Post-completion Global Health Experience Participant Survey

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This document follows the first four phases of the process model for assessment design, validation, and use formulated by Chatterji[8].

Phase 1: Specify the assessment context

In this section, I will introduce the context of the assessment. The background and purpose will explain why it is essential and necessary to design this survey. The structure of the assessment will explain the relationship of post-completion GHE (i.e., Global Health Experience) participant survey (PS-TP2) and two other surveys. Population and primary assessment users will explain from where we will sample the survey-takers and who will use the result of the survey. Constructs will explain what we want to measure in the survey. Meanwhile, more detailed information about the constructs will be clarified in the next section about phase 2 of the process model.

Background: There is increasing demand among medical students and resident physicians in North America to participate in a global health experience (GHE) during their medical training. GHE refers to an international trip during which medical trainees travel abroad to provide clinical or educational services in high need regions. Reasons for the popularity of GHE include attaining medically relevant clinical or language skills, gaining exposure to clinical experiences, and accumulating a deeper understanding of another culture, particularly in low-resource settings[9]. Consequently, many medical education institutions have developed pre-departure training programs (for trips to be taken both through home institutions or through independent non-degree organizations) aimed at helping participants prepare for the trip (e.g., addressing or making the

plan for the potential risks). However, high-quality pre-departure training programs for medical trainees are unavailable consistently in reality. This issue has not yet been adequately addressed by the governing bodies of American medical education.

Structure of Assessment: The compendium of three self-reported survey instruments will be designed to evaluate the quality of Global Health Experience (GHE) programs at Anesthesiology resident education programs in the U.S and Canada. The three surveys are pre-departure GHE participant survey (PS-TP1), post-completion GHE participant survey (PS-TP2), and end of year GHE director survey (PD-EOY). Each instrument will focus on specific constructs relevant to the program evaluation, and the scaled construct measures will be designed with a multi-stage, iterative assessment design process. This document focus on PS-TP2.

Purposes and Aims: The purpose of this study is to design and validate a compendium of the post-completion GHE participant survey (PS-TP2). PS-TP2 aims at screening the GHE participants for the level of satisfaction with the training program support from a retrospective view. The survey could provide information for conducting a formative program evaluation of GHE training programs. The result of this assessment will be helpful for: (1) promoting the development of the training program, (2) identifying the needs from program participants, (3) checking the accomplishment of the program objectives, and (4) exploring the optimal practice guidelines for similar programs.

Population: the population in this survey is the Anesthesia residents in the U.S. and Canada. They have participated in pre-departure training programs (both from the home institutions or independent non-degree organizations) and have global health work experience in

the past year. The GHE they attend could differ in terms of length of experience (e.g., two weeks, four weeks, or even longer), clinical settings (e.g., hospital or clinic), and the country they visit.

Units of analysis: individuals.

Primary assessment user: the primary user of this evaluation instrument will be the pre-departure training program developers and Anesthesiology residency program directors.

Constructs: The primary construct covered in this survey: subjective perception about the satisfaction with the training program support for GHE (psychological construct: Attitudinal). This construct is measured in multiple domains. There are seven domains under this construct: (1) training about cultural competency, (2) training support about safety, (3) training support about emotional wellness, (4) training support about communication, (5) training support about ethics, (6) training support about placement and program knowledge, and (7) training support about personal development. I follow the domain sampling method to generate these six domains. The detailed information about the domain and indicator will be illustrated in the next section (see Box 1). In summary, this survey will measure the participants' satisfaction with the training program after the GHE, which could provide well-situated inferences about the quality and usefulness of the program services from a retrospective view.

Phase 2: Specify the assessment operations

In this section, I will specify the domain and subdomain of the survey. Meanwhile, I will also illustrate the assessment condition in this survey.

Domains specification: Box 1 provide information about domain specification for measuring the main construct in this study (i.e., subjective perception about the satisfaction with the training program support for GHE).

Box 1. Domain Specification

General Indicator 1: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>cultural competency</u>. (affective)* **Sub-indicators**: • 1.1: recognize the host country's cultural norms; • 1.2: recognize the host country's moral values*;* • 1.3: prepare for deal with social culture shock*;* • 1.4: be aware of the host country's medical and health culture (e.g., patient autonomy)	**Related Literature** 1, 2, 4, 5, 6, 10, 11, 21, 22, 23, 24, 26, 27, 29, 30, 31, 32, 33, 40, 46, 48, 54
General Indicator 2: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>safety</u>. (affective).* **Sub-indicators**: • 2.1: prevent crime at host country; • 2.2: be aware of the host country's health precautions (e.g., food and water safety); • 2.3: care for personal medical needs and illness plan (e.g., immunization and health insurance); • 2.4: prepare for travel logistics (e.g., visa, transportation, and safety alert); • 2.5: ensure the safety of accommodation and commute at host country;	**Related Literature** 1, 2, 10, 15, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 54

• 2.6: prepare for emergency at host country (e.g., civil unrest and natural disaster); • 2.7: create the emergency contact list at home and host country;	
General Indicator 3: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>emotional wellness</u>. (affective).* **Sub-indicators**: • 3.1: maintain mental health; • 3.2: handle homesickness; • 3.3: manage potential social isolation;	**Related Literature** 1, 4, 5, 6,10, 21, 22, 23, 24, 25, 27, 29, 54
General Indicator 4: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>communication</u>. (affective).* **Sub-indicators**: • 4.1: prepare for the formal and informal host country's language; • 4.2: maintain the communication with home contacts; • 4.3: prepare for the communication with collaborators at host country; • 4.4: prepare for the communication with patients at host country; • 4.5: ensure the appropriate usage of social media.	**Related Literature** 1, 2, 4, 5, 10, 18, 21, 22, 23, 24, 25, 27, 30, 33, 37, 40, 41, 54
General Indicator 5: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>ethics</u>. (affective).* **Sub-indicators**: • 5.1: recognize the scope and load of practice; • 5.2: recognize rotation and schedule of practice; • 5.3: recognize the power dynamics at host country; • 5.4: be aware of the potential financial or resource burden for the practice; • 5.5: recognize the local governance, legal, and ethical standards at host country; • 5.7: follow the international donation guideline;	**Related Literature** 1, 2, 3, 5, 6, 7, 10, 13, 14, 21, 22, 24, 26, 27, 29, 30, 31, 33, 37, 41, 45, 46, 49, 50, 51, 54

• 5.8: follow the guideline of research- and project-based initiatives (e.g., authorship of publications) at host and home country • 5.9: follow the guideline of privacy issue (e.g., patient privacy in photography) at host and home country; • 5.10: ensure the sustainability and appropriateness of patient care decisions regarding host context. • 5.11: recognize the impact to the host country and offer appropriate compensation.	
General Indicator 6: *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>placement and program knowledge</u>. (affective).* **Sub-indicators**: • 6.1: recognize the expected procedural skills (clinical or non-clinical); • 6.2: recognize the accountabilities for GHE; • 6.3: recognize the needs and expectations from GHE; • 6.4: be familiar with the host health services and system (e.g., divergent diagnostic and treatment paradigms); • 6.5: be familiar with the host clinical resources (e.g., equipment, supplies, and technology); • 6.6: be familiar with the host human resources (e.g., nurse/patient ratio, subspecialists, and presence of trainees); • 6.7: secure the funding for GHE; • 6.8: secure the appropriate administrative, supervision, and logistical support.	**Related Literature** 1, 2, 10, 12, 16, 17, 19, 21, 22, 25, 26, 27, 29, 30, 31, 33, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 52, 54
General Indicator 7 *Based on the experience during the GHE trip, participants express satisfaction with support from the training program about <u>personal development</u>. (affective).* **Sub-indicators**: • 7.1: set up clear goal and objectives; • 7.2: obtain ongoing and timely feedback and evaluation; • 7.3: introspect personal motivation for engaging the GHE; • 7.4: introspect the fit between the host expectation and personal goal; • 7.5: seek research and project opportunities.	**Related Literature** 2, 10, 12, 22, 24, 27, 32, 33, 37, 40, 48, 54

Assessment condition: The instrument will be administered via a computerized questionnaire using digital tools (e.g., TC Qualtrics or Google Form) without time limitation. However, we recommend the survey be completed at one time. The survey should be sent to the trainees by email after they finished their trip. All the respondents should finish their survey within two weeks after we send the survey.

Phase 3: Design the instrument

<p align="center">Post-completion GHE participant survey</p>

This survey is looking at the GHE participants' satisfaction with institutional support from the predeparture training program from a retrospective perspective. Your feedback, either good or bad, based on your personal experience during GHE, will help us to improve our training program in the future.

Part 1. Before completing the survey, please provide us with the following information:

Name:

Major of Study:

Length of stay:

Country and City:

Clinical setting (clinic or hospital):

The predeparture training program you attend:

Part 2. Please respond to the following questions regarding your satisfaction with the training program support for GHE.

I1 (cultural competency): Looking back on the program orientation and supports, and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
preparation in *recognizing host country's cultural norms*						
preparation in *recognizing host country's moral value*						
preparation in *dealing with social culture shock*						

Preparation in *being aware of host country's medical and health culture (e.g., patient autonomy)*						

I2 (safety): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *preventing crime at host country*						
Preparation in *being aware of the host country's health precautions (e.g., food and water safety)*						
Preparation in *caring for personal medical needs and illness plan (e.g., immunization and health insurance)*						
Preparation in *travel logistics (e.g., visa, transportation, and safety alter)*						
Preparation in *ensuring the safety of accommodation and commute at host country*						
Preparation in *the emergency at host country (e.g., civil unrest and natural disaster)*						

Specific Indicator						
Preparation in *creating the emergency contact list at home and host country*						

I3 (emotional wellness): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *maintaining the mental health during GHE*						
Preparation in *handling homesickness during GHE*						
Preparation in *managing potential social isolation during GHE*						

I4 (communication): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following support?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *formal and informal language at host country*	.					
Preparation in *maintaining the communication with home contacts*						
Preparation in *the communication with collaborators at host country*						
Preparation in *the communication with patients at host country*						

Specific Indicator						
Preparation in *ensuring the appropriate usage of social media*						

I5 (ethics): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *recognizing the scope and load of practice*	.					
Preparation in *recognizing the rotation and schedule of practice*						
Preparation in *recognizing the power dynamics at host country*						
Preparation in *recognizing the local governance, legal, and ethical standards at host country*						
Preparation in *following the international donation guideline*						
Preparation in *following the guideline of research0 and project-based initiatives (e.g., authorship of publication) at home and host country*						
Preparation in *following the guideline of privacy issue (e.g., patient privacy in photography) at home and host country*						
Preparation in *ensuring the sustainability and appropriateness of*						

patient care decision regarding host context	
Preparation in *recognizing the impact to the host country and offer appropriate compensation*	

I6 (placement and program knowledge): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *recognizing the expected procedural skills (clinical or non-clinical)*	.					
Preparation in *recognizing the accountabilities for GHE*						
Training program helped me with *recognizing the needs and expectations from GHE*						
Preparation in *being familiar with the host health services and system (e.g., divergent diagnostic and treatment paradigms)*						
Preparation in *being familiar with the host clinical resources (e.g., equipment, supplies, and technology)*						
Preparation in *being familiar with the host human resources (e.g., nurse/patient ratio, subspecialists, and presence of trainees)*						

Preparation in *securing the funding for GHE*	
Preparation in *securing the appropriate administrative, supervision, and logistical support*	

I7 (personal development): Looking back on the program orientation and supports and based on your experience during the GHE, how satisfied are you with the following supports?

Specific Indicator	Very Unsatisfied	Unsatisfied	Not certain	Satisfied	Very Satisfied	Not applicable
Preparation in *setting up clear goal and objectives*	.					
Preparation in *obtaining ongoing and timely feedback and evaluation*						
Preparation in *introspecting personal motivation for engaging the GHE trip*						
Preparation in *introspecting the fit between the host expectation and personal goal*						
Preparation in *seeking research and project opportunities during the partnership*						

Part 3. Open-questions

- What are your goals for the GHE trip? What you achieve and what not?

- In general, what is the most and important thing for preparation?

- What is the most important information that you learn from the training program?

- In general, what is the most challenging thing for you during the experience?

Phase 4: Validate the measurement

The measurement validation typically includes two main components: content validation and empirical validation. In this section, I will first introduce the general validation plan for the assessment. Then, the content validation plan will be introduced.

General Validation Plan

Table 3. Validation Plan

Type of Validity Evidence	Validation Question	When to collect	Methods
Content-based validity	To what extend does the evidence show *Content Relevance* and *Content Representativeness* of the construct, domain, and indicators on Perceived Satisfaction.	Soon after the design of instruments and items	1. Follow the rule of domain sampling when design the instrument 2. External expert review through interview 3. Previous Participants and director review through interview 4. Content validity index (e.g., content validity index and kappa coefficients) 5. checklist (ensure to follow the domain sampling method)
Internal Structure and Dimensionality Validity	To what extent are the analyses of the item response data consistent with the theory and the specification of domains?	After the instrument finished the first iteration and has been proved with content validation	PCA, CFA, EFA (compare the statistical structure of data we collect with the theory structure of the contrast, domain, and indicators)
Criterion-related Validity	To what extent, do the scores of the scales tapping construct domains predict the future trainees' satisfaction levels?	After content validation, internal factor structure evaluations, and convergent and discriminant validity tests are completed	Correlation and regression

Content Validation Plan

- **Timing:** Soon after the design of instruments and items

- **Expert:** (1) previous participants of the GHE trip and predeparture training program, (2) program directors of the GHE trip and predeparture training program, and (3) researchers of medical education who have related research experience in GHE.

Content Validation Questionnaire

Thank you for reviewing post-completion GHE participant survey (PS-TP2). Your feedback will be used for the content validation (e.g., inter-rater agreement) of the survey. Please use this scale in response to the questions below.

SD=**Strongly Disagree** (major change needed)
D=**Disagree** (some modifications needed)
A=**Agree** (no modifications needed but could be improved with minor changes)
SA=**Strongly Agree** (no modifications needed)

The construct of this study is: subjective perception about the satisfaction with the training program support for GHE. In the questions below, '*relevant*' means that domains or indicators are related to program orientation and supports from the training program to GHE. The word '*representative*' means that domains or indicators cover *all* the territory of the constructs or domain.

Box 2: content validation

Domains				
The seven domains appropriately address the construct in terms of relevance. • cultural competency; • safety; • emotional wellness; • communication; • ethics; • placement and program knowledge; • personal development.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any domain is not relevant to the construct or need modification?)				

The seven domains appropriately address the construct in terms of <u>representativeness</u>. • cultural competency; • safety; • emotional wellness; • communication; • ethics; • placement and program knowledge; • personal development.	SD	D	A	SA

Suggestion for modification (i.e., any domain is ignored?)

Sub-indicators

1. Cultural Competency

1.1 The four sub-indicators under the **cultural competency** domain are <u>relevant</u>. • recognize the host country's cultural norms; • recognize the host country's moral values*;* • prepare for deal with social culture shock*;* • be aware of the host country's medical and health culture (e.g., patient autonomy).	SD	D	A	SA

Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)

1.2 The four sub-indicators under the **cultural competency** domain are <u>representative</u>. • recognize the host country's cultural norms; • recognize the host country's moral values*;* • prepare for deal with social culture shock*;* • be aware of the host country's medical and health culture (e.g., patient autonomy).	SD	D	A	SA

Suggestion for modification (i.e., any sub-indicator is ignored?)				
2. Safety				
2.1 The seven sub-indicators under the **safety** domain are <u>relevant</u>. • prevent crime at host country; • be aware of the host country's health precautions (e.g., food and water safety); • care for personal medical needs and illness plan (e.g., immunization and health insurance); • prepare for travel logistics (e.g., visa, transportation, and safety alert); • ensure the safety of accommodation and commute at host country; • prepare for emergency at host country (e.g., civil unrest and natural disaster); • create the emergency contact list at home and host country.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)				
2.2 The seven sub-indicators under the **safety** domain are <u>representative</u>. • prevent crime at host country; • be aware of the host country's health precautions (e.g., food and water safety); • care for personal medical needs and illness plan (e.g., immunization and health insurance); • prepare for travel logistics (e.g., visa, transportation, and safety alert); • ensure the safety of accommodation and commute at host country; • prepare for emergency at host country (e.g., civil unrest and natural disaster); • create the emergency contact list at home and host country.	**SD**	**D**	**A**	**SA**

Suggestion for modification (i.e., any sub-indicator is ignored?)				

3. Emotional Wellness

3.1 The three sub-indicators under the **emotional wellness** domain are <u>relevant</u>. • maintain mental health during GHE; • handle homesickness during GHE; • manage potential social isolation during GHE.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)				
3.2 The three sub-indicators under the **emotional wellness** domain are <u>representative</u>. • maintain mental health during GHE; • handle homesickness during GHE; • manage potential social isolation during GHE.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator is ignored?)				

4. Communication

4.1 The six sub-indicators under the **communication** domain are <u>relevant</u>. • prepare for the formal and informal language at host country; • maintain the communication with home contacts; • prepare for the communication with collaborator at host country; • prepare for the communication with patients at host country; • ensure the appropriate usage of social media.	**SD**	**D**	**A**	**SA**

Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)				
4.2 The six sub-indicators under the **communication** domain are <u>representative</u>. • prepare for the formal and informal language at host country; • maintain the communication with home contacts; • prepare for the communication with collaborator at host country; • prepare for the communication with patients at host country; • ensure the appropriate usage of social media.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator is ignored?)				

5. Ethics

5.1 The eleven sub-indicators under the **ethics** domain are <u>relevant</u>. • recognize the scope and load of practice; • recognize rotation and schedule of practice; • recognize the local power dynamics at host country; • be aware of the potential financial or resource burden for the practice; • recognize the local governance, legal, and ethical standards at host country; • follow the international donation guideline; • follow the guideline of research- and project-based initiatives (e.g., authorship of publications) at host and home country • follow the guideline of privacy issue (e.g., patient privacy in photography) at host and home country; • ensure the sustainability and appropriateness of patient care decisions regarding host context. • recognize the impact to the host country and offer appropriate compensation.	**SD**	**D**	**A**	**SA**

Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)

5.2 The eleven sub-indicators under the **ethics** domain are <u>representative</u>. - recognize the scope and load of practice; - recognize rotation and schedule of practice; - recognize the local power dynamics at host country; - be aware of the potential financial or resource burden for the practice; - recognize the local governance, legal, and ethical standards at host country; - follow the international donation guideline; - follow the guideline of research- and project-based initiatives (e.g., authorship of publications) at host and home country - follow the guideline of privacy issue (e.g., patient privacy in photography) at host and home country; - ensure the sustainability and appropriateness of patient care decisions regarding host context. - recognize the impact to the host country and offer appropriate compensation.	SD	D	A	SA

Suggestion for modification (i.e., any sub-indicator is ignored?)

6. Placement and program knowledge				
6.1 The eight sub-indicators under the **place and program knowledge** domain are <u>relevant</u>. • recognize the expected procedural skills (clinical or non-clinical)*;* • recognize the accountabilities for GHE; • recognize the needs and expectations from GHE; • be familiar with the host health services and system (e.g., divergent diagnostic and treatment paradigms); • be familiar with the host clinical resources (e.g., equipment, supplies, and technology); • be familiar with the host human resources (e.g., nurse/patient ratio, subspecialists, and presence of trainees); • secure the funding for GHE; • secure the appropriate administrative, supervision, and logistical support.	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)				
6.2 The eight sub-indicators under the **place and program knowledge** domain are <u>representative</u>. • recognize the expected procedural skills (clinical or non-clinical)*;* • recognize the accountabilities for GHE; • recognize the needs and expectations from GHE; • be familiar with the host health services and system (e.g., divergent diagnostic and treatment paradigms); • be familiar with the host clinical resources (e.g., equipment, supplies, and technology); • be familiar with the host human resources (e.g., nurse/patient ratio, subspecialists, and presence of trainees); • secure the funding for GHE; • secure the appropriate administrative, supervision, and logistical support.	**SD**	**D**	**A**	**SA**

Suggestion for modification (i.e., any sub-indicator is ignored?)				

7. Personal development

	SD	D	A	SA
7.1 The 4 sub-indicators under the **personal development** domain are <u>relevant</u>. • set up clear goal and objectives; • obtain ongoing and timely feedback and evaluation; • introspect personal motivation for engaging the GHE; • introspect the fit between the host expectation and personal goal; • seek research and project opportunities.	SD	D	A	SA

Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)

	SD	D	A	SA
7.2 The 4 sub-indicators under the **personal development** domain are <u>representative</u>. • set up clear goal and objectives; • obtain ongoing and timely feedback and evaluation; • introspect personal motivation for engaging the GHE; • introspect the fit between the host expectation and personal goal; • seek research and project opportunities.	SD	D	A	SA

Suggestion for modification (i.e., any sub-indicator is ignored?)

Open-end Questions				
The open-ended items appropriately address the construct in terms of <u>relevance.</u>	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator that are not relevant to the domain or need modification?)				
The open-ended items appropriately address the construct in terms of <u>representativeness.</u>	**SD**	**D**	**A**	**SA**
Suggestion for modification (i.e., any sub-indicator is ignored?)				
Item Writing				
The closed-ended items are clear in wording, format, or directions	**SD**	**D**	**A**	**SA**
Suggestion for modification				
The open-ended items are clear in wording, format, or directions	**SD**	**D**	**A**	**SA**
Suggestion for modification				
Other Feedbacks				
Suggestion for any other modification				

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