capacity on future STSG brigades”. A 2009 brigade physical therapist states, “I volunteer in the free physical therapy clinic run by PT (physical therapy) students and participate in Shoulder to Shoulder Global fund-raising events”. A 2016 brigade undergraduate student shares how the program inspired her and continues to inspire her future, “I have focused my studies on looking for ways to solve health disparities in terms of cost, access, and quality. Since the return of my trip I served as an Americorps member at Operation Food Search in St. Louis, MO. These experiences have shown that these problems exist near and far. I hope to help those in need with this career path”.

Of note, it should also be mentioned that some participants have not changed their feelings about serving the underserved. While program participants have an extremely diverse mix of beliefs, values and reasons for wanting to serve, a four-time brigade participant succinctly shares, “I have always had a servant's heart. I don't think Should to

Shoulder has changed or impacted that. It is my faith that has influenced that aspect of my life”.

To what extent have you become a different clinician or professional due to your Shoulder to Shoulder Global experience?

While the brigade experience is relatively short for most, just ten days, many program participants express how the often-intensive program has impacted them as clinicians or professionals, exposing them to another culture, place and system of healthcare, creating awareness in the process. A 2015 brigade nursing student states, “I have learned how education is very important aspect where before I saw it as an extra tedious step in my practice”. A more than four-time brigade participant, first time as a neuroscience and pre-medicine undergraduate student, later a Doctor of Physical Therapy student and current physical therapist states, “I have been humbled and realize how my practice is just one piece of the puzzle when helping my patients. Also, a greater appreciation for the lives behind the patients whom I work with in my profession”. This awareness inspires a 2017 brigade pharmacy student to write, “The question says ‘Due to the Shoulder to Shoulder Global brigade experience I am:’ should allow us to check multiple boxes. Before the brigade I would have checked one, after I would like to check them all. I became more politically active within my field, more aware of cultural differences, more willing to work interprofessionally, and more motivated to see more areas of the globe”.

A recurring theme in responses to many of the questions, program participants remark on increased levels of cultural competency. A 2016 brigade nursing student states,

“I’m a little more comfortable trying to bridge communication barriers with patients who speak a different language than me. We’re all just people!”. A 2010 brigade nurse states, “Since my Shoulder to Shoulder experience I have been steadily improving my Spanish skills. Those skills are helpful in the clinic I work in now, and I see that Spanish will become increasingly important over time”.

Many respondents feel that they are better practitioners due to their brigade experience. A 2013 brigade pharmacy student states, “I have undoubtedly become more understanding and empathetic. I think I do a better job of focusing on the bigger picture. I also try to take a more practical look at my patients and figure out "creative" ways to get them what they need, no matter the barrier in front of us”. This respondent obviously cares for her patients when she writes “us” instead of “them”. A 2009 brigade physical therapist states, “I seek to understand the goals of the people with whom I work more clearly to I can personalize the rehab program to their particular needs”. We also again hear from a more than four-time brigade participant who summarizes how different aspects apply, “My approach to patient care improved as a result of my experience with STSG. I am more patient with all clients, I am more creative with exercise prescription when resources are limited, and I am more able to determine what is the most important or impactful exercise or movement for an individual to use for pain relief or improved function than I was before my experience in Ecuador. I believe I have a better understanding of the impact of limited access to healthcare, the barriers in the US and in Ecuador to providing patient-centered, accessible healthcare, and the needs of these individuals in the US and in Ecuador. I better understand Latin American culture as it

related to exercise and health and use that knowledge to change my approach to patient care”.

To what extent have you observed improved health outcomes due to interdisciplinary collaboration?

Improved health outcomes can be difficult to measure in communities as a common method is to do a pre and post community health assessment. This study aims to better understand the perceptions of brigade participants as they work interprofessionally. Note that the terms interprofessional and interdisciplinary are used interchangeably in this section. Program participants feel that, in general, the interprofessional model results in having access to diverse knowledge, more holistic care and improved treatment plans. During the analysis, a special note is that this question appears to have caused the most confusion of all this study’s questions. Respondents could be confused if the question related to improved health outcomes due to interdisciplinary collaboration in the United States or during the brigade experience. The question is meant to refer to the brigade experience, but a few respondents asked questions such as this, “This question is vague to me, but it needs more context. Do you mean here in the US?”. An observation of how healthcare is not necessarily interdisciplinary in the United States is made by a 2009 brigade physical therapist, “The Shoulder to Shoulder (Global) team is made up of people who believe in interprofessional collaboration. This is good. But it is not the norm in the US healthcare system”.

As the interprofessional STSG program involves all six health science colleges, the College of Agriculture and Arts and Sciences, among others, program participants

express that this gives program participants and patients access to a diverse knowledge set. A 2011 undergraduate student, now a patient representative at a large hospital shares, “When many disciplines come together to work on a problem, it brings many different perspectives, which leads to more complete solutions. This experience really exemplified this to me as we had physicians, physical therapists, dentists & pharmacists all working together for the good of all the patients”. A 2016 brigade physician states, “More expertise from different disciplines adds to your effectiveness, not as lonely in making decisions if others to bounce ideas off of”.

Thinking of how interdisciplinary collaboration can improve health outcomes through more efficient, holistic and cohesive care, a more than four-time brigade physical therapist states, “I am not sure that I would use the word outcomes, but I have seen patients and clients get necessary care from an interprofessional colleague making the appropriate referral during the health brigade. I have witnessed patients receiving more appropriate care based on interprofessional communication and collaboration. I have seen "whole person" treatment in the home and in the clinic during interprofessional visits and examinations, which I believe is more effective and efficient for the client receiving the care. The overall outcomes are more challenging to observe...”. Along the same lines, a 2015 brigade undergraduate student, now a third-year medical student states, “Better whole person care, improved communication can catch things that may be missed, or that patients only mention once to one professional that contributes to decision making for the whole team”.

Respondents consistently comment that better overall treatment plans are also observed due to the interdisciplinary approach. A 2010 brigade nurse states, “In my

current position I see limited interactions among disciplines. It was a fascinating pleasure to observe physicians/pharmacists/physical therapists discussing cases during Shoulder to Shoulder, all searching for the best possible outcome for the patient”. To put it succinctly, one 2016 brigade physician states, “patients receive care faster with less mistakes”.

Answers for and against the observation of improved health outcomes due to interdisciplinary collaboration highlight the difficulty in observing health outcomes in a short timeframe. While the majority of respondents believe in the possibility of improved health outcomes, a total of eleven comments express that improved health outcomes are not observed. The response of improved health outcomes not being observed could be due to the vagueness of this specific survey question or due to not observing the improved outcomes.

Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program? Please explain briefly your response to the above question.

Themes of improved methods of communication, an improved understanding of the importance of education and using an interprofessional approach are all part of the respondent comments to this question. Tailoring for and collaborating with communities are just a few of the methods employed. A 2013 brigade physical therapist states, “Yes - Within the community health education experience, the educator must appreciate, value, and incorporate the culture of the community being served and that communities unique

strengths, needs, and resources. The "visiting" health educator must appreciate that even in "underserved" communities there are many strengths and resources available. The other important lesson is that the community being served has to be willing to assume responsibility for implementation of any changes that are recommended as a part of the community health education". A two-time brigade clinical psychologist shares, "Mental health treatment in the US is heavily oriented toward Anglo patients. In terms of community health education, it has become much more important to me seek out minority (and especially) Hispanic individuals. Helping them to become aware of the services that they might find helpful in their own lives".

As many practitioners are tasked with providing health education in their practices in the United States, participating in the brigades to Ecuador shed some light on the importance of providing education to populations. A 2017 brigade nursing student states, "Prior to the brigade, I was hesitant to use my health-related knowledge in the community setting due to mixed feelings related to follow up care. Following the brigade, I have a much better understanding of the purposes of community health education and how to approach the implementation in a way that is beneficial for the individuals receiving the information". Some participants really took their understanding of the importance of education personally and take roles that incorporate educating others. A 2012 brigade dentist states, "After the Shoulder to Shoulder program I left private practice and went to work at the health department". Another 2017 brigade nursing student, now a registered nurse, states, "I am always to try look to other professions to help solve problems because I know what they can bring to the table to help my patients

Lastly, thirteen respondents commented that they are not currently engaged in community health education or that their approach has remained consistent to their pre STSG program methods.

Please add any other comments that would be useful in assessing the Shoulder to Shoulder Global program’s impact on brigade participants.

The final question of the survey for this study is inspiring to read. Respondents share how their love of the program, how it fosters awareness, is fulfilling and offers opportunity. There are even comments about how the experience is life-changing.

Love is mentioned seven times in the various responses to the question of any additional comments. A 2015 brigade pharmacist states, “I love how STSG focusses on acute medical conditions versus chronic disease states. I also love how STSG has community partners to see patients with chronic conditions for follow up care”. A 2011 Speech Language Pathologist simply writes, “I loved participating in the STSG program. I would love to help again in the future” a comment that indicates a loyalty to the program and a future desire to continue serving.

The fostering of awareness and understanding is also mentioned. A two-time brigade physical therapist and University of Kentucky faculty writes how his program experiences have helped him to become a better educator. He shares, “The brigade has also helped me understand how to be the best me to for students: I have learned how to allocate time and resources to maximize and help my students grow. Furthermore, I have improved how I organized and prepare for the mentor-student relationship. Trips to Ecuador provide a unique environment for students to learn and grow personally as well

as professionally”. A three-time brigade pediatrician reflects on what would make the brigades even better by stating, “I think that insisting in MORE local professionals to participate with the brigade's activities will send the message that what we are doing is not "charity work" and/or having "yankees learning from us", but that Education at all levels is the absolute element for progress. More so if it is done in a collaborative spirit and with compassion towards those we serve”. This comment is something to ponder for the leadership of the Shoulder to Shoulder Global program. It should be noted that the collaboration of Ecuadorian partners is increasing. During the most recent brigade experience, August 2018, the program sent forty-five University of Kentucky participants, joined by thirty-one students and faculty from the Ecuadorian universities of Universidad de las Americas, Pontificia Universidad Católica del Ecuador Sede Santo Domingo and Universidad San Francisco de Quito.

As mentioned, the experience can be life-changing or fulfilling for most participants. The comments are often rich in their expression of what the program experience means to respondents. Several mention how much they would like to go back. A two-time brigade UK faculty member states, “I am aware of how individuals having their first or second international experience are impacted, usually profoundly. Even those with multiple experiences, even to a larger extent, recognize and derive knowledge, expertise, empathy, self-awareness, purpose, confidence and many other impacts with each experience....this human growth and development is never-ending and must always be challenged and inspired. STSG continues to carry emotional and intellectual power...”.

A 2017 brigade nursing student shares how the STSG program is her first global health experience. She goes on to describe how the program offers opportunities by sharing.” The STS program provided invaluable experience working with interdisciplinary teams in a non-threatening environment that was focused solely on providing much needed care to those we served. The Shoulder to Shoulder brigade provided a lot of opportunities for inter-professional development that we are unable to receive in the normal curriculum. The learning that occurred in an environment that required us to improvise and work together to overcome the restraints was something that I think every student would benefit from...I found the opportunity to work independently to care for the patients the most beneficial aspect of the program. As nursing students, we rarely get the chance to work independently while providing care. This trip provided an opportunity to grow our confidence and learn more about what things we appreciate about the nursing career. The STSG brigade was the most eye opening and life changing part of my undergraduate curriculum and will continue to impact my career as a nurse and future as a provider”. A more than four-time brigade physical therapist and UK faculty member shares about how opportunities such as the Shoulder to Shoulder Global program attract students deciding where to pursue their studies. She mentions two separate programs, one in India and one in Ecuador. This study’s focus is the STSG Ecuador experience. She states, “Our physical therapy program often attracts students who know STSG is a part of what is available to them during the three-year program. Students have returned to STSG as faculty after participating as students either in India or Ecuador because it is so well established. It has become a very important component of our global health options for students”. A three-time brigade UK College of Public

Health faculty mentions, “It is of great value to learn about the problems other people face. We can learn from them and they can learn from us. Certainly, our students get a great deal from this experience. In the College of Public Health, we have VERY few international experiences available to students. In some years, the Shoulder to Shoulder experience is essentially all we have to offer. And on a logistical, social, cultural, technical level it is very well led and managed”.

CHAPTER 6: ETHICAL CONSIDERATIONS

My study involves the collection of data through a survey. As I have collected data from brigade participants about their thoughts and opinions, I follow a professional code of conduct that requires research approval from UK's institutional review board (IRB) as human participants are involved. The IRB helps ensure that human research is conducted within a regulatory framework and is sensitive to ethical principles that include honesty, integrity, and respect.

As a researcher, I am aware of the perceived power difference that I hold as STSG's program coordinator. I was made aware of this difference in power during the August 2013 brigades as I was initially referred to as, "The boss". I was able to establish a relationship of trust with the participants by the end of the brigade where participants spoke with me freely. To continue to have success with future studies, I will need to continue to maintain this trust of my role and the research process. A factor that may have influenced my ability to increase trust levels for this study is that Dr. Tom Young sent a letter encouraging prospective survey participants to take the survey. Dr. Young, a co-founder of the Shoulder to Shoulder Global brigades, is a trusted member of the brigade alumni as he has an established ethos with the program through his work in Santo Domingo, Ecuador. As part of the email communication to survey participants, I was able to explain my role in the program, helping to erase misconceptions by explaining my work as a facilitator and advocate for brigade participants. In addition, I was able to explain the need for the program research, explain how results from the survey data help with the sustainability and on-going improvement of the STSG program and I was relatively successful in sending the survey link.

As I used a survey in this study, I am also able to code the survey results so that the names on the survey are not identifiable, unless a participant specifically agrees that he or she does not want his or her identity to fall under confidentiality guidelines. This point is important, as the reporting of the data collected is not to harm participants. As in many program surveys, not all of the participants have entirely positive comments about the impact the STSG experience has had on them. Indeed, comments were sometimes neutral as to the impact of the program. As most programs have room for improvement, results from the data gathered showed a diversity of perspectives in regard to the topics of educational, personal and professional impacts on former participants of the Shoulder to Shoulder Global brigades to Ecuador.

As this section has identified my intent for the study, I would like to discuss a few implications that my investigation into this study have revealed. The items are considerations for future tasks that relate to this study or others.

LIMITATIONS OF THIS STUDY

As of 2018, there have been more than 1,000 brigade participants, with approximately half of these participants being students or medical residents. The University of Kentucky Education Abroad programs, of which Shoulder to Shoulder Global is included, consistently use the standard email address format of “*nameofstudent@uky.edu*. As Shoulder to Shoulder Global brigade participants graduate and leave the university, my research confirmed that the number of valid email addresses to participate in this study’s survey was reduced, which likely impacted the statistical

relevance of the outcomes. As the Shoulder to Shoulder Global office received notification of 177 invalid email addresses, the likelihood that emails that were successfully delivered also may not have been read as participants that are no longer at the University of Kentucky may no longer check their University of Kentucky email address.

While efforts have been made to make it clear for participants that this study is only asking about the impact of the brigade experience on participants, it could be argued that some respondents may have mixed their tendencies to, as an example, have a “service mentality” with their responses in regard to the impact of the brigade. For this argument, the counter would be that the majority of the questions were phrased to emphasize the change due to the Shoulder to Shoulder Global experience.

Efforts were also made to field preliminary questions to former brigade participants, as mentioned in the Preliminary Outreach to Complement Literature Review and the Final Implementation of Preliminary Responses to Outcomes Measurement Instrument sections. However, due to time constraints, a pilot test was not conducted to measure reliability using a Cronbach’s Alpha coefficient. A Cronbach Alpha coefficient is an Alpha that provides a measure of the internal consistency of a test or scale. Internal consistency describes the extent to which all the items in a test measure the same concept or construct (Tavakol & Dennick 2011).

A final important limitation of this study, learned after rollout of the study, is that wording of one of the survey questions was a little confusing for some survey respondents. The question, “To what extent have you observed improved health outcomes due to collaboration with other disciplines?” is not specific enough. Some

respondents were confused as to if they were being asked about their observations in the United States or doing their Shoulder to Shoulder Global brigade experience. This likely influenced the results to this section as respondents did not interpret the question equally.

CHAPTER 7: CONCLUSION

The objective of this study is to explore the question of what are the educational, personal and professional impacts that brigade participants experience. The findings indicate that this program has positively impacted participants in all three areas, with strong evidence to show that the impacts are related to the initial and intermediate outcomes, with more data and question clarification needed to better assess the long-term program outcomes. This also includes the need to work with the community in Santo Domingo to best assess the long-term program benefits.

Data shows positive impacts in the initial outcome areas of participants learning a global perspective, interest in working interprofessionally and the importance of learning another language, in this case Spanish, to better listen to their patients. We also see evidence that participants are actively pursuing ways to serve the underserved in the United States and abroad. The program has inspired some to take courses outside of their discipline and has resulted in participants become better clinicians due to improved listening skills, with an ability to work with fewer resources. This last item indicates that participants, as practitioners, are involved with experiential learning theory as they critically analyze program experiences to form knowledge that can be used for similar future situations. We also see evidence that the interprofessional piece of the program is not only rewarding for the participant, but that there is a general acceptance that an interprofessional approach to practice improves health outcomes, regardless if this is in the United States, or in Santo Domingo, Ecuador, for which the question was originally intended.

We see that the study supports the literature on service-learning and study abroad programs as Shoulder to Shoulder Global program participants', "Knowledge, personal growth and interpersonal connections remain as imprints of the experience" (Kollar, Ailinger, 2002). We also see in this study's quantitative and qualitative data that three areas of impact of the Shoulder to Shoulder Global program experience are intellectual development, expanded international perspectives and personal development (Kauffmann, Martin, & Weaver, 1992). This is, in part, reflected in this study's data on how the program experience inspires participants to learn or improve language skills, how participants share that they are more aware of the impact of cultural differences and that many participants have changed the way they approach community health education and have volunteered more both at home and abroad. We also see in this study's responses that some participants have their career direction impacted as part of a transformational learning experience, including Spanish speakers that are better professional listeners, interested in continuing to improve their language skills and volunteering more. This study's quantitative and qualitative data provides evidence that program participants experience an "...awakening to self, to others, and to the world; increased knowledge, confidence and language skills; and the development of more complex and personal understandings of other cultures and cultural others, and of community, poverty, and justice" (Crabtree, 2008). We find that some Shoulder to Shoulder Global participants go out of their way to serve the underserved due to their program experience, with increased acceptance and awareness, which matches well with what Dr. Angene Wilson found in her study of seventeen Returned Peace Corps Volunteers (Wilson, 1993, p. 27). The daily brigade reflections mentioned in the

qualitative section of this study also show added value for impact. Participants learn to function effectively as part of an interprofessional team while communicating thoughts, struggles and successes. This type of learning contributes to the understanding of self, discipline and patient advocacy referenced by George (2015).

Adding increased substance to the literature regarding the intent to act versus acting due to international service learning (Kiely, 2004) experiences, we find that more than a few of the Shoulder to Shoulder Global program survey respondents not only intend to act as part of their transformational learning experience, but that they are acting on these intentions. This includes being more politically active and the previously mentioned volunteering more at home and abroad. These findings substantiate the goals of, "...increasing participants' global awareness and development of humane values, building intercultural understanding and communication, and enhancing civic mindedness and leadership skills (Berry, et al. 1999). Some respondents have even changed their career direction, either within their field or by following a career direction in a different field. This study also makes the case for the importance of the Shoulder to Shoulder Global program as an important part of not only a well-rounded education, but as a model for improving current and future health care practitioners. The results provide specific data to back the argument for resources by validating the worth of the program experience, that according to the literature, is an area that is often lacking in support (Anderson, Lawton, Rexeisen & Hubbard, 2006, p. 458).

FUTURE IMPLICATIONS

The concept of a perception-based longitudinal study is mentioned in the literature review section at the beginning of this study. This concept could apply to STSG, with the mixed methods questions that are a part of my study repeated to the same former brigade and interprofessional course participants at a future “x” date, with a slight modification of the wording to reflect that the participant’s brigade experience was in the past. The data could then be analyzed to explore if the same impacts that were originally recorded are still valid for the same former participants at the future “x” date. In other words, the findings from this study could be used as a baseline for future work. This study, as mentioned in the conclusion section, could offer further help to address the issue that increased competitiveness for resources is difficult for study abroad programs as they lack the specific data to validate their worth (Anderson, Lawton, Rexeisen & Hubbard, 2006, p. 458). While these plans are possible for future uses, it is not part of my current study.

Additional plans include exploring diversity during the brigades. This includes researching if brigade participant ethnicity or age play a significant role in the brigade experience and further expanding as to if disciplines other than nursing see a statistically significant different impact compared to the general brigade experience.

An item only briefly mentioned in this study is that there are brigade participants who do not register for the interprofessional course since its initial offering in 2012, such as community members, brigade faculty and brigade participants. These brigade participants are a part of the program but do not receive credit for their experience, as they are not registered in the interprofessional course. For future study, these participants

could be grouped separately and their data compared to those that are a part of the full interprofessional course and brigade experience for 2012 and later. This group could be considered as a type of control group. How to include these participants into my study further and integrate their responses into meaningful feedback will need to be part of the future research process.

As mentioned in the Conclusion section of this study, more data is needed to better assess the long-term program outcomes. A suggestion is to do a post health assessment of the community served in Santo Domingo, Ecuador to better gauge improved health outcomes due to interdisciplinary collaboration. This idea is currently being considered by the Centro de Salud Hombro a Hombro and the Shoulder to Shoulder Global Executive Committee.

Solidarity and the fostered collaboration with interprofessional teammates is also an opportunity for future research. An exploration of the maintained shared identity participants have derived from the brigade experience and the breadth of the resulting relationships might offer additional insight into the program's impact.

DEFINITIONS

Coding – The process of organizing the data by bracketing chunks (or text or image segments) and writing a word representing a category in the margins (Creswell, 2014, p. 197).

Member checking – Taking the final report or specific descriptions or themes back to participants and determining whether these participants feel that they are accurate (Creswell, 2014, p. 201).

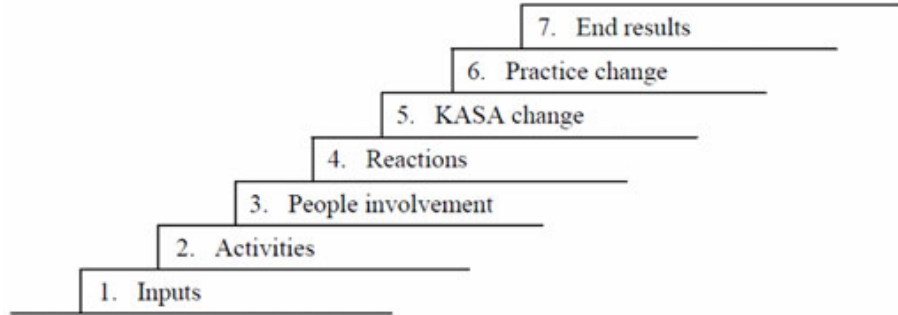
Mission - A body of persons sent to perform a service or carry on an activity: as *a* : a group sent to a foreign country to conduct diplomatic or political negotiations *b* : a permanent embassy or legation *c* : a team of specialists or cultural leaders sent to a foreign country; a specific task with which a person or a group is charged (Merriam-Webster, 2013).

Qualitative interviews – The researcher conducts face-to-face interviews with participants, telephone interviews, or engages in focus group interviews with six to eight interviewees in each group. These interviews involve unstructured and generally open-ended questions that are few in number and intended to elicit views and opinions from the participants (Creswell, 2014, p. 190).

Triangulate – Examine evidence from the different data sources and use it to build a coherent justification for themes. If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study (Creswell, 2014, p. 201).

APPENDIX A

Relation of Bennett's Hierarchy to Shoulder to Shoulder Global



Level 1 - Inputs - Time and effort of course instructors, STSG Council, STSG Executive Committee, STSG office, provost support of STSG office, financial support of clinic, staff in Ecuador.

Level 2 – Activities - Brigade participants take interprofessional course: Learn basics of culture, interprofessional collaboration, brigade health care duties.

Level 3 – People involvement - Faculty, staff and students participate in STSG program.

Level 4 – Reactions - Breakout sessions during interprofessional course to react to course content, nightly reflections during brigade experience to react to daily activities.

Level 5 – KASA change (Knowledge, Attitudes, Skills, Aspirations) - Hands on learning, discipline specific teachings, global perspective.

Level 6 – Practice change - Change of academic majors, change of job to nonprofit sector, changed approach to interaction with other cultures and disciplines.

Level 7 – End results – Lifelong culture of community service as member of a global society.

APPENDIX B
SHOULDER TO SHOULDER GLOBAL EVALUATION IN QUALTRICS

Name (optional)

Gender

Male

Female

Are you of Hispanic, Latino, or Spanish origin, such as Ecuadorian, Mexican, Puerto Rican or Cuban?

Yes

No

Which of the following describes your race? You can select as many as apply.

- Asian or Asian-American
- Black or African-American
- Native American/American Indian/Alaska Native
- Native Hawaiian/Other Pacific Islanders
- White
- Other
- Prefer not to answer

How many times have you participated in the Shoulder to Shoulder Global brigades to Ecuador?

- 1
- 2
- 3
- 4 times or more

In which year or years did you participate in the Shoulder to Shoulder Global brigades to Ecuador? Please select all that apply.

- 2007
 - 2008
 - 2009
 - 2010
 - 2011
 - 2012
 - 2013
 - 2014
 - 2015
 - 2016
 - 2017
-

Which category of participant best described your occupation during your Shoulder to Shoulder Global brigade? (select one)

- UK Undergraduate Student, for academic credit
 - UK Undergraduate Student, not for academic credit
 - UK Graduate Student, for academic credit
 - UK Graduate Student, not for academic credit
 - UK Professional School Student, for academic credit
 - UK Professional School Student, not for academic credit
 - UK Medical Resident
 - UK Faculty member in a health profession
 - UK Faculty member, not in health profession
 - Undergraduate Student from outside institution, not UK
 - Graduate Trainee from outside institution, not UK
 - Community Member in a Health Profession, not UK
 - Community Member, not UK
 - Other
-

Current age, in years

- 15-19
 - 20-24
 - 25-29
 - 30-34
 - 35-39
 - 40-49
 - 50-59
 - 60-69
 - 70 or more
-

Current profession (required)

Please describe your Spanish proficiency during your brigade experience

- No Spanish
- Communication at a basic level
- Novice Spanish in simple contexts
- Low Intermediate level
- Independent, spontaneous
- Able to converse in complex manner
- Similar to a native speaker
- Native speaker

Due to the Shoulder to Shoulder Global brigade experience, I am:

- More involved with policy within my own professional field
- More aware of cultural differences and how they might impact my field
- Pursuing more ways to work interprofessionally
- Interested in taking courses or training outside of my discipline
- Seeking more international experiences

Due to the Shoulder to Shoulder Global brigade experience, I have:

- Volunteered more within the United States
 - Volunteered again internationally
 - Become a better listener during my professional interactions
 - Been inspired to learn or improve my skills with a foreign language
 - Increased levels of civic engagement (political activism)
-

To what extent did the Shoulder to Shoulder Global program help you learn a global perspective?

Which components of the Shoulder to Shoulder Global program helped you learn to function effectively when working as part of an interprofessional team?

What have you found to be the most rewarding post-Shoulder to Shoulder Global program benefits? How has this related to your overall major, specialization or education?

Due to your Shoulder to Shoulder Global experience, to what extent do you incorporate serving the underserved in your practice as a clinician or professional?

To what extent have you become a different clinician or professional due to your Shoulder to Shoulder Global experience?

Has your career direction shifted due to your Shoulder to Shoulder experience?

- Yes, definitely
- Yes, somewhat
- Neutral
- No, not really
- No, it has not
-

To what extent have you observed improved health outcomes due to interdisciplinary collaboration?

Do you approach working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?

- Yes, definitely.
- Yes, with some reservations.
- Not really
- Definitely not
- Have not approached the subject since the brigade

Please explain briefly your response to the above question.

Please add any other comments that would be useful in assessing the Shoulder to Shoulder Global program's impact on brigade participants.

May we contact you, if needed, for additional information? If yes, please write your email address below in the space provided.

APPENDIX C
FINAL IMPLEMENTATION OF PRELIMINARY RESPONSES FEEDBACK TO OUTCOMES
MEASUREMENT INSTRUMENT

Survey Respondent 1: Parth Patel, August 2015 Brigade Alumni, Pre-Medicine student.

Current Occupation: Senior at University of Kentucky, Accepted to University of Louisville Medical School, Fall 2018.

1. What were your first impressions when you opened the survey?

I thought, "Oh great, another Qualtrics survey." But it had a nice clean look to it, so I had an overall positive impression.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

The only difficult part was that I am a student so I haven't really seen any cohesive team strategies at all.

3. If this survey form arrived in your email, how soon do you think you would respond?

It took around 4 days to reply, but usually I reply in a day or two.

4. How is the visual presentation of the survey form?

A little boring, but it was not distracting or anything like that.

5. What do you think is missing?

Nothing is really missing. Maybe some contact information at the end in case participants have any questions.

6. How long did the survey take?

10 minutes.

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

No, I think the survey is fine as is. I do not know what the survey aims to answer, so I cannot think of any questions.

Survey Respondent 2: Christopher Terry, August 2013 Brigade Alumni, Pharmacy Student.

Current Occupation: Practicing Pharmacist, Nashville, Tennessee.

1. What were your first impressions when you opened the survey?

I was honestly excited to share my thoughts and opinions about something that was so formative for me. If me sharing these thoughts can somehow help a student take a chance and go on a brigade or help start another brigade here or somewhere else, then I would be over the moon.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

It was fairly easy. The only real question that I had trouble with was one towards the end about community health education. It seemed to be somewhat biased in suggesting that STSG would only negatively impact someone's experience with community health education. On the contrary, it strengthened my appreciation for it. Perhaps this was not the intent of the question and I misinterpreted it.

3. If this survey form arrived in your email, how soon do you think you would respond?

I answered it within the day I received it (the second time) - but it may have been because a good friend asked me to do so for him.

4. How is the visual presentation of the survey form?

I thought it was straightforward and easy to use.

5. What do you think is missing?

Not to suggest that you would get any real answers from a question like this, but in order to capture the whole breadth of someone's experience, perhaps it would be reasonable to have questions about any particular negative experiences a brigade member may have had.

6. How long did the survey take?

Maybe 30-45 minutes?

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

I thought they were all reasonable!

Survey Respondent 3: Alan Ruiz, March 2014 Brigade Alumni, Nursing student.

Current Occupation: Practicing Nurse, University of Kentucky.

1. What were your first impressions when you opened the survey?

Seems very organized... Lots of boxes! But they did not take too long.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

Not difficult but it has been awhile since I went. Nothing was unclear; all of the questions were straight forward.

3. If this survey form arrived in your email, how soon do you think you would respond?

Within 2 days, depending if I am at work or not. My computer at home has been acting up. I was off for 3 days.

4. How is the visual presentation of the survey form?

Very organized!

5. What do you think is missing?

Nothing that comes to mind immediately!

6. How long did the survey take?

15-20 minutes

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

None that come to mind at the moment. They all seemed very appropriate.

Survey Respondent 4: John Polk, August 2013 Brigade Alumni, Physical Therapy student.

Current Occupation: Practicing Physical Therapist, KORT Physical Therapy, Lexington, Kentucky.

1. What were your first impressions when you opened the survey?

Thought it looked very clean and similar to other surveys I have taken.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

Nothing confusing or unclear. Possibly a little redundant on the open response questions.

3. If this survey form arrived in your email, how soon do you think you would respond?

Within a few days. Depending on how busy I was at the time.

4. How is the visual presentation of the survey form?

Looks great!

5. What do you think is missing?

Nothing.

6. How long did the survey take?

13 minutes and 37 seconds.

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

Do not recall the exact questions but maybe taking a few of the open response questions off that are slightly redundant may give way to more responses as people tend to skip questions if there are multiple open response questions on a survey.

Survey Respondent 5: Rooshil Patel, August 2013 Brigade Alumni, Pre-Medicine student.

March 2017, Brigade Alumni, University of Kentucky Medical student.

Current Occupation: University of Kentucky Third Year Medical student.

1. What were your first impressions when you opened the survey?

Seemed like a basic survey.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

Nothing was unclear. It was just more writing than expected. Usually the surveys are multiple choice.

3. If this survey form arrived in your email, how soon do you think you would respond?

It would depend on how busy the week is. Within a few days most likely.

4. How is the visual presentation of the survey form?

Standard

5. What do you think is missing?

Nothing really

6. How long did the survey take?

7 min

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

No, they seem to be just fine!

*Survey Respondent 6: Alison Salyer, Program Coordinator, University of Kentucky
Office of Global Health.*

1. What were your first impressions when you opened the survey?

Looks good overall.

2. Overall, how easy or difficult was the survey form to complete? Was there anything unclear or confusing about how to fill out this brigade survey form?

Pretty easy.

3. If this survey form arrived in your email, how soon do you think you would respond?

It would depend on the deadline I was given. A deadline should definitely be given.

4. How is the visual presentation of the survey form?

Good

5. What do you think is missing?

Will provide edits separately

6. How long did the survey take?

I would estimate an average of 10 minutes for most people

7. Were there questions that you thought absolutely must be included in the final survey or were there questions that you thought should not be a part of the final survey? If so, please explain.

See question #6

Suggested Edits:

- For Item #3 – would use “describes” versus “described”
- For Item #4 – I would provide a brief definition of “global perspective” to help focus their responses to what you are looking for
- For Item #5 – “Which components of the S2S program enabled you to function more effectively...”

APPENDIX D QUALITATIVE DATA CODING

"To what extent did the

Shoulder to Shoulder Global program help you learn a global perspective?"

Note: Items in italics indicate that the response appears in multiple coded categories

Code: Eye-opening exposure, understanding, awareness (E)

My role in global volunteer tourism.

Living in Santo Domingo was itself an incredible experience and provided an incredible dose of perspective and appreciation for cultural differences

1. perspective of overseas poor and the good / bad things in their lives.
2. perspective of overseas comfortable/wealthy and the good / bad things in their lives.
3. awareness and sensitivity to immigrant issues.
4. awareness of how the US is perceived internationally.
5. awareness of religious practices in Latin America

The STS brigade was my first experience with health in a global setting. Because of this, I was able to learn and understand how to provide care in other settings while also allowing the experience to help expand my abilities to provide culturally competent care in the US. (E, CC)

I had never been to another country so this experience opened my eyes to just how different other cultures can be.

I enjoyed my experience with STSG so much that I chose to participate in a global medical mission for my residency training (to Uganda). This helped increase my awareness of global health issues such as lack of access to care and health literacy. (E, I)

Participating in the Shoulder to Shoulder Global program helped me gain the cultural competence and confidence that will serve to my advantage in my future career. I am currently pursuing a Master of Health Administration. This trip was an 'eye opening' experience to say the least. (E, I)

I had already been living in Ecuador for several months when I was approached about helping translate for the brigade, most amazing invitation and opened up many future doors for me!

Helped me understand different needs, different global health care needs

I learned that the Ecuadorians values as far as their healthcare is concerned is much different than what UK Healthcare values (I say UK healthcare because that is where I have worked and have had clinicals and it is all I know). Ecuadorians have fewer healthcare resources and less of a focus on health overall, I think.

Working in healthcare, Shoulder to Shoulder helped me understand that the definition of "health" is different everywhere. Things that we have as basic necessities are not available globally, and that's a huge issue.

It was vital in helping me gain a global perspective. I am a better nurse for my patients because of this experience. (E, CC)

It showed a strong contrast between healthcare access in the US compared to rural parts of Ecuador. It also showed me the economic differences between our countries.

Both the class and the interactions before, during and after the brigade gave me a varied perspective of my own beliefs, a greater understanding of the scope of practice of my colleagues, a better appreciation of inter professional practice and working with populations from different social/ethnic/socioeconomic backgrounds than my own.

Global being an all-encompassing term including domestic and international. (E, CC)

It widened my perspective of varying economic differences and how that impacts speech-language development and services.

It helped me appreciate the level of poverty in which some people live. I also made me realize more fully that people can be very grateful for help they receive, especially help that allows them to work and take care of their families.

This was the first time that I have participated in something like this and seeing how healthcare works outside of the United States was an eye opening experience.

Additionally, being made aware of diseases that you don't necessarily see in the US but were prevalent on the brigade was unique. For example, prophylaxis with albendazole.

I have never dispensed albendazole in practice before, and the frequency in which this was used was fascinating. I was working in a free clinic prior to this experience managing diabetes, hypertension, and hyperlipidemia in an underserved population, the majority of which were Hispanic, and I think this experience allowed me to have a better understanding of what my patients were going through and could understand their background a little better. (E, CC)

I grew up without much experience with individuals who were different racially, ethnically, or culturally from me. As I grew older, I realized that the world was vast and this prompted me to seek out experiences with individuals who are different than me. While in physical therapy school at UK, I began researching opportunities to share my knowledge and skills abroad, in areas with limited access and resources for my profession. I was already seeking a global perspective in an effort to expand my own mind, experiences, and perspective. After a medical mission trip to Honduras, where I found the program lacking sustainability and began having reservations about the potential harms being done by our work, I was approached by PT faculty about an experience with STSG. Immediately, through the regular brigade work I became committed to in Ecuador, I learned how simple and complex international service can be. Being immersed in the clinic and working side by side my colleagues at Centro de Salud Hombro a Hombro, I believe helped me better understand our global community: barriers to access healthcare, government programs and resources, current efforts to address health in the region, cultural and ethnic influences on health and well-being, and limitations in implementing wide spread use of healthcare services (at least in a particular area in Ecuador). When I return to the US after every health brigade experience, I look at our healthcare delivery system differently. I see the pros and cons more clearly. I strongly believe that my compassion and ability to connect with Latin American clients in a successful manner is directly related to the knowledge, skills, and experience I have built as a member of the STSG community. (E, CC)

I realized that all communities have health care, a way to take care of community members who are hurt or ill. Healthcare as I know it may be incorporated into the community system, but it certainly doesn't address a void.

Exposure to the urban, Ecuadorian community introduced me to a unique social/cultural setting, helping me appreciate even how different the needs are in different parts of Ecuador. Also, the visit to the indigenous community provided further insight into the cultural influences on the lifestyle and beliefs of the individuals that may be served within the global community

A good deal. I worry that things in the developing world do not seem to get much better over time, or at least the successes are small and slowly incremental.

It is the first time that I have practiced medicine without the comforts of home, in a low resource setting with limited equipment and ancillary services.

It opened my eyes to the privileges we have in the US with all aspects of health and healthcare.

saw different culture with different needs

Allowed me to see how other countries provide health care services.

To be honest, I already had a pretty global perspective from other experiences, but STSG was a way to continue to reinforce that and express my worldview.

It helped me truly understand the global perspective. I have read lots of books/journals/articles on voluntourism, global health disparities, etc and it was very

good for me personally to be able to put some things into place. I am a very visual person and being able to see up front some major differences globally was very impactful.

Shoulder to Shoulder empowered me to reach outside of my comfort zones to delve into populations and locations different than my own. Since the experience, I have been able to relate experiences in Ecuador to experiences locally to impact the quality of care I am able to provide to patients. From being able to simply introduce myself to a Spanish speaking patient to having a better concept of living below the poverty line. The experience helped me to better understand and truly incorporate the idea that each patient is an individual and should be treated as such regardless of biases and stereotypes placed upon people of certain geographical regions, religions, race, or cultures. (E, CC)

I learned to interact with a different cultural health belief, and to deal with health vulnerable population with lack of health access.

It opened my eyes to the level of medical need outside of the US.

I was able to travel to and experience a new culture, as well as learning about the healthcare system in Ecuador, and public health issues there. These experiences helped me to gain better insight into the healthcare system and public health issues here in the US.

Working with and for Ecuadorians opened my eyes to new ways of communicating and to a different system of medicine. I also witnessed how principles of nursing and the western medical model can be both applied and adapted in another area of the world. (E, CC)

Working with not only the patients but the native volunteer staff offered a good perspective on the rituals, priorities, and beliefs across classes

To a large extent

I have only ever traveled to English and French speaking nations. I speak both of these languages. The helplessness and frustration I felt gave me lots of empathy for the many Spanish language patients I treat.

We often forget how fortunate we are to have access to care. But there are many places in the world where there is essentially none. It is much different to read that than it is to actually experience it.

I truly appreciate my experience with STSG. I took a lot away personally.

any international experience, regardless of how many one has had, contributes to a global perspective. Repeated experiences are, always, 'new' and also continue to add to the growth of a more comprehensive global perspective

STSG has fundamentally helped me develop a global perspective and to share that perspective when teaching.

I believe I had a global perspective, but the brigades have expanded and enriched this.

SSG introduced global health disparities and how to approach treatment for those disparities. The trips taught me about health issues as well as daily life disadvantages on global scale. Additionally, the experience helped me understand how to address these issues with limited time and scarce resources. (E, CC)

There is really only so much that you can learn in the classroom about health disparities and how healthcare can be delivered in various parts of the world - you really need to just experience it. We spoke a lot in class about cultural differences in both healthcare and in general, but to be able to be there and see it first hand was a completely different and unique experience. The poverty was likely the most striking thing for me. That being said, the health needs were still the same - we were serving patients with several of the same chronic and acute conditions that we saw in the United States in much the same way. This was encouraging to me - just because a patient is in an underserved area of the world doesn't mean they don't deserve the same privileges our American patients might have. I was honored to be able to serve those patients in the same way.

I did have a "global perspective" after been born at another country, lived and practiced in 4 continents, and volunteered to a Centro American country. Shoulder to shoulder allowed me to learn the idiosyncrasies of Ecuador, its culture, social disparities, sense of community, and how its politics affect its development. I can point, with confidence, the similarities and differences with many other south and central America countries, and some European and Middle East countries.

To a great extent. I now feel prepared to work with an interpreter. (E, CC)

I was a part of public health and learned alot by working along side of Med Water and Shoulder to Shoulder. It helped me understand the interactions between an NGO and communities that are necessary within a developing nation.

It gave me a first person view of problems I had only ever read about or had someone tell me about. It showed me how healthcare is carried out in a country other than the US.

the degree of poverty and injustice and impact on health care, practical inexpensive ways to help people in these situations

a high extent

It helped me be more aware of different cultures and experiences.

It has given me better insight into the medical needs of families in Latin America, and the struggle for adequate resources, specifically for medical care both primary care and specialty care.

Operations in a resource-limited setting

It was a life changing experience. I saw how our help could impact a community as well as the individual.

It enhanced my perspective on global partnerships

It was a world that was so different than my own, but they were the happiest and most grateful people I had ever met.

It helped to show the need for medical services outside the US and how small things can help in large ways.

It was very helpful to have the context provided in the class, but the experience of talking with and helping impoverished people in Ecuador has no substitute. It was truly eye opening to work within their communities, and work with students from Quito was a wonderful opportunity.

I have been to many countries, so I had a global perspective, but I had not been among people with very few medical resources who live in poverty.

The experience was very helpful to me in my gaining a comprehensive global perspective.

How to approach medical problems in resource poor settings

Code: Inspired, inspired to learn or do more (I)

I enjoyed my experience with STSG so much that I chose to participate in a global medical mission for my residency training (to Uganda). This helped increase my awareness of global health issues such as lack of access to care and health literacy. (E, I)

Participating in the Shoulder to Shoulder Global program helped me gain the cultural competence and confidence that will serve to my advantage in my future career. I am currently pursuing a Master of Health Administration. This trip was an 'eye opening' experience to say the least. (E, I)

I am actually looking for employment that involves working in multiple countries

I was also left wondering the role of more medically advanced countries in providing care. What is the most effective way to help out and get involved. Is it direct involvement as we did in our mission or is it supporting the current institutions in a country? Or something else?

I use the toothbrush example. We gave away toothbrushes, but would they actually use it? What happens when the toothpaste runs out? Does it solve the issue of them being pumped full of refined sugars without any education about it's impacts?

I do frequent international trips. This is an excellent program and model for this type of experience and service

Code: Empowerment, cultural competency, better practitioner (CC)

The STS brigade was my first experience with health in a global setting. Because of this, I was able to learn and understand how to provide care in other settings while also allowing the experience to help expand my abilities to provide culturally competent care in the US. (E, CC)

It was vital in helping me gain a global perspective. I am a better nurse for my patients because of this experience. (E, CC)

Both the class and the interactions before, during and after the brigade gave me a varied perspective of my own beliefs, a greater understanding of the scope of practice of my colleagues, a better appreciation of inter professional practice and working with populations from different social/ethnic/socioeconomic backgrounds than my own.

Global being an all encompassing term including domestic and international. (E, CC)

This was the first time that I have participated in something like this and seeing how healthcare works outside of the United States was an eye opening experience.

Additionally, being made aware of diseases that you don't necessarily see in the US but were prevalent on the brigade was unique. For example, prophylaxis with albendazole.

I have never dispensed albendazole in practice before, and the frequency in which this was used was fascinating. I was working in a free clinic prior to this experience managing diabetes, hypertension, and hyperlipidemia in an underserved population, the majority of which were Hispanic, and I think this experience allowed me to have a better

understanding of what my patients were going through and could understand their background a little better. (E, CC)

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Working with and for Ecuadorians opened my eyes to new ways of communicating and to a different system of medicine. I also witnessed how principles of nursing and the western medical model can be both applied and adapted in another area of the world. (E, CC)

When I returned as a licensed physical therapist, Shoulder to Shoulder Global assisted me in learning how to treat refugees in my profession when I resided in Florida.

SOG introduced global health disparities and how to approach treatment for those disparities. The trips taught me about health issues as well as daily life disadvantages on global scale. Additionally, the experience helped me understand how to address these issues with limited time and scarce resources. (E, CC)

To a great extent. I now feel prepared to work with an interpreter. (E, CC)

**"Which components of
the Shoulder to Shoulder Global program helped you learn to function
effectively when working as part of an interprofessional team?"**

Italics indicates response appears in multiple categories

**Code: Together, accessibility of teammates, easy access to other
participants/professions**

Well organized

Setting up the brigade in the remote communities where efficiency and teamwork were key to patient care.

Having direct access to providers, and several different types of providers, helped tremendously.

Collaborating with students from several disciplines to reflect on best ways to work with individual children

Interacting with other professionals during the brigade

organization from the leadership which fostered this and discussion groups, dinner time sociality. recreation activities

All of it

The daily process of interacting with patients and their families and the daily reflections with my colleagues and other members of the Brigade. The reflections were very helpful.

I thoroughly enjoyed having direct contact with other professionals for their expertise.

I worked primarily in Intake, which required coordination with all team members so that the patient would be appropriately triaged prior to being seen by a clinician.

Interprofessional collaboration.

Close quarters during brigades which allowed immediate access and interaction with other professionals (nursing, pharmacy, PT, etc.)

For one, the familiarity that is born out of traveling and staying together as one large group. I was much more comfortable asking questions, seeking input, and interrupting the flow of care for the patient to collaborate with an interprofessional colleague. Being immersed in the work alongside colleagues fosters improved communication between team members since the proximity is great at the clinic or on our clinic visits in the community. Next, the reflection activities provide more opportunity for interprofessional colleagues to discuss and share thoughts, ideas, struggles, and successes from the experience. Finally, home visits with interprofessional colleagues have been another nice opportunity where the pace of the clinic does not interfere with shared clinical decision-making, discussion on treatment, or at least learning opportunity for all interprofessional colleagues involved. However, I have not always had only positive experiences working interprofessionally during my experiences. If/when there is an interprofessional colleague that you have had poor communication with, felt frustrated by, or who's approach and style of teamwork did not align with yours or the overall group's, it has been challenging to negotiate. But that is part of how you learn from the experience.

The IPE training course and the development of medical and public health facilities which are improvised in the field--sometimes very quickly.

I particularly appreciate the collaboration between pharmacy and physical therapy, and the medical providers--having them in close proximity is wonderful.

Talking with the doctors directly before treating a patient they just saw.

team collaboration and communication were important to complete our work.

Home visits have been especially beneficial and authentic as an interprofessional experience.

Traveling together, assembling the care delivery areas, dining together, participating of community discussions on the experiences of the day before resting. Each activity contributed something to the acquisition of interprofessional experiences.

Getting to work with participants from other Colleges within UK, outside the College of Medicine, enhanced my working knowledge of the type of work they do, and the importance of collaboration for the best outcomes for the patients.

The framework made it easy

Interprofessional Medical clinics

Fostered communication interprofessionally

-B/c of the language barrier, it was vital that information on paper (or electronically) was accurate so the patient received optimal care."

Working with other pharmacists who came up with unique solutions to problems.

Promoted incredible cooperation between members of team and helped foster leadership opportunities and confidence.

Working in clinic with other professions. Not being binded by regulations

the entire experience

especially when we went to the tribal communities and set up stations with nurses, pharmacists, etc

Being able to work with a multidisciplinary team during this program was so useful.

From the time we were taking the classes and collaborating with other teams, to when we were actually setting up clinic in Ecuador, we were always playing a small role in a much bigger picture in delivering comprehensive healthcare to the people.

Providing a space where we can all work together, communicate and learn together on the same level. As students in different professions, we were educated separately based on our profession- this way we learned and interacted together.

The entire process: from packing, to providing care, to even eating meals. Throughout the entire experience you are interacting with someone from another profession.

To be able to work hand in hand with providers, nurses, interpreters, and other professionals in seeing the patient all the way through the patient care process - this served me well as I graduated pharmacy school and moved on to serve patients in this same capacity.

Being able to directly talk with other professionals, like clarifying with the doctors face to face was extremely important. I loved how everyone on the brigade treated the other professions as equals, and treated the students as young professionals.

Clinic days and debrief periods at the end of each day. Also, being allowed to simply work together in order to meet the needs of the patients without being told that certain tasks were the responsibility of specific disciplines.

The program helped to me to appreciate all that the other professions have to bring to the table to provide a holistic healthcare experience for my patients.

For me as a Pre-PA student, I was able to bounce around and see the partnership and overall team dynamics of the healthcare field from many different perspectives.

I learned flexibility, I gain compassion for the challenges other health professionals face. I also gained wonderful relationships with other participants, who I have since worked with as colleagues.

Working as a group toward one goal made the effort smaller for each individual group

As a student, I was able to jump around to different areas of the brigade, which allowed me to see how multiple areas conducted their parts of the care provided.

Being exposed to the different professions while in the same environment.

You are all working together for a common goal and that is helping those around you whether that be through physical help or education.

While on the trip, I found that I loved working interprofessionally - alongside doctors, nurses, pharmacists, PTs, etc. Being the only member on my brigade without a medical background, I was able to gain a unique perspective on how applied economics and business tactics can help address issues outside of the typical workplace setting and into the medical field. I found that working in a multidisciplinary, team-based environment allowed me to utilize my strengths in business management and innovative thinking in order to creatively solve complex problems and ameliorate the impoverished community.

On clinic days, each station had a purpose & order, so you had to work with others in your own station, as well as those at other stations in order to effectively organize and direct people throughout the day.

working in clinic

On site is really the only way to experience it. Theoretical training is nothing like the chaos of practicing in a population that speaks a different language, with a variety of different professions.

The end of the night recaps with different professions when all were open to respond to the prompts. I also felt getting to take a half hour to follow a patient through each station was helpful.

Other category

I worked with the first Public Health brigade so there wasn't much interprofessional work besides working with those in the community to implement the clean water system. Working with communities leaders would be my biggest learning experience.

I only went with other PT students and PTs, so that didn't apply to me.

Code: Reflections

Team meetings

The living quarters and group meals helped gel the group

Pre and post sessions and the interdisciplinary nature of the work

All of it

The daily process of interacting with patients and their families and the daily reflections with my colleagues and other members of the Brigade. The reflections were very helpful.

team/group meetings (formal and informal).

For one, the familiarity that is born out of traveling and staying together as one large group. I was much more comfortable asking questions, seeking input, and interrupting the flow of care for the patient to collaborate with an interprofessional colleague. Being immersed in the work alongside colleagues fosters improved communication between team members since the proximity is great at the clinic or on our clinic visits in the community. Next, the reflection activities provide more opportunity for interprofessional colleagues to discuss and share thoughts, ideas, struggles, and successes from the

experience. Finally, home visits with interprofessional colleagues have been another nice opportunity where the pace of the clinic does not interfere with shared clinical decision-making, discussion on treatment, or at least learning opportunity for all interprofessional colleagues involved. However, I have not always had only positive experiences working interprofessionally during my experiences. If/when there is an interprofessional colleague that you have had poor communication with, felt frustrated by, or who's approach and style of teamwork did not align with yours or the overall group's, it has been challenging to negotiate. But that is part of how you learn from the experience.

The pre-planning required before departure and the debriefing at the end of the day.

Traveling together, assembling the care delivery areas, dining together, participating of community discussions on the experiences of the day before resting. Each activity contributed something to the acquisition of interprofessional experiences.

The framework made it easy

the practice periods of the trip and the discussions and evaluations of how those days of seeing patients, clients or students.

Fostered communication interprofessionally

Promoted incredible cooperation between members of team and helped foster leadership opportunities and confidence.

the entire experience

Course prior to brigade, team building activities to facilitate making relationships with others of different disciplines, after clinic meeting

Clinic days and debrief periods at the end of each day. Also, being allowed to simply work together in order to meet the needs of the patients without being told that certain tasks were the responsibility of specific disciplines.

The end of the night recaps with different professions when all were open to respond to the prompts. I also felt getting to take a half hour to follow a patient through each station was helpful.

Everyone was great. I think a lot of it occurred naturally during the mission. I was not a medical professional so i happily filled out wherever there was need.

Code: Course/Prework

Pre and post sessions and the interdisciplinary nature of the work

All of it

The IPE training course and the development of medical and public health facilities which are improvised in the field--sometimes very quickly.

The pre-planning required before departure and the debriefing at the end of the day.

The interdisciplinary approach helped me learn how to maximize skills from every discipline to provide optimal care. It teaches you to work with other professions as a five and take for one goal: provide best care for these individuals.

The framework made it easy

the practice periods of the trip and the discussions and evaluations of how those days of seeing patients, clients or students.

Fostered communication interprofessionally

Promoted incredible cooperation between members of team and helped foster leadership opportunities and confidence.

the entire experience

The pre-coursework was helpful in preparing students prior to arriving to Ecuador. It helped discuss prevalent health issues and develop a pharmacy formulary for treating common disease states.

Being able to work with a multidisciplinary team during this program was so useful.

From the time we were taking the classes and collaborating with other teams, to when we were actually setting up clinic in Ecuador, we were always playing a small role in a much bigger picture in delivering comprehensive healthcare to the people.

Course prior to brigade, team building activities to facilitate making relationships with others of different disciplines, after clinic meeting

I was a nursing student and collaborated with a graduate speech language pathology student on some teaching materials for Ecuadorian students. It was interesting to bring our different perspectives together. I did not really have much of an experience working as an interprofessional team in a healthcare/clinic setting

**"To what extent have
you become a different clinician or professional due to your Shoulder to Shoulder
Global experience?"**

Code: Exposure, awareness = E

I was previously unaware of the extent of poor access to healthcare in less developed countries. This experience helped me grasp that, and in response, I want to help on an individual level, but also be involved in policy, where possible. (E, I)

I have been humbled and realize how my practice is just one piece of the puzzle when helping my patients. Also a greater appreciation for the lives behind the patients whom I work with in my profession. (E, CC)

I believe it helped me understand to a certain extent how to help children who do not have access to things we consider easily accessible like books.

My approach to patient care improved as a result of my experience with STSG. I am more patient with all clients, I am more creative with exercise prescription when resources are limited, and I am more able to determine what is the most important or impactful exercise or movement for an individual to use for pain relief or improved function than I was before my experience in Ecuador. I believe I have a better understanding of the impact of limited access to healthcare, the barriers in the US and in Ecuador to providing patient-centered, accessible healthcare, and the needs of these individuals in the US and in Ecuador. I better understand Latin American culture as it

related to exercise and health and use that knowledge to change my approach to patient care. (E, CC, P)

This has made me appreciate more the quality of health care in the US compared to the community that we serve in Santo Domingo

I have broadened my horizons and eyes to see the vast network of care that we have the ability to give.

It has opened my eyes to the world.

All experience shapes life and this was such a great experience that it relates to so many other experiences in life

Reinforced what I experienced in other cultures.

Reminded me of why I choose to practice medicine

More aware of cultural differences.

I have a better appreciation for the challenges facing the underserved, and the value of volunteering.

I think much more about what we have in the US compared to other countries

I have learned how education is very important aspect where before 'i saw it as an extra tedious step in my practice. (E, P)

I can understand more of the differences in culture and traditions.

The question above, which says “Due to the shoulder to shoulder global brigade experience I am...” should allow us to check multiple boxes. Before the brigade I would have checked one, after I would like to check them all. I became more politically active within my field, more aware of cultural differences, more willing to work interprofessionally, and more motivated to see more areas of the globe. (E, I, P, CC)

Code: Inspired, want to learn or do more = I

This experience put everything into perspective for me. I want to be a force for change in the healthcare industry with this trip serving as my primary motivator.

I was previously unaware of the extent of poor access to healthcare in less developed countries. This experience helped me grasp that, and in response, I want to help on an individual level, but also be involved in policy, where possible. (E, I)

Since my Shoulder to Shoulder experience I have been steadily improving my Spanish skills. Those skills are helpful in the clinic I work in now, and I see that Spanish will become increasingly important over time. (I, P)

I have been seeking more international experiences.

I plan on incorporating values I learned from the brigade into my professional practices.

STS has increased my long-term interest in international health

The question above, which says “Due to the shoulder to shoulder global brigade experience I am...” should allow us to check multiple boxes. Before the brigade I would have checked one, after I would like to check them all. I became more politically active

within my field, more aware of cultural differences, more willing to work interprofessionally, and more motivated to see more areas of the globe. (E, I, P, CC)

Code: Cultural Competency = CC

Respect other cultures more.

I have more to talk about when building rapport with my Hispanic patients

More sensitive, more caring, better listener, better able to see other perspectives

I have become much more understanding of the challenges faced by individuals regardless of their background or where they live. This has enabled me to provide equal care to every patient as well as seek out resources that could be beneficial after discharge from the acute care setting. (CC, P)

I am more well-rounded with a better understanding and appreciation of cultural differences/ practices and alternative medical therapies. (CC, P)

More understanding and compassionate.

I've become more relaxed or tolerant of any patient situation. (CC, P)

I'm a little more comfortable trying to bridge communication barriers with patients who speak a different language than me. We're all just people!

I feel like the trip has helped me work collaboratively with others as well as not bring personal bias to the table when treating patients. (CC, P)

I have been humbled and realize how my practice is just one piece of the puzzle when helping my patients. Also a greater appreciation for the lives behind the patients whom I work with in my profession. (E, CC)

My approach to patient care improved as a result of my experience with STSG. I am more patient with all clients, I am more creative with exercise prescription when resources are limited, and I am more able to determine what is the most important or impactful exercise or movement for an individual to use for pain relief or improved function than I was before my experience in Ecuador. I believe I have a better understanding of the impact of limited access to healthcare, the barriers in the US and in Ecuador to providing patient-centered, accessible healthcare, and the needs of these individuals in the US and in Ecuador. I better understand Latin American culture as it related to exercise and health and use that knowledge to change my approach to patient care. (E, CC, P)

I would say I am now more comfortable with serving those of different cultures or who speak a different language.

I am a more compassionate clinician as well as I seek out appropriate referral sources for individuals with different cultural backgrounds.

Being more culturally sensitive.

The question above, which says “Due to the shoulder to shoulder global brigade experience I am...” should allow us to check multiple boxes. Before the brigade I would have checked one, after I would like to check them all. I became more politically active

within my field, more aware of cultural differences, more willing to work interprofessionally, and more motivated to see more areas of the globe. (E, I, P, CC)

i am much more confident in assisting Hispanic clients here in the US.

I feel more comfortable talking to patients about social issues

Better practitioner = P

I have become much more understanding of the challenges faced by individuals regardless of their background or where they live. This has enabled me to provide equal care to every patient as well as seek out resources that could be beneficial after discharge from the acute care setting. (CC, P)

I am more well-rounded with a better understanding and appreciation of cultural differences/ practices and alternative medical therapies. (CC, P)

I've become more relaxed or tolerant of any patient situation. (CC, P)

I feel like the trip has helped me work collaboratively with others as well as not bring personal bias to the table when treating patients. (CC, P)

I seek to understand the goals of the people with whom I work more clearly to I can personalize the rehab program to their particular needs.

Being able to speak on this experience when teaching my students and working through my coursework for my MPH.

My approach to patient care improved as a result of my experience with STSG. I am more patient with all clients, I am more creative with exercise prescription when

resources are limited, and I am more able to determine what is the most important or impactful exercise or movement for an individual to use for pain relief or improved function than I was before my experience in Ecuador. I believe I have a better understanding of the impact of limited access to healthcare, the barriers in the US and in Ecuador to providing patient-centered, accessible healthcare, and the needs of these individuals in the US and in Ecuador. I better understand Latin American culture as it related to exercise and health and use that knowledge to change my approach to patient care. (E, CC, P)

Since my Shoulder to Shoulder experience I have been steadily improving my Spanish skills. Those skills are helpful in the clinic I work in now, and I see that Spanish will become increasingly important over time. (I, P)

I picked up some skills I did not have before in assessing public health problems and TRYING (so far rather unsuccessfully) to develop interventions to prevent disease.

Helped me to alter and sharpen some of my teaching methods

I try to focus on utilizing resources at hand rather than over utilization of complex (and expensive) equipment

As educator, improved my abilities in conveying information in more balanced and empathetic ways; and improved my capacity to prepare students, more adequately, to be better learners in international experiences.

I have been able to communicate the fundamentals of our professional practice, relying on examples of how conditions would be treated in areas in which services are not as frequent, supplies and equipment less plentiful.

I am more focused on the patient as a person with emotional, mental, and contextual needs. Rather than focusing on impairment of the body, I am focused on holistic care and how I can maximize quality of life.

I have undoubtedly become more understanding and empathetic. I think I do a better job of focusing on the bigger picture. I also try to take a more practical look at my patients and figure out "creative" ways to get them what they need, no matter the barrier in front of us.

I am more creative with interventions and the supplies I have due to the limited resources we had to work with in Ecuador.

realize the world holds a greater variety of ways of coping with health issues than mainstream american medicine

a high extent

I have learned how education is very important aspect where before 'i saw it as an extra tedious step in my practice. (E, P)

The question above, which says "Due to the shoulder to shoulder global brigade experience I am..." should allow us to check multiple boxes. Before the brigade I would have checked one, after I would like to check them all. I became more politically active

within my field, more aware of cultural differences, more willing to work interprofessionally, and more motivated to see more areas of the globe. (E, I, P, CC)

The experience made me a better professional and clinician

Code: No change = NC

I have not.

Unknown

I have always dedicated myself to serve undeserved population.

I'm not engaged in clinical practice at this time on a regular basis

**"To what extent have
you observed improved health outcomes due to interdisciplinary
collaboration?"**

Code: Access to diverse knowledge = K

Any patient who comes to a Brigade clinic has access to multiple specialties at one time, even seeing one specialty is a unique opportunity in itself.

Greater attempts to contact other disciplines directly for interaction / consultation (however, UK system does not facilitate this in most circumstances).

When many disciplines come together to work on a problem, it bring many different perspectives, which leads to more complete solutions. This experience really exemplified this to me as we had physicians, physical therapists, dentists & pharmacists all working together for the good of all the patients. (K, T)

more expertise from different disciplines adds to your effectiveness, not as lonely in making decisions if others to bounce ideas off of (T, K)

Significant impact on dealing with chronic musculoskeletal pain. (K, H)

Code: More efficient, holistic and cohesive care = H

I was made more aware of how interprofessional relationships develop and how to work well with a variety of health disciplines (MD, PT, nurses, public health, etc). I hope to continue to have open communication and develop relationships with health care providers as I progress in my career.

Applying an interdisciplinary approach to healthcare makes the delivery of care more efficient and of higher quality. (H, T)

As a PA, I whole heartedly believe in team collaboration as an approach to holistic health care in the setting of medical home models.

Work focuses on interdisciplinary collaboration.

I work with a team in a big clinic. Overall treatment planning and care have improved due to teamwork. (H, T)

I think the different disciplines probably respect and understand each other a little more now.

Greater communication between professions as well as the opportunity to learn from one another on an even playing field - being able to quickly talk with colleagues from different professions means I can address my patient's needs more quickly.

Extensively. Working with a multidisciplinary team at the clinic has proven educational for me personally as well as beneficial for patients. Consistent communication and understanding is the key. (H, T, F)

to a small extent. The shoulder to shoulder team is made up of people who believe in interprofessional collaboration. This is good. But it is not the norm in the US healthcare system. (H, L)

In regards to this experience, I think the fact that we were all able to work together and adjust to the limited resources we had available improved patient outcomes. (H, T)

I am not sure that I would use the word outcomes but I have seen patients and clients get necessary care from an interprofessional colleague making the appropriate referral during the health brigade. I have witnessed patients receiving more appropriate care based on interprofessional communication and collaboration. I have seen "whole person" treatment in the home and in the clinic during interprofessional visits and examinations, which I believes is more effective and efficient for the client receiving the care. The overall outcomes are more challenging to observe; hence, the need for this survey. (H, T)

In my current position I see limited interactions among disciplines. It was a fascinating pleasure to observe physicians/pharmacists/physical therapists discussing cases during Shoulder to Shoulder, all searching for the best possible outcome for the patient. (H, T)

Better whole person care, improved communication can catch things that may be missed, or that patients only mention once to one professional that contributes to decision making for the whole team.

it is an holistic and appropriate approach to patient care.

It's a comprehensive approach that benefits their overall wellbeing. (H, T)

The biggest part is communication! When the interdisciplinary team prioritizes time to get on the same page there is less room for errors and more mutual respect among professions. (H, T)

I'm a pharmacist working in a fairly innovative practice setting where we collaborate with primary care providers and specialists. This kind of collaboration improves outcomes because the pharmacist can focus on his/her specialty - ensuring each medication is working safely and effectively - while the other clinicians can focus on diagnosing, treating, and monitoring. Practicing in this way allows the patient to have each person involved in his/her care be the expert. (H, T)

When people communicate and work together it makes all the difference for patient outcomes. All input can be helpful and should be valued. When people are working toward a common goal it makes all the difference.

Significant impact on dealing with chronic musculoskeletal pain. (K, H)

The brigade gave me more confidence to work with doctors in changing prescriptions, an essential skill for all pharmacists.

patients receive care faster with less mistakes (T, H)

For students and professionals trained in the US and practicing within a US trained team, the team gains significantly from the experience and is better able to view the child/client and their family as individuals with unique beliefs, experiences, interests and needs. This will potentially, positively impact health outcomes in the health care professional's future practice settings. Again I do not think you can generalize this into a ""cause-effect"" impact.

Code: Better treatment plans = T

Applying an interdisciplinary approach to healthcare makes the delivery of care more efficient and of higher quality. (H, T)

I work with a team in a big clinic. Overall treatment planning and care have improved due to teamwork. (H, T)

When many disciplines come together to work on a problem, it bring many different perspectives, which leads to more complete solutions. This experience really exemplified this to me as we had physicians, physical therapists, dentists & pharmacists all working together for the good of all the patients. (K, T)

Extensively. Working with a multidisciplinary team at the clinic has proven educational for me personally as well as beneficial for patients. Consistent communication and understanding is the key. (H, T, F)

In regards to this experience, I think the fact that we were all able to work together and adjust to the limited resources we had available improved patient outcomes. (H, T)

I am not sure that I would use the word outcomes but I have seen patients and clients get necessary care from an interprofessional colleague making the appropriate referral during the health brigade. I have witnessed patients receiving more appropriate care based on interprofessional communication and collaboration. I have seen "whole person" treatment in the home and in the clinic during interprofessional visits and examinations, which I believes is more effective and efficient for the client receiving the care. The overall outcomes are more challenging to observe; hence, the need for this survey. (H, T)

In my current position I see limited interactions among disciplines. It was a fascinating pleasure to observe physicians/pharmacists/physical therapists discussing cases during Shoulder to Shoulder, all searching for the best possible outcome for the patient. (H, T)

I feel that having pharmacy and PT (and at times dentistry) available during our clinics enriches the quality of care that we are able to deliver

It's a comprehensive approach that benefits their overall wellbeing. (H, T)

The biggest part is communication! When the interdisciplinary team prioritizes time to get on the same page there is less room for errors and more mutual respect among professions. (H, T)

It can work wonders but honestly don't see it employed that much. Even in Ecuador docs and NPs mostly worked separately. There WAS great collaboration with pharmacy.

Interdisciplinary care exponentially leads to improved health outcomes, my ability to collaborate with other clinicians leads to improve quality of care for patients.

Very large extent- interdisciplinary collaboration is critical for patient care. (T, L)

Significant extent: interdisciplinary collaboration is key to improving care provided to individuals. Diversity of skills and thought and working together for one common goal is crucial is improving health outcomes. (T, F)

I'm a pharmacist working in a fairly innovative practice setting where we collaborate with primary care providers and specialists. This kind of collaboration improves outcomes because the pharmacist can focus on his/her specialty - ensuring each medication is working safely and effectively - while the other clinicians can focus on diagnosing, treating, and monitoring. Practicing in this way allows the patient to have each person involved in his/her care be the expert. (H, T)

Every single day we treated patients, were able to have fast interconsults, treatments, provision of medicines etc, was a palpable, real example to students (local and UK ones) of how necessary is to receive education and to educate when caring.

I saw patients get multiple opinions for their health due to the different practices that were present on the brigade, allowing for the most effective treatment plans.

more expertise from different disciplines adds to your effectiveness, not as lonely in making decisions if others to bounce ideas off of (T, K)

Better communication and teamwork generally results in better outcomes for the patient.

Given the interdisciplinary collaboration of the Shoulder to Shoulder Program, I am significantly more sensitive to these issues in treatment.

patients receive care faster with less mistakes (T, H)

Code: Improved health outcomes observed or frequently observed = F

Every single day I see this happen. This is such an integral part of success in health outcomes.

Extensively. Working with a multidisciplinary team at the clinic has proven educational for me personally as well as beneficial for patients. Consistent communication and understanding is the key. (H, T, F)

Greatly especially in pediatrics because it is so incredibly important to address all aspects of a problem together.

Able to see positive changes in the community through education via brushing as well as vitamin dosage and diet.

In every instance I have seen improvements in care where interprofessionalism is involved.

I don't have data, but since I have been participating with STSG I have observed families who have received care from our clinic and our teams thriving when they return to our teams each year.

Significant extent: interdisciplinary collaboration is key to improving care provided to individuals. Diversity of skills and thought and working together for one common goal is crucial is improving health outcomes. (T, F)

Greatly.

a high extent

Many improvement

I frequently include professionals from other disciplines in the care of my pediatric patients in Lexington because it provides comprehensive care.

A great extent. This is critical

Code: Little to no change observed = L

I have not.

to a small extent. The shoulder to shoulder team is made up of people who believe in interprofessional collaboration. This is good. But it is not the norm in the US healthcare system. (H, L)

This is difficult to answer - from a global perspective, the implementation and continuation of interdisciplinary collaboration is difficult because of manpower/workforce issues and professional preparation programs in each country. The example provided by a US based ""team"" cannot always be sustained and may not be realistic within the country served. For this reason - I'm not sure any improved health

outcomes can be directly related to a singular or short term exposure to interdisciplinary collaboration.

In Ecuador? Very little. I have not seen much change in medical, health, and disease prevention conditions over the three years I have gone on Brigades. In fact, I think some conditions have gotten worse. Let's face it, we are just putting bandaids on very serious problems. At least the people get some help, but we are not fixing things, and they do not appear to be fixing things themselves. The vectorborne and gastrointestinal problems remain particularly problematic. Also, the chronic disease prevalence appears to be increasing.

NO

It can work wonders but honestly don't see it employed that much. Even in Ecuador docs and NPs mostly worked separately. There WAS great collaboration with pharmacy.

Interdisciplinary care exponentially leads to improved health outcomes, my ability to collaborate with other clinicians leads to improve quality of care for patients.

Very large extent- interdisciplinary collaboration is critical for patient care. (T, L)

Not in practice, other than students working in teams to teach English, health care, etc.....

This question is vague to me, but it needs more context. Do you mean here in the US?

N/A

Unsure

"Do you approach

working with community health education differently as a result of your participation in the Shoulder to Shoulder Global program?"

Please explain briefly your response to the above question.

Code: Improved methods of communication = C

Utilize translators in work more often.

I now better understand how to communicate with underserved populations.

Working with STS allowed me to learn and practice some aspects of group learning which I later applied to group wellness visits in DC. Our population was primarily Spanish speaking families with children with dx of obesity.

I did some more community health teaching during my psych and public health semester of nursing after the brigade. I think that going on the brigade and preparing teaching material was good practice for the subsequent teaching materials I prepared for communities in Lexington.

Community health education is often overlooked in the United States and I think sometimes we have to remember to go back to the basics and that there will be communities all over the states as well as abroad who need their most basic needs met when it comes to health.

The importance of approaching communication differently based on my patient and advocating for language services to be provided.

Allowing the individual's goals to drive intervention/education has become more important. We can't force people to approach their own health the way we want. It must be driven from within.

Absolutely. I have seen firsthand how important community engagement in health education is for it to be effective, valuable, and meaningful for the intended audience. We must work in tandem with our Ecuadorian colleagues to provide education that is tailored to the communities needs and requests for additional knowledge. (C, I)

Yes - within the community health education experience, the educator must appreciate, value, and incorporate the culture of the community being served and that communities unique strengths, needs, and resources. The "visiting" health educator must appreciate that even in "underserved" communities there are many strengths and resources available. The other important lesson is that the community being served has to be willing to assume responsibility for implementation of any changes that are recommended as a part of the community health education.

I am more focused on how my interactions/treatment affect the individuals life. I am more thoughtful when providing interventions regarding is this feasible for their life, does this impact their family/income/emotions.

I think there are still natural biases that exist as much as I try to not have them.

I am more humble and more open to different cultures within my own country. I am also less fearful.

Mental health treatment in the US is heavily oriented toward Anglo patients. In terms of community health education, it has become much more important to me seek out minority (and especially) Hispanic individuals. Helping them to become aware of the services that they might find helpful in their own lives. (C, E)

I realized the disconnect between providers and patients and how easily miscommunication happens, so I am very aware of that now and make extra effort to make sure patients understand what the plan is and why things are happening

Code: Improved understanding of the importance of education = E

Prior to the brigade, I was hesitant to use my health-related knowledge in the community setting due to mixed feelings related to follow up care. Following the brigade, I have a much better understanding of the purposes of community health education and how to approach the implementation in a way that is beneficial for the individuals receiving the information.

This program showed me how big of a role education plays in healthcare. Many of the world's biggest healthcare problems drawn upon the fact that these people have little to no education on the topic.

After the Shoulder to Shoulder program I left private practice and went to work at the health department.

When in rural areas, education is more important that I would have thought. Especially when in areas that don't make public health a priority, people can be simply ignorant of thing that can help or hurt their own health.

Health Education is a "force multiplier" that can prevent misinformation from impeding health care. Basic information helps patients be their best advocate for their own health and saves on resources required to re-educate mis-informed patients.

I have tried to help at free clinics in the area.

I would say that I see the value and preventive measures of community health education in a much more focused light.

I want to continue serving as a health provider in Shoulder to Shoulder and other international opportunities when is needed and I'm available.

I am more aware of how I individually and a multidisciplinary group can make an impact.

I never realized the true need for resources that many Americans take for granted.

I think community health education is key for prevention and treatment of chronic health conditions.

People complain when they hear of Americans going to help those in other countries but are unwilling to ask for change in their own country to gain availability to those that need free healthcare.

teaching health education...has improved and using health education as part of other broader topics around theme of 'Globalization' has increased.

I have always been an advocate for community health education - STSG if anything helped to reinforce that.

I never approached the subject as an undergrad

Community health education is important for the well-being of any community. I would welcome any opportunities to work with community health education.

I just want more people to be aware of the situations in resource-limited areas

I am much more aware of how to properly plan a brigade to make it beneficial for both the students and the host communities.

Mental health treatment in the US is heavily oriented toward Anglo patients. In terms of community health education, it has become much more important to me seek out minority (and especially) Hispanic individuals. Helping them to become aware of the services that they might find helpful in their own lives. (C, E)

I speak more about community issues when I teach the residents

Code: Use interprofessional approach = I

I always try look to other professions to help solve problems because I know what they can bring to the table to help my patients

Absolutely. I have seen firsthand how important community engagement in health education is for it to be effective, valuable, and meaningful for the intended audience. We must work in tandem with our Ecuadorian colleagues to provide education that is tailored to the communities needs and requests for additional knowledge. (C, I)

I try to help in an area but implement local professionals to follow up so treatment continues.

Code: Not applicable or no change = NA

Not engaged in community health education in my specialty.

I don't really have a role in community health education at this time.

Retired

Key word being "differently". I kind of had that intention before the brigade, and that hasn't changed since.

Haven't changed or added anything about the way I practice per se

I include community health education in an elective class related to the pro bono clinic, but this has remained consistent.

Not extensively involved in this on a regular basis

Need to take care of some personal issues.

Still in school.

no direct involvement in this

Always approached it with international perspective

Working with tribes in Ecuador is very different than working here in the US.

Approach has been reassured, not changed

**Please add any other comments that would be useful in assessing the Shoulder to
Shoulder Global program's impact on brigade participants.**

Code: Love = L

I love how STSG focusses on acute medical conditions versus chronic disease states. I also love how STSG has community partners to see patients with chronic conditions for follow up care.

I think we should have some more reflection time built into the brigades- would love to chat anytime! Love this program.

*I loved participating in the STSG program. I would love to help again in the future. (L, S)
loved the experience!*

Code: Fosters awareness = A

The change in perspective of brigade participants is obvious and very visible.

This was a wonderful experience that future clinicians should think about partaking in. It definitely opens your eyes to the health disparities that exist in other countries, and how fortunate we are here to have the systems we do, imperfect though they are. (A, S)

It is of great value to learn about the problems other people face. We can learn from them and they can learn from us. Certainly our students get a great deal from this experience.

I think participants are forever changed and impacted by the program, more so those who have never worked with the underserved or outside the US. (A, S)

The brigade has also helped me understand how to be the best me to for students: I have learned how to allocate time and resources to maximize and help my students grow.

Furthermore, I have improved how I organized and prepare for the mentor-student

relationship. Trips to Ecuador provide a unique environment for students to learn and grow personally as well as professionally. (A, O)

I think that insisting in MORE local professionals to participate with the brigade's activities will send the message that what we are doing is not "charity work" and/or having "yankees learning from us", but that Education at all levels is the absolute element for progress. More so if it is done in a collaborative spirit and with compassion towards those we serve. (A, O)

I believe that a key aspect is that there be continuity of care for chronic afflictions

Code: Fulfilling, life changing, fosters service mindset = S

The STS program provided invaluable experience working with interdisciplinary teams in a non-threatening environment that was focused solely on providing much needed care to those we served. The Shoulder to Shoulder brigade provided a lot of opportunities for inter-professional development that we are unable to receive in the normal curriculum. The learning that occurred in an environment that required us to improvise and work together to overcome the restraints was something that I think every student would benefit from. Overall, I found the opportunity to work independently to care for the patients the most beneficial aspect of the program. As nursing students, we rarely get the chance to work independently while providing care. This trip provided an opportunity to grow our confidence and learn more about what things we appreciate about the nursing career. The STS brigade was the most eye opening and life changing part of my undergraduate curriculum and will continue to impact my career as a nurse and future as a provider. (S, O)

This program has changed my outlook on life, career path, and where I invest my time. I am forever thankful for the people I met and experiences I gained through this journey.

Looking forward to volunteering again, this time in the full capacity of PA!

I want to go back!

This was a wonderful experience that future clinicians should think about partaking in. It definitely opens your eyes to the health disparities that exist in other countries, and how fortunate we are here to have the systems we do, imperfect though they are. (A, S)

I loved participating in the STSG program. I would love to help again in the future. (L, S)

I just hope the program can be sustaining. It helps those served and adds such a perspective on service and community to all.

This was probably the most rewarding experiences I have had as a pharmacist.

The Shoulder to Shoulder experience affected my world view more profoundly than any experience I have had before or since. Because of what I observed there, I sought out a health-oriented Spanish language program in Guatemala that sponsored a free clinic and I was able to be a volunteer there for a month. That month reinforced the lessons I learned in Shoulder to Shoulder, and since then I have been expanding my opportunities to work with underserved populations.

At least in the College of Public Health we have VERY few international experiences available to students. In some years, the Shoulder to Shoulder experience is essentially all we have to offer. And on a logistical, social, cultural, technical level it is very well led and managed. Dr. Young and Craig Borie do incredible work. They are true heroes in my view. (S, O)

I think the impact of STSG for me was less about first-time exposure, and more about re-exposure and the opportunity for service to continually remind me of the importance of what I do and why I do it. (S, O)

I think participants are forever changed and impacted by the program, more so those who have never worked with the underserved or outside the US. (A, S)

I will remember this experience for the rest of my life. I am so proud to have been a part of this program!

I am aware of how individuals having their first or second international experience are impacted, usually profoundly. Even those with multiple experiences, even to a larger extent, recognize and derive knowledge, expertise, empathy, self-awareness, purpose, confidence and many other impacts with each experience....this human growth and development is never-ending and must always be challenged and inspired. STS continues to carry emotional and intellectual power...

This was a phenomenal experience. Thank you for providing it to students.

Hope to participate again in the future.

There are many intangibles.

Code: Offers opportunity = O

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benefit from. Overall, I found the opportunity to work independently to care for the patients the most beneficial aspect of the program. As nursing students, we rarely get the chance to work independently while providing care. This trip provided an opportunity to grow our confidence and learn more about what things we appreciate about the nursing career. The STS brigade was the most eye opening and life changing part of my undergraduate curriculum and will continue to impact my career as a nurse and future as a provider. (S, O)

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Our physical therapy program often attracts students who know STSG is a part of what is available to them during the three year program. Students have returned to STSG as faculty after participating as students either in india or Ecuador because it is so well established. It has become a very important component of our global health options for students.

The brigade has also helped me understand how to be the best me to for students: I have learned how to allocate time and resources to maximize and help my students grow. Furthermore, I have improved how I organized and prepare for the mentor-student

relationship. Trips to Ecuador provide a unique environment for students to learn and grow personally as well as professionally. (A, O)

I think that insisting in MORE local professionals to participate with the brigade's activities will send the message that what we are doing is not "charity work" and/or having "yankees learning from us", but that Education at all levels is the absolute element for progress. More so if it is done in a collaborative spirit and with compassion towards those we serve. (A, O).

Code: No comment = NA

Not at this time.

n/a

N/A

"What have you found to

be the most rewarding post-Shoulder to Shoulder Global program benefits? How

has

this related to your overall major, specialization or education?"

Code: Joy = J

The memories.

I have continued to have relationships with other participants and the opportunity to improve medical spanish contributes to my daily work as a physician (R, SK)

I am working on my MPH and this really opened my eyes to healthcare outside of the US. I have never had more patients express such sincere gratitude for what we did that it really was a rewarding experience. (J, CC)

I really enjoy the reactions of the students who are working and travelling internationally for the first time, and also the ability to do some teaching both with our students and with the Ecuadorian medical students

Knowledge that I helped others.

I like to serve others and help population with lack of health access. Health access is a human right.

The most rewarding is probably the personal growth that occurs with these trips. I can't think of any other type of activity that wouldn't make any student or faculty member return grateful, humbled, more aware and appreciative of the blessings and benefits we are surrounded by on a daily basis.

Having contributed to teaching the need to acquire intercultural experiences, and how necessary is to learn a holistic, more "humanistic" approach to medicine. Also, how even with little resources we can make a significant change in the health of the population. Students in the USA look at the world with a tinted glass that prevent them to see with clarity. To be able to demonstrate them the need for other cultural and environmental experiences and for introspection, made me feel useful and happy. (CC, J, SK)

Experiencing the gratitude of patients in Ecuador. It has further validated my interest in PT and the positive impact it makes on patient lives. (J, CAR)

The experience of being there and helping others in need.

Code: Cultural Competency = CC

International perspective, greater sympathy for others in different circumstances with different experiences.

The program made me more confident and comfortable when working with patients from a different culture than my own.

Gaining a greater understanding of my role in a global context- both internationally and domestically. Seeking out how I can work with others and interact with other professions in the medical community. (R, CC)

I am working on my MPH and this really opened my eyes to healthcare outside of the US. I have never had more patients express such sincere gratitude for what we did that it really was a rewarding experience. (J, CC)

The primary benefit is my depth of understanding and experience with the Latin American culture. It has allowed me to adjust my approach to care for my Latin American patients in the US. I can connect better with those patients and find a way to address their concerns while empowering them to use my recommendations to help their pain and improve their function. The other rewarding benefit is how inspired I feel after each experience. I relish the connections built with my colleagues in Ecuador, my colleagues on the brigade experience, and the students during what is usually a transformative learning environment for them. I usually have new ideas for how we can improve our work both in Ecuador and in the US. (SK, R, CC)

Enhanced some of my teaching skills, gave me some personal realizations, improved my cultural knowledge and inspired me to keep working on my Spanish. (SK, CC)

An appreciation of all encountered cultures

Increased empathy for non English speaking patients at home.

Having contributed to teaching the need to acquire intercultural experiences, and how necessary is to learn a holistic, more "humanistic" approach to medicine. Also, how even with little resources we can make a significant change in the health of the population.

Students in the USA look at the world with a tinted glass that prevent them to see with clarity. To be able to demonstrate them the need for other cultural and environmental experiences and for introspection, made me feel useful and happy. (CC, J, SK)

learning experience, exposure to varied cultures, getting out of your comfort zone and adapting

Cultural experience and being exposed to different environment. Working with an interpreter It has related to my profession because I have been exposed to different cultures in my profession. (CC, SK)

Spending time outside the US with my colleagues as well as learners of a variety of levels and disciples improved my understanding of both the similarities and challenges patients and families face in regard to their healthcare.

My compassion for people, I now help Spanish speakers if I see that they're lost in the hospital to redirect them. I would love to go back at some point.

Vastly increased my cultural humility

The intensive involvement with the patients of Ecuador. This has been particularly helpful in my work with Latino patients at my clinic in Lexington. (CC, CD)

Code: Community Development = CD

An increased understanding of the importance and benefits of public/community health. Prior to the brigade, I only had an understanding of nursing in the hospital setting and the brigade provided a lot of perspective of preventative care and how this can improve the overall health of an individual and subsequently, the community.

The most rewarding part was the community education and the willingness of the community to accept our help.

After STSG, it reaffirmed my desire to work in medically served patient populations. I am completing a PGY2 in Ambulatory Care in Denver starting this July and hope to continue to go on medical missions throughout my career. I enjoy receiving updates on future brigades and having professors reach out to maintain momentum from STSG alums.

I love telling people about how different Ecuador was from what I imagined. The impoverished housing and buildings looked about how I imagined, but the people and schools were so much different from how I thought they'd be. Basically, I was VERY impressed by the school (the students, teachers, principal, etc). I also loved the pride and contentment that people seemed to have for their community and their country. They were so full of life and thriving. They didn't particularly need us to step in and help them. I learned so much from them.

I would say the experience and realizing that it is something that I am truly passionate about. It has helped to shape my specialization as a future PA to focus on underserved or reach groups both in America and globally. Additionally it has influenced me to apply to the Peace Corps in upcoming months. (CD, CAR)

I want to point out that this survey is very focused on what the participant got out of the mission but very little focus on the impact on the local peoples we worked with. I would be interested in getting information on what impact STSG was to make on the people we helped."

I found the public health aspect to be the most rewarding aspect. Leave the people with skills they can carry into the future.

The intensive involvement with the patients of Ecuador. This has been particularly helpful in my work with Latino patients at my clinic in Lexington. (CC, CD)

Code: Skills

I always knew I wanted to work in healthcare, I just didn't know what field. I went on this trip as a business student/Spanish interpreter. However, during my time there, I fell in love working alongside a diverse team of physicians and getting to participate in problem solving discussions. One of the physicians on the trip asked me if I had ever looked into Health Administration. I had never heard of this degree at the time but it was the first thing I looked up at the airport upon our return. I am now pursuing that master's degree and with these experiences, I am motivated and inspired to succeed. (R, SK, Car)

It has expanded my creativity in teaching physical therapy and the international classification of function model.

The primary benefit is my depth of understanding and experience with the Latin American culture. It has allowed me to adjust my approach to care for my Latin American patients in the US. I can connect better with those patients and find a way to address their concerns while empowering them to use my recommendations to help their pain and improve their function. The other rewarding benefit is how inspired I feel after each experience. I relish the connections built with my colleagues in Ecuador, my colleagues on the brigade experience, and the students during what is usually a transformative learning environment for them. I usually have new ideas for how we can improve our work both in Ecuador and in the US. (SK, R, CC)

The most rewarding aspect of Shoulder to Shoulder was to see how health care is managed with limited resources and limited information about the patient. I was able to witness multiple creative solutions to problems, and many conversations that ran "if we had X we would do Y, but we don't so let's try Z".

I have had the opportunity to explore physical therapy workforce issues and professional preparation programs within Ecuador - supporting the need for a unified physical therapy curriculum (adopted by the Ecuadorian Government in 2016) and development of a larger, more highly trained workforce. From a personal perspective, I have become more involved in global professional preparation activities (through the World Congress of Physical Therapy - WCPT), especially related to pediatric physical therapy; visited/interviewed program directors at 3 Ecuadorian physical therapy educational

programs; collaborated with the Ecuadorian Society of Physical Therapy on earthquake relief services, professional preparation and post-professional continuing education; and worked with a University in Ecuador to develop a new PT Program - I was involved in some of these activities prior to joining Shoulder-to-Shoulder, but certainly the experiences I had with Shoulder-to-Shoulder reinforced my commitment to global physical therapy education. (Car, SK, R)

I reviewed my microbiology and re-learned my field sanitation. I saw conditions in Ecuador that I have NEVER seen in the U.S. Gave me a more practical perspective that techniques which might work well in one setting, may not work at all in a different setting. So, we have to be innovative and creative in our thinking and approach to dealing with problems.

Learning to use simple things instead of complex materials to help patients has been helpful. It makes me think of equipment that families might have at home to use instead of ordering a complex and expensive assistive device.

Simply the ability to spread the good nature and collaboration mentality that comes about through the experience. I have found that after the experience I searched out opportunities to interact with other professions and individuals who are from different backgrounds than myself. As well, I have been able to incorporate the experiences into clinical practice. (R, SK)

Learning how to travel abroad, having an example of how I can use my nursing career to make a global impact, and networking with all the other STSG participants. Specifically

*to nursing, I was able to apply the time in Ecuador to my Public Health clinical hours.
(CAR, R, SK)*

Enhanced some of my teaching skills, gave me some personal realizations, improved my cultural knowledge and inspired me to keep working on my Spanish. (SK, CC)

I have a new perspective on how fortunate my patients are here- I am conscious of not over utilizing equipment/orthotics etc and use ingenuity to use what a family may already have to use for treatment/etc. This brigade helped me gain confidence in my skills as a new professional.

the exposure, itself, has had impact on my general interactions and specifically my teaching skills. It is likewise inspired my personal and public writings. (SK, CAR)

Post SSG I have felt more confident in my interactions with other professionals. I have a better understanding of not only my skills and knowledge, but also a variety of other disciplines. This trip improved how I communicate with other professionals about my patients. (R, SK)

Having contributed to teaching the need to acquire intercultural experiences, and how necessary is to learn a holistic, more "humanistic" approach to medicine. Also, how even with little resources we can make a significant change in the health of the population. Students in the USA look at the world with a tinted glass that prevent them to see with clarity. To be able to demonstrate them the need for other cultural and environmental experiences and for introspection, made me feel useful and happy. (CC, J, SK)

I use it as a model for other programs

Teaching experience

Cultural experience and being exposed to different environment. Working with an interpreter It has related to my profession because I have been exposed to different cultures in my profession. (CC, SK)

Because of this trip, I am pursuing a graduate certificate in global health. This trip also highlighted the importance of multilingual providers and inspired me to continue to practice and improve my Spanish. (CAR, SK)

Code: Relationships, networking, solidarity = R

I always knew I wanted to work in healthcare, I just didn't know what field. I went on this trip as a business student/Spanish interpreter. However, during my time there, I fell in love working alongside a diverse team of physicians and getting to participate in problem solving discussions. One of the physicians on the trip asked me if I had ever looked into Health Administration. I had never heard of this degree at the time but it was the first thing I looked up at the airport upon our return. I am now pursuing that master's degree and with these experiences, I am motivated and inspired to succeed. (R, SK, Car)

Interacting with people from all different professions/ specialties and networking. I am still in contact with some of the people I met during my first gig translating for STS in 2007.

Networking and the general experience

I really do feel like this program helped me to learn how to respect and collaborate well with other professions and work together towards a common goal. I currently work as a

nurse in the cardiovascular ICU where everyday I have to collaborate with doctors, physical therapists, pharmacists, social workers, dietary, families, clerks, techs, etc. It is so important that I can effectively plan and communicate with this team to bring my patients the best healthcare possible.

Gaining a greater understanding of my role in a global context- both internationally and domestically. Seeking out how I can work with others and interact with other professions in the medical community. (R, CC)

I loved working closely with other experts in their fields and helping children who might not otherwise have access to our services.

The primary benefit is my depth of understanding and experience with the Latin American culture. It has allowed me to adjust my approach to care for my Latin American patients in the US. I can connect better with those patients and find a way to address their concerns while empowering them to use my recommendations to help their pain and improve their function. The other rewarding benefit is how inspired I feel after each experience. I relish the connections built with my colleagues in Ecuador, my colleagues on the brigade experience, and the students during what is usually a transformative learning environment for them. I usually have new ideas for how we can improve our work both in Ecuador and in the US. (SK, R, CC)

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more involved in global professional preparation activities (through the World Congress of Physical Therapy - WCPT), especially related to pediatric physical therapy; visited/interviewed program directors at 3 Ecuadorian physical therapy educational programs; collaborated with the Ecuadorian Society of Physical Therapy on earthquake relief services, professional preparation and post-professional continuing education; and worked with a University in Ecuador to develop a new PT Program - I was involved in some of these activities prior to joining Shoulder-to-Shoulder, but certainly the experiences I had with Shoulder-to-Shoulder reinforced my commitment to global physical therapy education. (Car, SK, R)

Connections with healthcare providers back at UK gave me relationships that have long outlasted the trip, and have opened doors and roles for mentorship.

Simply the ability to spread the good nature and collaboration mentality that comes about through the experience. I have found that after the experience I searched out opportunities to interact with other professions and individuals who are from different backgrounds than myself. As well, I have been able to incorporate the experiences into clinical practice. (R, SK)

The network of friends that were made on the trips.

The professional relationships I built and the increase in my (Sentence not completed in Qualtrics)

Learning how to travel abroad, having an example of how I can use my nursing career to make a global impact, and networking with all the other STSG participants. Specifically

to nursing, I was able to apply the time in Ecuador to my Public Health clinical hours.
(CAR, R, SK)

The professional relationships I have been able to retain since the brigade.

Post SSG I have felt more confident in my interactions with other professionals. I have a better understanding of not only my skills and knowledge, but also a variety of other disciplines. This trip improved how I communicate with other professionals about my patients. (R, SK)

Working directly with other providers to achieve the same mission (and NO insurance issues)

Friends made in Ecuador

Code: Career Focus = Career

I always knew I wanted to work in healthcare, I just didn't know what field. I went on this trip as a business student/Spanish interpreter. However, during my time there, I fell in love working alongside a diverse team of physicians and getting to participate in problem solving discussions. One of the physicians on the trip asked me if I had ever looked into Health Administration. I had never heard of this degree at the time but it was the first thing I looked up at the airport upon our return. I am now pursuing that master's degree and with these experiences, I am motivated and inspired to succeed. (R, SK, Car)

I really became interested in public health.

Clinic days helped bring affordable healthcare to different rural areas who would otherwise have very limited access. This helped shape my goal to become a rural physician, which I am still in the process of trying to become.

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I would say the experience and realizing that it is something that I am truly passionate about. It has helped to shape my specialization as a future PA to focus on underserved or reach groups both in America and globally. Additionally it has influenced me to apply to the Peace Corps in upcoming months. (CD, CAR)

Learning how to travel abroad, having an example of how I can use my nursing career to make a global impact, and networking with all the other STSG participants. Specifically

*to nursing, I was able to apply the time in Ecuador to my Public Health clinical hours.
(CAR, R, SK)*

"It was unrelated to my education. But an interest.

*the exposure, itself, has had impact on my general interactions and specifically my
teaching skills. It is likewise inspired my personal and public writings. (SK, CAR)*

The pre and post work with other faculty, council members and students has enriched my
faculty experience greatly.

It has inspired a feel and desire for service that I continue to focus on in my career - I
went on to pursue a residency focused on serving underserved patients, chose a program
that had an international brigade similar to STSG, graduated and went on to work for a
federally qualified health center, and now volunteer at a local clinic that serves
immigrants and other underserved patients.

*Experiencing the gratitude of patients in Ecuador. It has further validated my interest in
PT and the positive impact it makes on patient lives. (J, CAR)*

I was given a drive to help STSG as much as I could through STSG SA once I returned
from the brigade, and that heavily influenced how I spent my time in my last three years
of undergrad.

I earned a certificate in global health during my residency

It has reaffirmed my decision to serve pediatric patients as a pediatrician."

Because of this trip, I am pursuing a graduate certificate in global health. This trip also highlighted the importance of multilingual providers and inspired me to continue to practice and improve my Spanish. (CAR, SK)

was fun to talk about when applying for residency

Due to your Shoulder to Shoulder Global experience, to what extent do you incorporate serving the underserved in your practice as a clinician or professional?

Code: Seeking to do more = S

I have sought out other opportunities within my own profession here in the US to help with the Hispanic population.

I am not entirely sure what my career path will look like, but shoulder to shoulder motivated me to consider working with the underserved. So, even if my career does not directly work with underserved communities, I plan to volunteer my time and experience to helping those who need it most.

I need to do more.

Not very often currently, but I plan to do more after I graduate.

Most of my volunteering with the underserved is in a non-work capacity, however I do have an interest in pursuing either another STSG Brigade or other international service opportunity with nursing once I am licensed.

I'm currently retired but looking for. Volunteer opportunities

better realize the need.

Because of my Shoulder to Shoulder experience, I currently seek opportunities to work with fragile populations in primary care settings with the intention of building my skills to be more useful in my community upon my retirement from UK.

In a recent job move, I have not been able to address this, but am seeking to get plugged in with community groups that address needs of the refugee and immigrant population.

Currently, I work in healthcare, but do not have much to do with patient care. I aspire to become a physician who serves the underserved, particularly in rural areas, both locally and internationally.

I try to get opportunity but unfortunately rules of employer limits this.

I have focused my studies on looking for ways to solve health disparities in terms of cost, access, and quality. Since the return of my trip I served as an Americorps member at Operation Food Search in St. Louis, MO. These experiences have shown that these problems exist near and far. I hope to help those in need with this career path. (S, I)

Code: Continue, reinforced, confirmed = C

I did this already, but I have a much deeper awareness now.

I think it just confirmed a need/desire to help others in need.

A high percentage of my current practice caring for the underserved. Shoulder to Shoulder solidified for me the importance of that work.

Minimal

I have coordinated a pro bono PT clinic for 17 years, which is another part of my commitment to serve those with less access to health care.

Always have chosen to work with the underserved, so just as dedicated as ever.

I've been doing this always.

Again, I don't know that it's due to STSG, but the trip was a way to practice my goal of serving the underserved, which has continued in my education, such as being in the Rural Physicians Leadership Program at UK.

It comes naturally in pediatrics.

I will continue to see underserved patients in the clinical setting at UK, and will also continue to participate in these brigades as long as I am able to.

I have continued to serve underserved populations in a clinical situations and related to building health care professional workforce in underserved countries.

I chose physical therapy as my profession, as it is a service-oriented career. I am not sure I would say that I incorporate serving the underserved due to my experience with STSG, as it was a practice instilled in me at an early age. That said, I am much better able to serve my patients at Samaritan's Touch free clinic here in Lexington due to my experience and knowledge from my STSG experience. (C, I)

Code: Inspired, changed = I

I am working now in an underserved community

I volunteered to have my continuity clinic in residency be all refugee patients.

continued to provide underserved but with more understanding

More than I would if I had not gone on the brigade!

Daily

See above! It has greatly impacted my practice.

Along with SSG, I serve at UK in a student led pro Bono physical therapy clinic to underserved individuals in Lexington. I have learned more with these initiatives than in the classroom. I will continue to learn/grew while serving in these initiatives and each trip to Ecuador reinvigorates that feeling.

Retired, but volunteering for service projects has been significantly inspired

I provide services to non-US citizens on a daily basis and I am able to empathize in the scenarios presented with individuals seeking aid

I regularly incorporate service into my career. I have been involved with a volunteer organization for nearly 3 years since completing the brigade.

I have connected to a free physical therapy clinic as a referral source.

it is a major focus of my career

I have a nonprofit that now helps provide medical access to the rural villages of Liberia.

In the search for a profession post graduation, I have inquired about companies that complete community service and/or would allow me to travel with Shoulder to Shoulder as a professional.

I volunteer at a free healthcare clinic in Lexington that serves the homeless/poor population.

I chose physical therapy as my profession, as it is a service-oriented career. I am not sure I would say that I incorporate serving the underserved due to my experience with STSG, as it was a practice instilled in me at an early age. That said, I am much better able to serve my patients at Samaritan's Touch free clinic here in Lexington due to my experience and knowledge from my STSG experience. (C, I)

I primarily teach, but cultural competence is an important topic to discuss.

I volunteer in the free physical therapy clinic run by PT students and participate in Shoulder to Shoulder fund raising events.

I work in a clinic that provides a multidisciplinary approach to children who were born prematurely.

I am going on to pursue my Doctorate of Nursing Practice with a focus in underserved populations because of my experience.

Currently I don't choose the patient population I work with, but I am currently working on my masters to become a nurse practitioner and wish to volunteer more on similar trips.

I think that I am more open to people of different cultures and from lower socioeconomic statuses who are my patients.

I have always had interest in working with the underserved but after Shoulder to Shoulder I started a new job which is about 80% underserved.

After graduating from PA school (I was a med tech the first time a volunteered and a PA student the second time) I began working in homeless outreach in DC.

I have focused my studies on looking for ways to solve health disparities in terms of cost, access, and quality. Since the return of my trip I served as an Americorps member at Operation Food Search in St. Louis, MO. These experiences have shown that these problems exist near and far. I hope to help those in need with this career path. (S, I)

Multiple rotations in my PGY1 residency training have been at an indigent care clinic. I also chose to complete a PGY2 in Am Care in Medical served populations (FQHC/PCMH).

I have incorporated it much more. I have began to volunteer with organizations that help the underserved.

Since the brigade, I have chosen to begin my nursing career in a smaller town with plans to pursue a primary care graduate program. I have gained a lot of appreciation for those who provide care to underserved individuals and hope to continue to serve in a global capacity on future STS brigades.

1. volunteer involvement with health groups in Lexington 2. other international service trips to other countries

I seek out more hispanic patients in my clinic

Highly.

Code: No change = NC

No change

Not enough at this time

Not a clinician/professional yet.

I have always had a servant's heart. I don't think Should to Shoulder has changed or impacted that. It is my faith that has influenced that aspect of my life. Shoulder to Shoulder is just one more opportunity to serve others.

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ACADEMIC RECORD

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Bachelor of Science, 1994

Colorado State University – Fort Collins, CO

Major: *Business Administration with a Concentration in Organizational Management*

Minor: *Spanish*