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Perspectives on Global Health

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Engaged Learning Final Report
April 2015

The Engaged Learning program connects students with project ideas to faculty and staff who serve as mentors, to campus programs and courses with student engagement opportunities, and to community partners who host student projects. It allows undergraduates to deepen their SMU education through capstone-level learning beyond the classroom in research, civic engagement, internships, creative work, on-campus and in local and global communities. Through the course of my project, I traveled to Iringa, Tanzania to shadow native physicians and examine Tanzania's healthcare delivery model. I also studied the relationship between international travel and an individual's perspective on domestic and global health to determine whether increased travel experience impacts the way in which individuals view healthcare.

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Introduction:

"Saidia. Rafiki yangu ni mgonjwa sana". "Help, my friend is very sick. This was the typical opening plea of the majority of patient visits that I observed at the Iringa Regional Referral Hospital in Iringa, Tanzania. The ingenuity of the physicians in response to this common complaint was nothing short of amazing. Prior to arriving in Iringa, my plan was to gain insight into the standards and practices of Tanzanian hospitals and to research both the extent to which modern medicine is implemented in a developing country and ways in which developed countries may facilitate that process. After four weeks shadowing Tanzanian physicians at both a rural HIV clinic and Iringa Regional Referral Hospital, I realized that my initial approach was egocentric and misaligned with the needs of the Iringan community. Rather than asking how developing countries can facilitate the implementation of modern medicine, a more appropriate question is how developing countries, specifically donations from the public and private sectors, have harmed developing countries like Tanzania.

During one of my afternoon rotations in the Labor and Delivery ward, the attending physician called, urging me to head quickly to the Caesarean section operating room for an emergency procedure. Following the procedure, the attending physician took me on a tour of that area of the hospital and showed me a

bay of unused and broken equipment. A brand new mobile C-arm X-ray imaging machine costing between $10,000 and $30,000[1] was among this unused equipment. When I asked the attending physician why this equipment was not being used, she explained that either the equipment, most of which was under one year old, no longer worked or that no one at the hospital was trained on the equipment. The attending physician went on to explain to me that many times, foreign countries and private donors would send expensive, modern medical equipment but would not train doctors on how to use the devices. Therefore, the equipment would sit in the corner of the hospital gathering dust. This observation of waste was made more frustrating when considering that many hospitals, like Iringa Regional Referral Hospital, must continually grapple with the challenge of securing the most basic consumable medical supplies such as disposable medical gloves and gauze. The glove shortage that occurred while I was shadowing Iringan doctors highlighted this challenge and made it clear that aid to the hospital was misaligned with the needs of the hospital.

In an article published by The Guardian, Ian Birrell argues "the harsh truth is that 'voluntourism' is more about the self-fulfilment of westerners than the needs of developing nations."[2] Although the author is discussing the problems with "voluntourism," the conclusions hold true for public and private aid donations as well. In many cases, including those that I observed at Iringa Regional Referral

[1] "Your Guide to Medical Imaging Equipment," Block Imaging last modified January 24, 2014, http://info.blockimaging.com/c-arm-cost-price-guide

[2] Birrell, Ian. "Before you pay to volunteer abroad, think of the harm you might do," *The Guardian*, November 13, 2010, http://www.theguardian.com/commentisfree/2010/nov/14/orphans-cambodia-aids-holidays-madonna

Hospital, foreign aid is often applied considering the needs of the donor rather than the needs of the beneficiary. The inefficiencies that occur through this process do severe harm to developing communities. In considering aid to developing health care systems, inefficient donation results in unused equipment, wasted physical space, and poor or catastrophic patient outcomes if donated equipment is used by untrained professionals. These negative consequences compound with the inability for hospitals in developing countries to acquire the most basic medical supplies to create a system in which hospitals are not able to provide adequate care. While many communities in developing countries experience similar challenges, solutions may be different due to cultural and social structures specific to certain communities or regions. To change this cycle of harmful donation, public and private donors must be more discerning about the challenges that recipients of their philanthropy are experiencing in order to constructively provide support.

Purpose:

My experiences shadowing physicians in Iringa, Tanzania radically changed my view about global health and the challenges that healthcare providers in developing countries are facing. Most importantly, I was forced to confront my western-centric thinking in regards to administering health. As a result of this world travel experience, my perspective when considering global health care concerns has become more sophisticated, and this expanded perspective has changed the way in which I think about problems related to our domestic health care system. In observing the vast change in my perspective following my experience in Tanzania, I

became curious about whether world travel experiences had impacted others in a similar way.

Research Question:

Does a relationship exist between international travel experience and an individual's perspectives on domestic and global health?

Methods:

A survey was conducting using SMU Qualtrics to examine the relationship between international travel experience and an individual's perspectives on domestic and global health. The survey was provided in four parts including basic demographics, international travel history, perspectives on domestic health, and perspectives on global health. The basic demographics section of the survey included questions designed for collecting demographic data that reflects unique life experience that may have been an influencing factor for responses to other sections of the survey. The international travel history section included questions on both the quality and quantity of one's travel history and included an open response question allowing participants to include specific locations of foreign travel. The perspectives on domestic health section of the survey was designed to gather the participant's views on the quality of health care received in the participant's home country. This section included questions regarding specific health care experiences of the participant and questions that determined the participant's confidence in the domestic healthcare system. The perspectives on domestic health section also included a control question to prevent survey fraud and an open response question asking the participant what the biggest challenge that the domestic healthcare system faces.

The perspectives on global health section was similar to the previous section and asked about healthcare experience abroad. Confidence in the healthcare received abroad questions were split between developing and developed countries and two open response questions were included asking the participant what the biggest challenge that both developing and developed foreign healthcare systems face. The final question of the survey considered healthcare in general and asked what is the biggest challenge to healthcare globally.

Participants in the survey gave electronic informed consent by typing their full name after reading about the purpose of the study, the risks and rewards of the study, and about their rights as participants in the survey. Participants were also notified about the confidentiality of the survey and the right of the participant to discontinue the survey at any time without penalty.

Participants were recruited to take part in the online survey through social media and university listserv emails. A link was provided that directed potential participants to an information and consent page previously described. The recruitment method effectively resulted in stratified sampling. The population of participants for the study was constrained to Southern Methodist University students over the age of 18 through two questions that disqualified participants outside of the study constraints. These questions disqualified 14% of respondents.

Of the respondents, 38 qualified for inclusion in the study. 22 (58%) participants were male and 18 (42%) participants were female. 33 participants were white, 3 were Asian, and 2 were of two or more races. The population of participants covered the vast majority of areas of study at Southern Methodist

University with 8 freshman, 9 sophomores, 5 juniors, 15 seniors, and 1 graduate student responding.

Quantitative Results:

Of the 38 participants that were included in the study, 18 participants reported that they had traveled out of the country in which they live five times or less over their lifetime and 20 participants reported more than five international travel experiences total. Of the 18 participants reporting five or less international travel experiences, 17 subjects described their overall international experience as mostly or strongly positive. When asked to rate the average health care experience in their home country, study participants reported a mean value of 7.44 out of 10 corresponding to above average experiences. All but one of these study subjects reported above average confidence in the domestic healthcare system in confidence of emergency services, examinations or checkups, and procedures. In evaluating global healthcare systems, those with five or fewer international travel experiences reported the mean values shown below for confidence in emergency services, examinations or check ups, and procedures in both developing and developed countries across the six largely inhabited continents with 5 being very confident and 1 being very unconfident in services provided. Values that are below average in confidence have been highlighted.

Mean Confidence	Emergency Services	Examinations/Check Ups	Procedures
North America	3.67	3.50	2.83
South America	2.33	2.72	2.06
Europe	3.39	3.44	2.67
Asia	2.17	2.78	2.17
Africa	1.72	2.33	1.78
Australia	3.06	3.22	2.61

Table 1. Mean Confidence in Medical Services in Developing Countries Participants with Low Travel Experience (5 or less experiences)

Mean Confidence	Emergency Services	Examinations/Check Ups	Procedures
North America	4.65	4.78	4.61
South America	3.35	3.83	3.11
Europe	4.29	4.44	4.17
Asia	3.53	3.83	3.33
Africa	3.00	3.17	2.72
Australia	3.82	4.22	3.78

Table 2. Mean Confidence in Medical Services in Developed Countries Participants with Low Travel Experience (5 or less experiences)

Of the 20 participants reporting more than five international travel experiences, all 20 subjects described their overall international experience as mostly or strongly positive with a mean value of 8.85 with 10 being strongly positive. When asked to rate the average health care experience in their home country, study participants reported a mean value of 7.15 out of 10 corresponding to above average experiences. The responses for average domestic healthcare experience varied more widely in the well-traveled sample (more than five experiences) than in the less traveled sample (five or less experiences). All but one of these study subjects reported above average confidence in the domestic healthcare system in confidence of emergency services, examinations or checkups,

and procedures with stronger confidence means than the less traveled sample. In evaluating global healthcare systems, those with more than five international travel experiences reported the mean values shown below for confidence in emergency services, examinations or check ups, and procedures in both developing and developed countries across the six largely inhabited continents with 5 being very confident and 1 being very unconfident in services provided. Values that are below average in confidence have been highlighted.

Mean Confidence	Emergency Services	Examinations/Check Ups	Procedures
North America	3.11	3.20	2.45
South America	2.05	2.30	1.60
Europe	3.16	2.80	2.25
Asia	2.16	2.45	1.75
Africa	1.42	2.25	1.45
Australia	3.11	2.85	2.10

Table 3. Mean Confidence in Medical Services in Developing Countries Participants with High Travel Experience (more than 5 experiences)

Mean Confidence	Emergency Services	Examinations/Check Ups	Procedures
North America	4.75	4.85	4.80
South America	3.85	3.70	3.05
Europe	4.50	4.40	4.10
Asia	4.05	3.75	3.30
Africa	3.40	3.30	2.75
Australia	4.35	4.20	3.85

Table 4. Mean Confidence in Medical Services in Developed Countries Participants with High Travel Experience (more than 5 experiences)

Qualitative Results:

As indicated in the methods section, the survey also asked open response questions that provide qualitative perspectives. These perspectives have been consolidated into major themes and those that are referenced by more than one participant are included in the results below. An "insightfulness index" has also been established to measure the depth of answers provided to questions that offer the chance for narrative answers. This index ranges from 0 (all basic answers) to 1 (all insightful answers) and attempts to quantify narrative answers. "Insightful answers" are defined as those that are more than five words and show evidence of thoughtfulness. General and simple trend observation would fall outside of this definition.

The following tables represent qualitative data provided by the less traveled sample (five or less travel experiences). The tables include major themes discussed by participants in open response questions and the number of subjects that mentioned those themes. Only those themes mentioned by multiple participants are included. In cases of narrative open response questions, the insightfulness index, described above, is included. "Lack of Education" includes responses that consider both public education and the education of healthcare providers. Depending on specific responses, the number of responses in the tables below may not sum to the total number of participants in the less traveled sample.

Challenge	Number of Responses
High Cost	9
Lack of Education	3
System Inefficiencies	2
Lack of Access	2
Noncurable Diseases	2

Table 5. Open Response: What is the Biggest Challenge Facing Medicine Domestically?
Participants with Low Travel Experience (five or less experiences)

Challenge	Number of Responses
Lack of Resources	9
Lack of Education	4
Politics	2
Lack of Access	2
Insightfulness Index	**0.3125**

Table 6. Open Response: What is the Biggest Challenge Facing Medicine in Developing Countries?
Participants with Low Travel Experience (five or less experiences)

Challenge	Number of Responses
High Cost	7
Lack of Education	4
System Inefficiencies	2
Insightfulness Index	**0.3077**

Table 7. Open Response: What is the Biggest Challenge Facing Medicine in Developed Countries?
Participants with Low Travel Experience (five or less experiences)

Challenge	Number of Responses
Lack of Access	6
High Cost	5
Lack of Education	3

Table 8. Open Response: What is the Biggest Challenge Facing Medicine Globally?
Participants with Low Travel Experience (five or less experiences)

The tables below represent qualitative data provided by the more experienced travelers in the study sample (more than five travel experiences). The tables include major themes discussed by participants in open response questions and the number of subjects that mentioned those themes. Only those themes mentioned by multiple participants are included. In cases of narrative open response questions, the insightfulness index is included. "Lack of Education" includes responses that consider both public education and the education of healthcare providers. Depending on specific responses, the number of responses in the tables below may not sum to the total number of participants in the more traveled sample.

Challenge	Number of Responses
High Cost	6
Lack of Access	3

Table 9. Open Response: What is the Biggest Challenge Facing Medicine Domestically?
Participants with High Travel Experience (more than five experiences)

Challenge	Number of Responses
Lack of Resources	8
Lack of Access	3
Lack of Education	2
Insightfulness Index	**0.6000**

Table 10. Open Response: What is the Biggest Challenge Facing Medicine in Developing Countries?
Participants with High Travel Experience (more than five experiences)

Challenge	Number of Responses
High Cost	4
Lack of Education	4
Lack of Resources	3
Insightfulness Index	**0.6250**

Table 11. Open Response: What is the Biggest Challenge Facing Medicine in Developed Countries?
Participants with High Travel Experience (more than five experiences)

Challenge	Number of Responses
Lack of Access	5
High Cost	4
Lack of Resources	3
Lack of Education	2

Table 12. Open Response: What is the Biggest Challenge Facing Medicine Globally?
Participants with High Travel Experience (more than five experiences)

Discussion:

In looking at the data gathered through the survey, a couple of relationships can be defined. The first of these relationships is a negative correlation between travel experience and confidence in receiving medical services from developing countries. This correlation is observed in comparing Table 1 and Table 3. In every comparison of corresponding data points except for one (Australia/Emergency Services), the mean confidence of the more travelled data set is lower than the mean confidence of the less experienced travelers. This relationship disappears when comparing data sets considering medical services in developed countries, as travel experience does not measurably impact confidence in medical services in the developed world. Therefore, more experience travelling globally may contribute to decreased

confidence in medical services administered in developing countries only. Further experimentation is required to determine causality.

Another relationship that becomes clear in comparing Tables 1-4 is that there is a marked difference in confidence from continent to continent and when comparing the developing and developed world. As sense would appear to dictate, there is much higher confidence in medical services performed in developed countries than those performed in developing countries. Perhaps less transparent is the inherent bias against certain continents regardless of whether developing or developed countries are considered. Confidence in African medical services is lowest compared to all other continents across all medical services and all sample populations. South America and Asia also consistently score lower in mean confidence than North America, Europe, and Australia. These trends occur regardless of travel history although mean confidence scores are skewed higher for the well travelled participants.

The qualitative data collected in the study works to color these quantitative results and provides further insight into the relationship between travel history and an individual's perspective on domestic and global health. The major contribution afforded by the qualitative data is that the most popular response for domestic, developing, developed, and global healthcare systems was the same regardless of the travel experience. Both experienced travelers and less experienced participants provided the same major challenge for each type of healthcare system most often. However, when considering the complexity and thoughtfulness of the responses provided, those that had more international travel experience where about twice as

likely to provide a thoughtful response. Therefore, while the entire sample population agreed on major challenges to each of the four healthcare systems, the more travelled participants thought more critically in regards to major challenges affecting both domestic and global health.

Conclusions:

There is a strong negative correlation between international travel experiences and confidence in receiving medical services in developing countries. This correlation does not exist when considering medical services in developed countries. While international travel experience does not affect one's conclusions on major challenges affecting global healthcare systems, travel experience increases critical thinking and thoughtfulness when considering global health. Therefore, international travel experiences develop more refined and discerning perspectives on healthcare. Further experimentation should be completed to determine causation and refine the correlation between international travel and perspectives on domestic and global health. Using this study as support, universities should integrate international travel experiences into core curriculum, either through university-sponsored study abroad programs or through independent study projects like Southern Methodist University's Engaged Learning program, to further enrich their students' academic experience. Through this process, universities will help to make their students sophisticated and discerning global citizens that consider global issues in a more perceptive way.

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