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How Do Professions Globalize? Lessons from the Global South in US Medical Education

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Appendix 1: Content Analysis of the Literature Evaluating Global Health Electives (GHEs)

Data Collection

In order to explore the educational effects on skills and attitudes of Global Health experiences (GHE), I searched the database PubMed by the US National Library of Medicine National Institutes of Health for articles discussing educational effects of Global Health experiences. [I constructed a search string with key words informed by an initial set of articles that I had found through more informal methods using general search engines and snowballing.](#) The final search string was constructed so as to omit as few relevant articles as possible; nevertheless, it did not yield all the articles I had been aware of. In order not to bias the results and, for example, exaggerate the domestic agenda of GHEs, omitted articles (false negatives) were not added to the sample retrieved through the PubMed search.

[The search string used on October 9, 2016, reads as follows:](#)

((("health") AND ("global" OR "international" OR "abroad" OR "foreign" OR "overseas")) AND ("clerkship*" OR "resident*" OR "rotation*" OR "elective*" OR "residency" OR "international health experience" OR "global health experience"))

[The search](#)It yielded 3,845 hits ~~on October 9, 2016.~~ [These hits](#) ~~included entirely irrelevant articles not referring to Global Health at all, as well as loosely connected articles, discussing, for example, whether GHEs could foster peace in the recipient country. They also included some articles written by students who had participated in GHEs and reported their experience to fellow students, and discussions of the practical challenges of institutionalizing GHEs at US universities. Some articles also focused on the potential of GHEs to attract students to specific campuses or specializations (such as family medicine), and some were mere surveys of student demand for additional study abroad opportunities.~~

[After initial inspection and further sampling, I specified the rule for including an article in the sample so as only to include articles written by medical educators that report positive evidence of GHEs on student skills and attitudes. This rule eliminated many of the articles described above, as well as articles that only specified visions and aspirations for GHEs without reporting empirical evidence. The idea behind this selection is to focus on the prescriptive discourse that informs investments by educators in evaluations \(which are time-consuming\), and to trace a potential convergence around evaluative categories used. False positives \(articles that did not fit the selection rule\) were eliminated by myself and my student assistant \[anonymous\] on the basis of reading the abstracts of the papers and, where the abstracts were inconclusive, after reading through the entire article. The remaining sample of sixty-four articles explicitly mentions GHEs' educational effects on medical students' careers and competencies. Additionally, the articles were examined for terms referring to locations where resources are limited, constrained, or poor. \[anonymous\] marked articles where they were not sure whether to include them or not, and I went through those as well as random articles in order to ensure inter-coder reliability.](#)

Table 1 provides the twelve codes relating to positive effects on students' careers and competencies of Global Health experiences and the terms referring to the concept of resource-deprived settings as the operational scale of Global Health. [I generated the](#) ~~The~~ [codes for educational effects were generated inductively and finalized the coding rules after an initial coding of thirteen articles. \[anonymous\] then recoded the first thirteen articles \(to ensure inter-coder reliability —, we did not disagree on any code\), as well as the remaining articles. I double-checked potentially ambivalent cases \(as identified by \[anonymous\]\) and a further set of about ten articles.](#) The unit of analysis is entire articles. Articles mentioning the respective educational effect or a synonym of resource-poor setting were coded "1" in

the respective category; articles that did not were coded “0.”
Table 2 summarizes the results of this analysis.

TABLE 1.

Codes for GHE Effects and Synonyms of “Resource-poor Settings”

<i>GHE -Competency and Career Effects:</i>	
Skills abroad (skabroad):	The article discusses GHE benefits only for competencies (theoretical knowledge and/or practical competencies) explicitly r relevant for work in l ow- and M iddle- I ncome c ountries (e.g., knowledge of tropical medicine or foreign health systems).
Skills mixed (skmixed):	The article either discusses both GHE benefits for competencies explicitly relevant for work in low- and middle-income countries and for skills explicitly relevant inside the US, or wording is too unspecific to identify a territorial referent.
Skills domestic (skdom):	The article only discusses positive GHE effects on competencies explicitly relevant for work inside the US.
Clinical diagnostic (clin):	The article reports positive GHE effects on students’ clinical diagnostic, physical examination, or oral history taking skills.
Broader determinants (broadd):	The article reports positive GHE effect on students’ knowledge of broader (social, economic, or political) determinants of health.
Cultural competency (cult):	The article reports a positive GHE effect on students’ ability to deal with cultural differences between patients or between patients and doctors.
Interdisciplinarity (intdisc):	The article reports an improved ability of students to work in interdisciplinary teams.
Career change abroad (carabroad):	The article discusses GHE effects on student willingness to work in low- and middle-income countries.
Career mixed (carmixed):	The article discusses GHE effects on choice of work with the underserved in primary care, academic medicine, or public health in the US and on careers focused on low- and middle-income countries. The GHE effect on “global health career” is coded as “1” here because the term is so broad and vague. Territorially unspecific formulations such as “work with underserved communities” are therefore also coded as carmixed.
Career change US (carUS):	The article discusses a GHE effect on preparedness to work with the underserved in primary care, academic medicine, or public health exclusively inside the US.
US cost sensitivity (costUS):	The article discusses GHE effects on student sensitivity to US healthcare costs (e.g., students’ conviction that technology is overused, a critical stance toward intensive care units, and awareness of financial barriers faced by patients).
Situational confidence (sicon)	Article discusses GHE effects on student situational confidence in new settings.
Synonyms of “Resource-poor”	Article mentions or uses the term "resource-limited," "limited resource(s)," "resource-constrained" or "constraint resource(s)," "resource-poor," or "poor resource(s)."

TABLE 2. GHE Effects and Resource Terms

	skabroad	skmixed	skdom	clin	broadd	cult	intdisc	carabroad	carmixed	carUS	cost	sicon	resource terms
Addo-Atuah et al. 2014	0	1	0	0	1	1	0	0	1	0	1	0	1
Ahrens et al. 2010	0	1	0	1	0	1	0	0	1	0	0	0	0
Anandaraja et al. 2008	0	0	0	0	0	0	0	0	1	0	0	0	0
Anspacher et al. 2011	0	1	0	1	1	1	0	0	1	0	1	0	0
Belkin et al. 2011	0	0	0	0	0	1	0	0	0	0	0	0	0
Bertelsen et al. 2015	1	0	0	1	1	1	0	0	0	0	0	0	1
Bjorklund et al. 2011	0	0	1	0	0	0	0	0	0	0	0	0	1
Brown et al. 2015	0	0	0	0	0	0	0	0	1	0	0	0	1
Bruno et al. 2013	0	0	0	0	0	0	0	0	0	1	0	0	1
Burgos et al. 2016	0	1	0	1	1	0	0	0	1	0	0	0	0
Bussel et al. 2015	0	0	0	0	1	0	0	0	1	0	1	0	0
Butteris et al. 2015	0	1	0	1	1	1	0	0	0	0	1	0	1
Coombs et al. 2015	0	1	0	0	0	1	0	0	0	0	0	0	0
Coupet 2012	0	1	0	0	0	1	0	0	0	1	1	0	1
Coupet et al. 2013 (2)	0	1	0	1	0	1	0	0	1	0	0	0	1
Coupet et al. 2013 (1)	0	1	0	1	1	1	0	0	0	1	0	0	1
DeCamp et al. 2013	0	0	0	0	0	0	0	0	1	0	0	0	0
Drain et al. 2007	0	1	0	1	0	1	0	0	0	1	1	0	1
Drain et al. 2009	0	1	0	1	1	0	0	0	1	0	0	0	0
Duncan et al. 2011	0	1	0	1	0	0	0	0	1	0	1	0	0
Eneriz-Wiemer et al. 2012	0	1	0	1	1	1	0	0	1	0	0	0	1
Fan et al. 2015	1	0	0	1	0	1	0	1	0	0	1	0	1
Francis et al. 2012	0	0	0	0	0	0	0	0	0	1	0	0	1
Gilliland et al. 2016	0	1	0	0	0	1	1	0	0	0	0	0	0
Guzman et al. 2008	0	1	0	1	0	0	0	0	0	0	0	0	0
Havryliuk et al. 2014	0	0	0	1	0	1	0	0	0	0	1	0	1
Hayden et al. 2016	0	1	0	0	0	1	0	0	0	0	0	0	0
Herbst de Cortina et al. 2016	0	1	0	1	0	1	0	0	1	0	1	0	1
Holmes et al. 2012	0	1	0	1	1	1	0	0	1	0	1	0	0
Hung et al. 2013	0	0	0	0	0	0	0	0	0	1	0	0	0
Imperato et al. 2016	0	0	0	0	0	0	0	0	0	1	0	0	1
Jarman et al. 2009	0	1	0	1	0	1	0	0	1	0	0	0	0
Jordan et al. 2016	1	0	0	0	0	0	0	0	0	0	0	0	0
Kamat 2006	1	0	0	1	0	1	0	0	1	0	0	0	0
Kerry et al. 2013	0	1	0	1	0	1	0	0	0	0	1	0	1
Kolars et al. 2011	0	0	0	1	0	1	0	0	0	1	0	0	1
Liaw et al. 2013	0	0	0	0	0	0	0	0	0	1	0	0	1
Liaw et al. 2014	0	0	0	0	0	0	0	0	0	1	0	0	0
Liebe et al. 2013	0	1	0	1	1	1	0	0	1	0	0	0	0
Marienfeld et al. 2013	0	1	0	1	0	0	0	0	0	1	0	0	0
Martha et al. 2016	0	1	0	1	0	0	0	0	0	1	1	0	1

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Appendix 2: Overview of top GHE programs offering domestic training experiences

Herrick and Reades (2016) have compiled a list of forty-two US universities ranked at the global top by Times Higher Education and offer global health education. Table 1 lists the twenty among these universities that offer global health programs with the opportunity of domestic experiential learning. These "domestic global health experiences" include learning schemes ranging from fellowships and residencies at local hospitals to volunteer opportunities and internships in local communities and non-profits. The links to the descriptions of the respective learning opportunities were last accessed on June 13, 2017.

TABLE 1. Top GHE Programs (According to Times Higher Education Program) Offering Domestic Health Experiences

Links accessed September 7, 2017

University	Link (Domestic Health Experiences)
Harvard University	http://ghsm.hms.harvard.edu/education/mmsc-in-global-health-delivery
Princeton University	https://globalhealth.princeton.edu/undergraduate/find-internships
University of California, Berkeley	http://cgph.globalhealth.berkeley.edu/fellowships-2/
Cornell University	http://www.human.cornell.edu/dns/academic/gphsmajor.cfm
University of Washington	https://globalhealth.washington.edu/education-training/residents-fellows/global-and-rural-health-fellowship
University of Texas at Austin	https://www.uth.edu/global-health/gh-opportunities/
University of Wisconsin–Madison	http://ghi.wisc.edu/education/undergraduate-certificate/field-experiences/
University of California, San Diego	http://globalhealthprogram.ucsd.edu/field-experience/special-programs.html
University of Minnesota	https://www.dom.umn.edu/global-health/education-training/global-health-pathway-residents/partner-training-sites
University of North Carolina at Chapel Hill	http://sph.unc.edu/global-health/ggg-internships-and-funding/
Brown University	https://www.brown.edu/academics/medical/bright/
Pennsylvania State University	http://med.psu.edu/global-health
Rice University	http://www.rice360.rice.edu/internships
University of Southern California	https://globalhealth.usc.edu/education-training/fellowships/
Michigan State University	http://humanmedicine.msu.edu/Medical_Education/Assets/Clinical-Global_Health.htm

University of Arizona	http://www.ghi.arizona.edu/border-health/border-health
University of California, Irvine	http://ghreat.uci.edu/gh/#/projects
University of Pittsburgh	https://www.publichealth.pitt.edu/Portals/0/Main/CENTERS/GlobalHealth/Internship%20%20Fellowship%20Employment%20Guide.pdf?ver=2016-12-07-153342-663
Vanderbilt University	https://www.vumc.org/global-health/education-and-training/academic-programs/gh-certificate
University of Colorado Boulder	http://www.colorado.edu/iafs/academics/certificates/global-public-health