

INTERNATIONAL GRADUATE STUDENTS'
SENSE OF BELONGING: EXPLORING OPPORTUNITIES FOR
A CAMPUS OUTDOOR ORIENTATION PROGRAM

By

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ABSTRACT

INTERNATIONAL GRADUATE STUDENTS' SENSE OF BELONGING: EXPLORING OPPORTUNITIES FOR A CAMPUS OUTDOOR ORIENTATION PROGRAM

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University officials are interested in retaining and successfully graduating current students and recruiting future international graduate students. Accommodating the transition of international graduate students into their new communities and promoting their well-being requires understanding their needs. A rich research base has shown outdoor orientation programs to be of value for domestic undergraduate students. However, little is known about the successful use of outdoor orientation programs to foster a sense of belonging among international graduate students. No previous study has explored the outdoor recreation participation of international graduate students, the impact of their participation on their Sense of belonging, or their interests in an outdoor orientation program. The purposes of this study were to develop a measure to test international graduate students' Sense of belonging and investigate their interest in an outdoor orientation program.

A mixed-methods research design (quantitative survey and qualitative focus group) was employed to understand the perspectives of international graduate students enrolled at Michigan State University (MSU). All (n=1819) international graduate students enrolled as full-time students were recruited to participate in the online survey. A total of 319 students responded to the survey, yielding a 17.54% response rate. Survey respondents were invited to participate in a focus group. Of those 319 respondents, 22 participated in one of six focus groups.

Phase one explored international graduate students' Sense of belonging in their department and the MSU campus community, based upon McMillian and Chavis' (1986) Sense of

Community Theory. Exploratory factor analysis identified three factors in the new Sense of Belonging measure: university connection, department acceptance, and department connection. Females had significantly higher scores in department acceptance. There were significant differences between cultural groups in university connection and SCI subscales of shared emotional connection and influence and difference in departmental acceptance between females and other genders. Participants showed more interest in outdoor activities such as picnicking, barbequing, enjoying the river scenery, and taking walks. Students who took part in specific MSU activities, such as registered MSU student organizations, had significantly higher scores in all three Sense of Belonging factors than students who did not do those activities.

Phase two examined students' transitional experiences into studying at an MSU, what outdoor activities were of interest to international graduate students, and their recommendations on designing an outdoor orientation program. Results showed that some participants struggled to adjust to lifestyles and cultures while balancing their academics and personal life events. Focus group participants were interested in social events throughout the calendar year. Additionally, they indicated an interest in non-traditional outdoor orientation program activities such as hosting campus tours, picnics, game nights, and coffee-hour gatherings. Recommendations are provided for outdoor orientation programming to reduce the challenges faced by international graduate students and build students' relations.

I dedicate this degree to my nieces and nephew as an inspiration. My journey has been challenging but rewarding. Earning my Ph.D. indicates to them that we can change the narrative of our story with positive thinking and dedication regardless of our beginning and the challenges we encounter along the journey.

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CHAPTER ONE

Problem Statement

According to the United Nation Education and Scientific Cultural Organization (UNESCO), an international student is an individual enrolled in an accredited higher education institution in the United States (US) on a temporary Visa and one who is not considered an immigrant or holds a permanent resident card (commonly known as a Green Card) or an undocumented immigrant or a refugee. In 2019, the total number of international students enrolled in US colleges was 1,095,299, making up 5.5% of the total US student body: 431,930 undergraduate students, a -2.4% decrease from 2018, and 377,943 graduate students, a -1.3% decrease from 2018 (Hanson, 2020). In 2019, the highest international student populations in the US by their nation of origin were: China with 369,548 students, India with 202,014 students, South Korea with 52,250 students, Saudi Arabia with 37,080 students, and Canada with 26,122 students (Hanson, 2020).

As of 2018, Michigan State University (MSU) was home to more than 50,000 students, including more than 7,000 international students and scholars from more than 130 countries worldwide (OISS 2018 Statistical Report, pg. 2). The MSU Office of International Students and Scholars (OISS) 2018 statistical report shows that MSU enrolled 6,260 international students, of which 2,029 were graduate students (Table 1); these numbers represent a 40% growth over the last ten years. However, since 2018, international political considerations, the position of the US in restricting or not granting student visas, and the COVID-19 pandemic had significant negative impacts on international student enrollments beyond 2020. Thus, consideration is needed within MSU's institutional policies and procedures to meet the needs of these international students. Higher education administrators are interested in understanding

Table 1.1 Number of international students enrolled in fall 2018 at MSU, by the level of study
(Source of data: MSU OISS)

| Undergraduate | | Graduate | | Non-Degree | |
|---------------|-------------|-----------------------|-------------|------------------------|------------|
| Freshman | 1077 | Masters | 591 | Agricultural Tech | 2 |
| Sophomore | 840 | Doctoral | 1340 | English Language | 74 |
| Junior | 931 | Graduate Professional | 98 | Graduate certificate | 24 |
| Senior | 1014 | | | Lifelong graduate | 188 |
| | | | | Lifelong undergraduate | 77 |
| | | | | Visiting/Unknown | 4 |
| Total | 3862 | | 2029 | | 369 |

international students and their differences from traditional American students (Tseng & Newton, 2002).

Tseng & Newton (2002) state that the critical adjustment issues faced by international students are related to their general living conditions. These include housing conditions, food tastes, transportation, and health care. They also note that academic adjustment may be challenging due to limited understanding of the English language and differences in the education system, teaching methods, and access to learning resources. Thirdly, they note that international students often must cope with socio-cultural adjustments such as shocking differences in cultural practices, racial discrimination, lack of understanding of customs, norms, regulations, and different lifestyle values. Finally, they cite personal psychological adjustment issues such as feeling homesick, lonely, alienated and lacking identity. Therefore, it is crucial for institutions to provide programs and policies to assist international students in making their transitions easier into American systems to achieve their degrees successfully.

Most of the research being done to understand the challenges faced by international students is focused on undergraduates. Although one can assume that international graduate students would have similar challenges, research is needed to investigate similarities in such challenges and to identify different challenges graduate students may encounter. There is also a need to

apply previous research on students' sense of belonging and community in investigating the needs of international graduate students.

Literature Review

Sense of Community Theory and Sense of Belonging

The concept of a sense of community came into existence when Dr. Seymour Sarason, then Director of Yale Psycho-Educational Clinic, wrote a book challenging the psychology profession about its neglect of the importance of a psychological sense of community (Sarason, 1974). He believed that developing a psychological sense of community is the keystone value that should motivate community psychologists and mental health professionals. He further argued that there could be no psychological sense of community until human segregation was eliminated (p. 173). He believed that the integration of all members into a community fosters a psychological sense of community. While the sense of community is usually associated with community psychology, other disciplines such as environmental psychology and community development have adopted the construct, with each area looking at the relationship of individuals to the community.

MacMillan & Chavis (1986) described a sense of community as a feeling that members belong, individuals matter to one another and the group, and there is a shared faith that the needs of a community member will be met through the commitment of community members to each other. MacMillan first coined this definition in an unpublished 1976 paper. Later, MacMillan & Chavis (1986) posited that a sense of community consists of four elements:

- 1) Membership – a feeling of belonging which fosters shared personal relatedness;

- 2) Influence – individuals making a difference to the group such that the impact matters to the group and the group matters to its members;
- 3) Integration and fulfillment of needs – knowing that one's needs will be met through their membership; and
- 4) Shared emotional connection – having shared experiences, space, time, and history.

Researchers have used this theory to understand how students feel a sense of community within a campus/university setting and feel a sense of community within a specific city or area where the campus is located. As defined by Cheng, 2004, the sense of campus community is the condition of the community in binding together individuals towards a common cause or experience. Student affairs administrators seek to enhance the campus experiences of students to strengthen such feelings of community.

Toyokawa & Toyokawa (2002) posit that building the social support system of international students is essential. When thinking of international students, one must consider issues such as cultural differences, language barriers, loss of social support, alienation and homesickness, finance, and interpersonal problems, to name a few. Hayes & Lin (1994) say individuals each have different coping strategies, and a social network is significant in the successful transition of international students to the American culture.

Other researchers have noted the importance of students' sense of belonging. Having a sense of belonging within the campus community improves an individual's self-motivation, health, happiness (Hall, 2014), matriculation, and social well-being. Strayhorn's (2012) study on graduate students' sense of campus belonging highlighted the importance of socialization of graduate students regardless of their college or department. According to MacMillan and Chavis (1986), nested within the Sense of Community Index sub-construct of Membership are a few

items measuring a sense of belonging (Figure 1.1), defined as an individual who feels accepted and a welcomed member of the community. However, I hypothesize that the Sense of Belonging is a unique construct; in fact, an individual may first feel a sense of belonging before developing a sense of community.

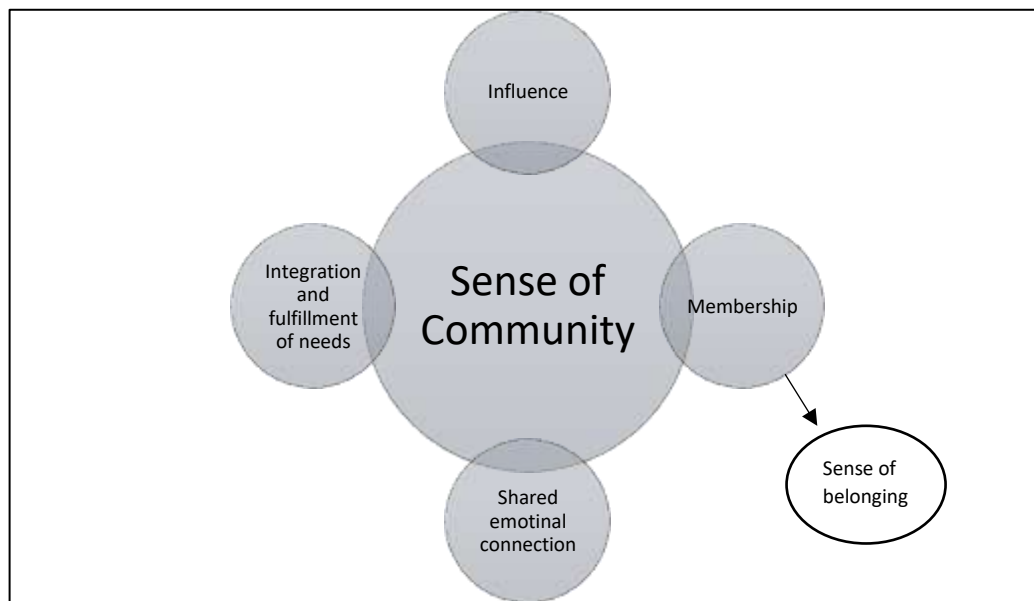


Figure 1.1 The Sense of Community framework of McMillan & Chavis (1986) illustrating the connection of the four elements that facilitate a sense of community and how a sense of belonging is nested within the membership element in the framework.

Here I will pause to consider support for my argument about the sense of belonging as a unique construct. Maslow (1943) postulated a hierarchy of basic human needs. In his hierarchy, he stated the need for individuals to achieve specific necessities, and once reached, they seek the fulfillment of another. The most widespread version of Maslow's hierarchy is divided into a five-stage model. The model begins physiological needs as most basic, followed by safety needs, social needs, self-esteem, mastery needs, and ending with or striving for the pinnacle of self-actualization. Although Maslow's Hierarchy is now disputed, he postulated that meeting the social need for belonging is a pre-requisite for mastery and self-actualization. Meeting these

higher-order human needs is vital to achieving academic success at the graduate level in a university program.

Gender and Sense of Belonging

The transition process of international students from their native culture to the U.S. culture may differ across genders. Hagerty, Williams, Coyne & Early (1996) stated that a sense of belonging is more strongly correlated to social and psychological function for women than that of men. Several studies focus on the sense of belonging related to these student types: a) women in Science, Technology, Engineering, and Mathematics (STEM) fields; b) Lesbian, Gay, Bisexual, Queer, and Transgender students in college; and c) students of color attending predominantly white institutions. According to Stout, Ito, Finkelstein, & Pollock (2013), women and persons of color feel a lesser sense of belonging in their field of study when compared to their male counterparts. Jordan et al. (1991), cited in Hagerty, Williams, Coyne & Early (1996), state that women tend to develop social ties based on their interpersonal relationships, thus substantiating their sense of belonging. Also, a lack of support from friends, spouses, and family may negatively affect women's sense of belonging compared to their male counterparts. Additionally, Kissinger, Campbell, Lombrozo & Wilson (2009) state that men and women exhibit a difference in their connection to their community and feeling of belonging.

Orientation Programs for Students and Development of Sense of Belonging

Although my research focuses on graduate students, numerous studies to date have focused on undergraduate students, their sense of belonging, sense of campus community, and the relationship to student retention and academic success. In addition, Bell, Gass, Nafziger, &

Starbuck (2014) stated that outdoor orientation programs provided a significant positive outcome for incoming students' academic and social skills development. Vlamis, Bell, & Gass (2011) provided evidence that this form of orientation program removes students from their comfort zones, increases teamwork, and helps students harness a robust social support network/system. Greene's 2017 research examined how a sense of place and belongingness changed over time for students who participated in an outdoor orientation program at West Virginia University (WVU). Outdoor orientation trips to various locations in West Virginia connected students and led to an increased sense of belonging. He concluded that the outdoor orientation created an environment for students to create meaningful relationships with peers (Greene 2017).

Such support and development are likewise essential for incoming graduate students to help them navigate their program(s) and ultimately enhance their academic performance and social involvement. Minimal research has been done in a similar vein with graduate students, especially international graduate students. It is vital for university officials in student affairs and academic departments to understand the sense of belonging for international graduate students and their relationship to retention and academic success.

Social programs, such as outdoor orientation programs, have become popular among undergraduate student affairs administrators and new student orientation administrators. According to Rude, Bobilya & Bell (2017), participation in an outdoor orientation program may strengthen student involvement in campus activities and thus foster a greater sense of community. Moreover, Beuning, O'Connell, Todd, Anderson & Young, 2010; Coalter, 1998; Johnson & McLean, 1994; Kleiber, 1999, state that the experiences of participating in leisure activities have positive influences on an individual's attitude and behavior. Beuning, O'Connell,

Todd, Anderson, & Young (2010) proposed that back-to-basics nature trips could facilitate a sense of community, group cohesion, and personal development.

According to Lacina (2002), universities wishing to retain their international student population will need to develop and encourage social interaction between international undergraduate and American students. Previous studies have indicated that international undergraduate students who participate in out-of-class activities demonstrated more positive adjustment to American customs and norms than those who did not participate (Elkins, Forrester & Noel-Elkins 2011, Toyokawa & Toyokawa, 2002; Kuh, 1995 and Astin, 1993).

According to Lathrop, O'Connell, & Howard (2012), outdoor activities positively impact students' academic success, personal development, and integration into campus life. Austin, Martin, and Mittelstaedt, Schanning, & Ogle (2009) report positive effects on social skills, increased social networking, group skill development, and reduced stereotyping from those participating in such outdoor programs. Additionally, Austin, Martin, & Mittelstaedt, Schanning, & Ogle (2009) suggest that participants in outdoor recreation experiences gain a sense of belonging as well as social benefits. Therefore, it is reasonable to assume that such outdoor programs could be similarly beneficial to international graduate students. However, understanding outdoor orientation desired by international graduate students is necessary to formulate programs that meet their needs.

Conceptual Framework for this Study

Lev-Wiesel (2003) described that a sense of belonging comprises cognitive and affective elements, such as experiences within a group and with members of other groups based on social interaction and feelings that reflect the appraisal of these experiences. In the context of the

university community, a sense of belonging would include the notion of belonging to the university's family, being a member of graduate student groups, and having pride in one's association with a specific academic program, the number of years one is associated with their student group and the university, and the broader connection with the university community and activities (Figure 1.2). Hence, these feelings initiate commitment towards the university while attending the institution and after graduating. The experiences gained while attending university may foster individual and cultural identity and security in knowing a student belongs to the university family. Secondly, shared connection through experience leads to members creating bonds beyond the university community. The need for a sense of belonging motivates an individual's behavior to seek this state.

I believe that community members cannot develop a sense of community if individuals do not feel a sense of belonging. Therefore, I focused my research on investigating the sense of belonging of students to their institution; I propose that a sense of belonging is a unique construct that illustrates the connectedness between students as members of the institution. My research explores how a sense of belonging is developed as the international graduate student transitions into an American university setting and navigates any personal barriers. Only after students develop connections based on experiences with their department, their college, other departments, peers, and the surrounding community will feel a sense of belonging (Figure 1.2).



Figure 1.2: Potential background variables that affect a sense of belonging among international graduate students.

The sense of belonging is a combination of emotion entwined with space and time. As one interacts with other community members and shares experiences, connections are formed and evolve into meaningful bonds that lead to belonging. Connections may also become broken, and negative experiences may lead to members feeling disconnected from their community. These processes create complexity in one's identity, dependence, and social bonds as one relates to their communities. Ideally, having a close positive connection to the university will allow international graduate students to value the campus and ultimately develop a strong identity with the university and develop a sense of belonging.

Research Objective and Questions

The main objectives of this study were to develop a measure of international graduate students' sense of belonging and investigate other variables that may have a relationship with belongingness to both their program department and the campus. The study analyzed the cultural and gender-based differences among international graduate students and the constraints they may experience as they navigate their new environments at MSU. Finally, the study solicited students' perspectives on the experiences they had as they became familiar with their department and the campus and investigated their ideas regarding an outdoor orientation program as a way to develop a sense of belonging.

I sought to answer these specific research questions:

- 1) What is the sense of belonging of international graduate students on the MSU campus?
- 2) To what extent does a sense of belonging differ among international graduate students from various cultures?
- 3) To what extent does a sense of belonging differ among international graduate students according to gender and other backgrounds?
- 4) What activities do international graduate students describe as essential to their development of a sense of belonging?
- 5) What are international graduate students' viewpoints toward the use of an outdoor orientation program?

The researcher hypothesized that a) gender and cultural differences will have significant impacts on international graduate students' sense of belonging and community; b) outdoor recreational participation will have a positive influence on the development of a sense of belonging and community, and c) international graduate students' perspectives will support the

initiation of a pilot outdoor orientation program to enhance a sense of belonging and community. This study will contribute to the sense of belonging literature regarding international graduate students and provide insight on orientation program activities explicitly designed for international graduate students. The study will illustrate possible ways to strengthen the sense of belonging of international graduate students within the university community.

Structure and Overview of this Dissertation

This study was conducted in two phases:

Phase one, quantitative survey – Theorizing Outdoor Recreation Participation and Sense of Belonging of International Graduate Students at a Mid-West University

Phase two, qualitative focus groups – Outdoor Orientation Programming for International Graduate Students to Foster Sense of Belonging: Results of a Focus Group Study

This dissertation is structured in an article format, with two chapters written for journal submission. The dissertation is structured as follows: Chapter One (this chapter) provides background and literature supporting the purpose and significance of the study, the conceptual framework being used, research questions, and hypotheses. Chapter Two presents details of methods for each phase of the research. Chapters Three and Four provide details on each phase of the study; these chapters are written in style suitable for later submission to SCHOLÉ: A Journal of Leisure Studies and Recreation Education. (Note: SCHOLÉ asks its authors to use the passive voice for writing article narrative, so I have switched to this voice for Chapters Three and Four.) Chapter Five summarizes all findings and discusses implications of the study, the study's theoretical implications, research limitations, recommendations programming, and future research, and my concluding thoughts.

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CHAPTER TWO

METHODS

This chapter describes the research design, study population, methods for data collection, and statistical analysis procedures for this research. The study has a two-fold purpose, which is to (a) evaluate the Sense of Belonging among international graduate students and (b) make recommendations about an outdoor orientation program for these students. One output from this study will be an improved measurement instrument that can be used to identify Sense of Belonging in future research.

Study Design

I conducted this study on the Michigan State University (MSU) campus in East Lansing, Michigan, focusing on international graduate students. I used exploratory and descriptive research methods to gain an understanding of international students' sense of belonging.

Exploratory research targets a hypothetical or theoretical problem to gain preliminary insight into the issue (Stebbins, 2001). This study will use exploratory research to understand the sense of belonging held by MSU international graduate students and explore whether and how a sense of belonging is related to international graduate students' connectedness to their department, peers, advisors, and the campus.

I used a mixed-methods research approach. I first used a quantitative method (online survey) to inform a qualitative method (focus groups), which in turn, I used to develop recommendations for an outdoor orientation program (Creswell and Plano Clark, 2017). Using a mixed-method approach provides richness in results beyond what a quantitative survey alone could provide. The quantitative phase (survey) provided baseline measures of international students' sense of belonging and recreation participation, and the qualitative phase (focus group)

elucidated nuances in how students experience (or do not experience) a sense of belonging and sense of community.

For the quantitative survey, I included both closed- and open-ended questions to gain an in-depth understanding of international graduate students' perspectives. This inquiry form allowed participants to express their thoughts and ideas openly in a quantitative, scale-based manner and their own words. That is, responses provided international graduate students' viewpoints on how they describe a sense of belonging and whether or not they had a connection to their campus environment

For the qualitative portion of this study, I used focus groups. I chose focus group study design because of its uniqueness and capability to produce data based on the synergy of the group interaction (Green et al., 2003). Moreover, focus group methods allow the questioning of participants regarding their inner thoughts and allow the researcher to probe for details in participants' own words.

Phase One – Quantitative Method

Study Population, Population Criteria, and the Unit of Analysis

For this phase, the study population consisted of international graduate students enrolled at MSU during the Spring and Summer Semesters of 2020. The Office of the Registrar (OR) and Office of International Students and Scholars (OISS) identified the study population and sent emails containing the link to the online survey. The unit of analysis was the individual survey response given by each participant. The individual response provided information for analyzing students' experiences and emotional connections (measurement of Sense of Belonging and Sense of Community).

The population consisted of all international graduate students on an F1-Student Visa and were enrolled as full-time students at MSU during the academic periods of fall 2019, spring 2020, and summer 2020. All students were non-citizens and had no degree conferred at the initial survey distribution date, but they may have had the graduate degree conferred by the time of the final email reminder. The assumption was made that all individuals on the email list received the survey for completion.

Survey Instrument

For this study, I used the Sense of Community Index by Chavis (n.d.) and adapted instruments developed by Elkins, Forrester, and Noel-Elkins (2011) and Greene (2017). The study's seven-section survey included sections from existing instruments, some items/scales I developed, and open-ended questions necessary to inform the design of focus group questions.

Section one of the survey focused on participants' academic backgrounds. It provided insight into participants' academic level, the department where they were doing their studies, and the duration of the participants' time at MSU and in the United States. Section two focused on participants' sense of belonging to their academic department. Section three considered participants' feelings towards the MSU campus community. Section four measured participants' sense of belonging to MSU. Section five focused on outdoor activities participants have done. Section six asked respondents for basic demographic information. Like any other research, knowing about participants' diversity may help in drawing informed conclusions. Finally, section seven aimed to gather data about participants' experiences during their transition to study in the United States and at MSU and their recommendation for activities/events to be included in

an outdoor orientation program. Drafts of the survey were submitted to graduate committee members for expert review and revisions.

Questions in Sections two and four (Sense of Belonging) used a 4-point Likert-Type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree). As Chavis did in his Sense of Community Index, a true/false format was used for section three.; Section five, about participation in recreation and campus activities, used a nominal scale type of 1= Never, 2= Occasionally, 3= Often, and 4 = Very Often. Sections one and six (academic and demographic background) had a combination of selected response choices and fill-in questions, and section seven was all open-ended questions designed for participants to provide perceptions in their own words. After completing the survey, participants were solicited to participate in a focus group during phase two of the study.

The survey instrument was submitted for Internal Review Board (IRB) approval on January 31, 2020, with approval granted on March 20, 2020, just after the formal closure of many institutions due to COVID-19. Informed consent documents and the IRB approval letter can be viewed in Appendix A. Upon receiving IRB approval; the survey instrument was piloted using a purposeful sample of fifteen individuals. Information gathered from the pilot test was used to modify the survey instrument before distribution to the entire target population.

Quantitative Data Collection

The survey administration procedure followed what Dillman recommended in his tailored design survey method (2000; 2007). Dillman's system consists of survey procedures that earn participants' trust and gather their perceptions while minimizing participation costs. During this research, only four contacts were made with potential subjects because of the number of

reminders the Registrar's Office allowed for distributing an online survey to MSU students. These points of contact included: (a) emailing a survey link with a cover letter on April 08, 2020, (b) sending the first reminder email on April 21, 2020, (c) sending a second reminder on May 13, 2020, and (d) following up with a final email notice on May 28, 2020 (Appendix B). Reminders were sent to all eligible survey respondents each time (they were not sent just to non-respondents).

The initial invitation provided graduate students with an email cover letter with contextual information on the study and the Qualtrics link for taking the survey (Appendix C). The reminders consisted of both a cover letter in email form and a link to the survey. The official open period for the survey lasted approximately nine weeks.

The announced closing date for the survey portion of this research was May 31, 2020, at which time incentive prizes (three \$15 Amazon gift cards) were awarded by random drawing of respondents who completed the survey. However, the survey was left open until June 12, 2020, to acquire late responders' input before a final report was extracted from Qualtrics.

Response Rate

In flawless research, participants who received the survey would submit their responses to the survey questions. However, for this research, that was not the case. A total of 1,819 international graduate students were in the study population; 509 (28% of international graduate students) attempted to complete it by opening the Qualtrics URL. Upon further inspection, I noted that 148 individuals did not respond to any survey questions, leaving 361 cases as potentially usable responses (Table 2.1). However, there were still several individuals that provided incomplete responses. I deemed that these surveys did not provide sufficient

information for data analysis (Table 2.1). The elimination of incomplete survey responses resulted in a total of 319 cases suitable to provide important information related to research questions in my study. Therefore, the final survey response rate was 17.54%.

Table 2.1 Procedure for determining usable cases for the study analysis

| Type of Response | Number of Cases |
|---|-----------------|
| Opened online survey | 509 |
| Did not respond to any question | 148 |
| Responded to one or more questions | 361 |
| Unusable Cases | |
| Only answered Part One (academic information) | 21 |
| Only answered Parts One and Two (departmental perspectives) | 8 |
| Only answered Parts One through Three (MSU perspectives) | 6 |
| Only answered Parts One through Four (sense of belonging) | 7 |
| Usable Cases – | |
| Completed all needed survey sections | 319 |

According to the Centre for Higher Education Quality (2008), quoted in Nair, Adams, and Mertova (2008), they suggested that survey studies with a response rate of 10% should be considered viable, but those with a response rate less than 10% should be reviewed considering the distribution of the responses on the response scale. Interestingly, although web-based surveys are convenient for participants to complete at their leisure (Sax, Gilmartin, and Bryant, 2003), and they are cost-effective, they have yielded lower response rates than the traditional mode of conducting surveys.

Research has identified several factors influencing response rates (Nair, Adams, and Mertova, 2008). These factors include how the survey was administered, length of the survey,

the timeframe in which the survey was administered, confidentiality, the relevance of research to participants, and offering of incentives (Dillman, 2000; Dommeyer et al., 2004; Porter, 2004; Coates, 2006; Nair, Adams and Mertova, 2008). One limitation of my survey was its timing. The survey was administered during the early weeks of the worldwide COVID-19 Pandemic of 2020; this certainly could have influenced the response rate.

One crucial question was this: to what extent were respondents similar to key characteristics of the MSU study population of international graduate students? The international graduate students attending MSU can be divided into three major categories (M.S., Ph.D., and Professional Students such as M.D., Doctor of Osteopathy, Law, and Veterinary Medicine). Therefore, it was necessary to determine the representation of each category in the survey response (Table 2.2). The Ph.D. category yielded the highest percentage of respondents (65.8%), followed by master's students (29.2%) and professional students (5.0%). The percentage representation of respondents in each category was similar to the MSU proportion of international graduate students registered during the study period.

Table 2.2 Comparison of characteristics of study population and survey respondents

| | Characteristics of survey recipients: International graduate students at MSU* | | | Number of survey respondents providing usable data | Percentage of usable respondents |
|-----------------------|--|-----------------|--|---|-------------------------------------|
| | April 21, 2020 | May 27, 2020 | % of MSU International Graduate Students | | |
| MS Students | 517 | 512 | 28.1% | 93 | 29.2% |
| PhD Students | 1226 | 1196 | 65.8% | 210 | 65.8% |
| Professional Students | 124 | 111 | 6.1% | 16 | 5.0% |
| Human medicine | 9 | 9 | | | |
| Osteopathic medicine | 63 | 52 | | | |
| Veterinary medicine | 5 | 3 | | | |
| Juris Doctorate | 32 | 32 | | | |
| Advanced Law | 15 | 15 | | | |
| Total | 1858 | 1819 | 100% | 319 | 100% |

*Data provided by MSU Office of the Registrar.

Quantitative Data Analysis

After the closing date for survey participation, responses were pulled from Qualtrics on June 12, 2020. The open-ended survey section was removed, saved as a separate document, and analyzed qualitatively. The remaining sections were uploaded into IBM SPSS (Version 27.0) for quantitative analysis.

A codebook was developed to name variables and codes and to organize the data for analysis. The codebook ensured that scale and ordinal variables were coded appropriately and coded as numeric rather than string variables. Also, negatively worded scale items were reverse-coded. The codebook corresponded with each section of the survey and its design to address the research questions (Table 2.3).

Table 2.3 Phase one quantitative research questions in relation to survey sections

| Research questions | Survey sections |
|---|------------------------------|
| What is the sense of belonging of international graduate students on campus? | Section two, three, and four |
| To what extent does a sense of belonging differ among international graduate students from diverse cultures? | Section six |
| To what extent does a sense of belonging differ among international graduate students according to gender and background? | Section one Section six |

Respondents were from many countries of origin, coded and categorized as either a high context or a low context culture, based on Kim, Pan, and Park, 1998. In coding for high and low context culture countries, high context countries were indicated with the number one and low context countries indicated as two. However, there were a few entries that had two countries entered as their country of origin. Therefore, I used the following coding rules:

- If a respondent listed the U.S. as country of origin, the researcher coded it as one (a low-context culture country).
- If a respondent listed the USA and another country, the researcher assumed the other country to be the participant's country of origin.
- When participants listed two countries, such as Jordan/Canada, the researcher coded the first of the two countries to be the participant's country of origin. The assumption was that the participant moved to the last country listed before traveling to the United States.

In order to analyze data related to the new scale Sense of Belonging, an Exploratory Factor Analysis (EFA) was conducted using the generated SPSS file with numeric values and reversed coding. Factor analysis assumes that many scale items can be reduced to a few items that share a common variance (Bartholomew, Knott, & Moustaki, 2011). Exploratory Factor Analysis was used to identify the items and factors considered key to the construct of Sense of Belonging (as distinct from the Sense of Community Index – [SCI]). Descriptive statistics (means, standard deviations, and variance) for each retained scale item were also calculated.

Phase Two – Qualitative Method: Focus Groups

Recruitment of Participants for Focus Groups

Participants for phase two of the research were solicited during the online survey. After completing the survey, respondents were asked to indicate their willingness to participate in the focus groups by completing a Google form and providing their contact information.

International students were told this was voluntary, and they had the option of not signing up.

Respondents were also told they would be gifted with a \$25 Amazon e-card for participating in a focus group.

After closing the quantitative survey, the researcher created an Excel sheet with all of the interested respondents. An email was sent to respondents outlining the purpose and potential dates for the focus group discussion. As of April 27, 2020, a total of 64 international graduate students (Table 2.4A) indicated their willingness to be invited to a focus group session. Because of COVID-19, I was forced to wait to see whether in-person research would be allowed. The pandemic continued, and all in-person human subjects research was halted. On August 7, 2020, I sent another invitation to the initial, interested 64 students regarding the focus groups; at that time, 30 international students remained interested in participating (Table 2.4B). By October 9, human subjects research was still paused, so I decided to conduct the focus groups using the Zoom platform. Then, I sent another invitation to the initial 64 international students to determine if they were still interested in participating. A total of twenty-two participants (Table 2.4C) remained interested in participating in the focus group discussion. A Doodle Poll was sent to all interested participants to collect their available dates and times. Their responses were used to group participants for each session. Focus groups were held over the first two weeks of November 2020. The focus group was scheduled to last a total of two hours per session.

Table 2.4 Number of students indicating their interest in participating in the focus groups:
A- initial response; **B** – second response; **C** – participants

| Focus group recruitment timeline | Students interested in taking part in focus groups | |
|--|--|----|
| A Initial Response, April 27, 2020 | Number of female participants | 30 |
| | Number of male participants | 33 |
| | Number of non-binary participants | 1 |
| | Countries represented | 25 |
| B Second Response August 7, 2020 | Number of female participants | 16 |
| | Number of male participants | 13 |
| | Number of non-binary participants | 1 |
| | Countries represented | 12 |
| C Final Participants, October 9, 2020 | Number of female participants | 11 |
| | Number of male participants | 10 |
| | Number of non-binary participants | 1 |
| | Countries represented | 11 |

A total of six specific focus group discussions were scheduled to be conducted. These groups were two all-male sessions, two all-female sessions, and two mixed-gender sessions. The aim was to have six participants per focus group. A seventh focus group session was created to facilitate those participants who indicated their willingness to reschedule since they wanted to participate in the focus group. However, only one participant logged in to the Zoom link; the researcher then interviewed the lone participant. Although "focus group seven" was an individual interview, the researcher followed the same focus group guide to ensure that all participants answered the same questions.

Zoom Video Communications, an online chat platform, was used to conduct focus group sessions. A Zoom link with a unique password was created in advance and distributed to each focus group session's respective participants. Participants were asked to log into the sessions five minutes early to ensure they could get into the Zoom room without difficulties.

Discussion Guide

The focus group discussion guide was developed based on the online survey's open-ended questions findings (Chapter Three). Participants were reminded of the study's purpose and their rights as participants at the beginning of the focus group, and informed consent was sought for the video and audio recording.

The guide consisted of an opening statement and four sections. The guide started with the introduction and consent – to educate participants on how the focus group would be conducted, the reason for doing the study, and getting their consent to record the session. Section one - Introduction and Warm-Up (10 minutes) – allowed participants to introduce themselves and become familiar with others in the group. While doing these introductions, students were asked to describe their transition into the MSU community. Section two – Outdoor Orientation Discussion (30 minutes) – asked participants to share their ideas and opinions about the potential for outdoor orientation programs for international graduate students. In Section three – Specific Design of the Outdoor Orientation Program (40 minutes) – participants considered program specifics about designing an ideal outdoor orientation program. Section 4 – Sense of Belonging Exercise (20 minutes) – invited participants to discuss their sense of belonging on the MSU campus and within their program department. Each section was focused on specific research questions (Table 2.6).

Table 2.5 Phase two qualitative research questions in relation to focus group topics/sections

| Phase two research questions | Specific Topics/Sections in Discussion Guide |
|------------------------------|--|
|------------------------------|--|

| | |
|--|---|
| What activities do international graduate students describe as essential to their development of a sense of belonging? | Section 4 – a sense of belonging exercise |
| What are international graduate students' viewpoints toward the use of an outdoor orientation program? | Section 2 – outdoor orientation Section 3 – specific design of outdoor orientation program |

Qualitative Data Collection

I was the sole facilitator during each focus group. Participants were encouraged to share their views openly, and I ensured a welcoming environment in all sessions. The focus group guide was used to direct each group discussion. However, I was flexible to guide the session using the probes listed and other probes based on participants' responses.

The focus group questions were open-ended to allow participants to fully describe their experiences during their transition to study at MSU, their present viewpoints regarding a sense of belonging, and their opinions regarding potential outdoor orientation programs. This form of data collection enabled the potential for follow-up questions for an in-depth and complete understanding of the information being provided by the participants.

The in-depth discussions with and among focus group participants provided an extensive narrative of how international graduate students transition from their home country to the USA and MSU. However, most importantly, participants provided details about their personal experiences as they became familiar with their department's climate and the MSU climate and subsequently felt (or did not feel) a sense of belonging or community. The focus groups allowed for the exploration of complexities experienced during the transition and how students were able to navigate such complexities. For example, the facilitator asked: what words or phrases would you use to describe your transition into the MSU campus community, and how would you describe your emotional attachment to MSU? Responses provided the researcher

insight into how international graduate students felt as they became familiar with MSU, their program department, and the MSU campus community.

All focus group sessions were recorded. Also, I took limited notes during the focus groups to supplement the recordings. The recording from each session was sent to Daily Transcription Inc. for transcription. Recordings were transcribed within a week after conducting the focus group discussions. I read the transcript while listening to the recording to make sure that the transcript captured all audible information. I also added codes for who was speaking when the speaker was identifiable on the audio recording.

Qualitative Data Analysis

Using manual coding, I coded each data set for emerging themes, patterns, and concepts. After coding all datasets, I compiled a table matrix with the following headings: participants' I.D., emerging themes, revised themes, and final themes code. (Complete details can be found in Chapter Four.)

Once coding was completed, I examined the qualitative data for differences between gender and high/low context cultural groups. Results were summarized, and illustrative quotes were presented to highlight the results.

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LITERATURE CITED

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CHAPTER THREE – First Article

First Article

Theorizing Outdoor Recreation Participation and Sense of Belonging of International Graduate

Students at a Mid-West University

Article for submission to (SCHOLÉ: A Journal of Leisure Studies and Recreation Education)

Introduction

The transition from home to attend school in the United States may negatively impact international graduate students due to less social support; this, in turn, could cause reduced ability to handle the changes or stress that may be associated with learning about and in their new environments (Felner, Farber & Primavera., 1983 in Nendza, 2016). International graduate students have to leave the safety of their families, their social groups (friends), and cultural traditions to venture into a new academic, social and cultural atmosphere.

To reduce the stress of this transition, some colleges offer outdoor orientation programs. Bell, Holmes & Williams (2010) define outdoor orientation programs as outdoor experiences designed to assist incoming students. These programs are typically designed for small groups of first-year students and provide various outdoor activities (Bell, Gass, Nafziger, & Starbuck, 2014). Research shows that outdoor orientation programs have a positive connection to developing students' sense of belonging. However, these findings are from research associated only with undergraduate students.

Outdoor orientation creates a space for the development of participants' self-esteem, teamwork, and social networks. Hattie, Marsh, Neill, and Richards (1997) found that participants gained self-confidence, teamwork skills, leadership abilities, and communication skills through outdoor orientation. Therefore, adopting an orientation program for international graduate students could help them develop these skills and reduce isolation while enhancing the possibility of students overcoming the challenges and demands of graduate education and ultimately increasing their feeling of belonging. In addition, such programs may also help students develop a new social support system by enhancing connections among peers and other campus community members.

There is an opportunity to enhance international graduate students' college experience, perhaps by providing them with outdoor orientation activities that will create an environment conducive to building their sense of belonging. Thus, one purpose of this study is to explore international graduate students' sense of belonging and sense of community. Another purpose is to investigate whether relationships exist between outdoor recreation participation and students' sense of community. This research undertaking is vital for making recommendations for outdoor activities of interest to international graduate students. Additionally, findings will add to the growing literature on conceptualizing and measuring a sense of belonging among students.

Literature Review

Many factors influence college students' reactions as they transition into graduate studies or to a new location. The dislocation and distancing of international students are mainly expressed as unfavorable, but dislocation was viewed positively in Chow and Healey's 2008 study. Some students have mixed emotions when they feel happy to get out of their familiar surroundings and explore new places, yet they feel they are losing social connections (Chow & Healey, 2008).

Milem and Berger (1997) showed that participation in organized activities early in the fall semester leads to student involvement in the spring semester. Also, it was noted that involvement with faculty in and out of the classroom positively influences students' cognitive outcomes. Furthermore, students' involvement in various activities can influence a student's perceptions of the institution. Considering these findings, one can argue that specific organized activities (such as outdoor nature-based recreation in an orientation program) could influence students' perceptions and perhaps result in a strong sense of belonging to the institution.

Providing international graduate students with a program of various activities may allow bonding with their cohort, and connections with seasoned students may enhance new students' transition into the campus community. Besides, providing departmental support that welcomes diversity will foster inclusiveness and a strong sense of belonging. Studies show that the more an institution can integrate students' academic and social aspects on their university journey, the more likely they become committed to the university (Beil, Reisen, Zea, and Caplan, 2000). Therefore, an outdoor orientation program may be an avenue to increase international students' involvement in university activities, creating connections at the start of their experience. Students' involvement in an outdoor orientation program could be a precursor for students to become more involved in campus life, leading to a sense of community and academic thriving. Students with a gained psychological sense of community are typically engaged in a real community where self-awareness, authenticity, and vulnerability are cultivated in a non-judgmental environment (Rude, Bobilya, & Bell 2017).

According to Baum and Steele (2017), quoted in Fernandez et al. 2019, only 1.7 % of U.S. adults have completed a Ph.D. or Ed.D. degree. The struggle of graduate school is considered challenging. The challenge is heightened for international graduate students as they are faced with significant challenges with a new educational system that requires them to stay within a specific GPA range (Sharaievska, Kona, & Mirehie, 2019). In addition to the stress of progressing in their degree program, international graduates face adjusting to their new culture and juggling everyday life struggles the moment they enter their program of study. For example, Johnson and Sandhu 2007 state that international students face homesickness, loss of family support, and social isolation.

Sense of Community

Lev-Wiesel (2003) discussed individuals' yearning for belonging, or "community cohesion." This, she thought, was important in that forming an attachment to a place, in turn, helps foster an individual's perceived community cohesion. I disagree with this thinking because for an individual to develop any cohesion to a community, they must first build person-to-person relationships within the community. This was illustrated in Chow and Healey's (2008) article; as students transitioned from home to their new college life, they began fostering new relationships and becoming attached to the area. They started to view the city where their campus was located as their second home. For some students, the campus' city locale becomes their "first" home since their previous home did not provide them the comfort and support they needed.

High and Low Context Culture of International Graduate Students

It is vital that universities recognize differences among cultures when considering supporting international graduate students and enhancing their sense of belonging. The concept of high and low context culture refers to language groups, nationalities, and or regional communities. According to Kim, Pan, and Parks (1998), Edward T. Hall first proposed this theory in 1976 to understand cultural differences; the concepts relate to how individuals communicate within and across cultures. Aspects such as gestures, body language, verbal and non-verbal messages, eye contact, or no eye contact, and touching are significant communication signals, and these vary depending on the culture of origin (Ramos, 2020).

Hall (1976) suggests categorizing culture into high context versus low context to understand fundamental cultural differences in communication style issues, such as whether a culture is mainly oriented toward individualism versus collectivism (Hofstede, 2021). Literature

shows that persons living in a high context culture value relationships and well-structured social hierarchy with strong behavioral norms (Kim et al., 1998 in Nishimura, Nevgi, and Tella, 2008).

Additionally, the concept of high and low context explains how people relate culturally, that is, how they live with each other (Würtz, 2005). For example, how do people treat space – do they like to be up close or prefer distance between them? What is their understanding of time – do they have a strict concept of time, or are they relaxed with meeting start times and deadlines? Do they prefer to socialize individually or in small/large groups?

A culture with a high context is one in which people are deeply involved with each other (Kim, Pan, and Park, 1998). Countries and regions known for their high context cultures include Japan, Korea, Latin America, India, and China (Würtz, 2005). Persons from high context cultures form strong bonds and relationships (Salleh, 2005). The connection originates in the nuclear family and extends to friends, colleagues, community, and the wider society, and because of this, there is a great distinction between insiders and outsiders (Hall, 1976, p.113 in Kim, Pan, and Park, 1998). Another significant difference between the two contexts is that, in a high context culture, a person's word is their bond, and members expect each other to stay true to their word (Keegan, 1989, pg.117 in Kim, Pan, and Park, 1998). The high-level trust is due to the high involvement between members, and as such, persons tend to be cautious about whom they allow entering their circle (Keegan, 1989).

By contrast, low context culture is considered as having more loose-knit connections between people (Hall, 1976). In other words, there is less bond-forming; that is, families and friends do not usually share a tight relationship. These cultures tend to have small social circles as opposed to large ones in a high context culture. Low context cultures are considered individualistic (Salleh, 2005). Low context countries and regions include Germany, Europe,

Belgium, Netherlands, Luxembourg, France, the United Kingdom, Canada, and the United States (Würtl, 2006).

Methods

Data Collection Procedures

The population for this study was international graduate students attending Michigan State University registered during spring semester 2020. Participant eligibility was determined by the University Registrar's Office, which managed the list of 1,858 international graduate students. An email with a link to the online Qualtrics survey was sent to eligible participants by the Registrar's Office (Appendices B and C – emails and survey). Participants received the initial survey on April 08, 2020. Reminders were sent on these dates: April 21, May 13, and May 28, 2020. The survey period closed on June 12, 2020. As an incentive to complete the survey, recipients were given the option to enter for a chance to win one of three \$15.00 Amazon gift cards. Survey participants were allowed to take the survey at their convenience and with their own devices.

The survey was divided into seven sections (Appendix C). The first section focused on participants' academic background, whereas the last section asked about sociodemographic characteristics. The survey concluded with a set of open-ended questions. All other survey sections asked for responses to Likert-type items, true/false items, or short-answer questions.

Sections two and four of the survey included questions newly organized to focus on Sense of Belonging among international graduate students; the researcher conceived Sense of Belonging as related to two contexts: belonging in one's department and belonging within the MSU campus community. Section two asks survey questions about students' perspectives of the

department they are completing graduate studies. Six items in this section used a 4-point Likert-type response scale ranging from 1 (strongly disagree) to 4 (strongly agree). These items were original items to measure a sense of belonging to one's department, although the research literature influenced the development of these items. The fourth section of the survey focused on students' perspectives about their sense of belonging to the Michigan State University campus community. Four questions in this section were adopted directly from Greene, 2017. Two items were original. Questions in this section used a 4-point Likert-type response scale ranging from 1 (strongly disagree) to 4 (strongly agree).

The third section of the survey consisted of questions from the Sense of Community Index, developed by Chavis (n.d.). These items prompted responses of either true or false. Chavis' Sense of Community Index is the quantitative measure that has been used in several studies of different cultures in North and South America, Asia, the Middle East and has been used in many contexts (i.e., urban vs. rural settings, within universities, and related to recreation studies) (Chavis & Acosta, 2008). The Sense of Community Index is centered around the Sense of Community Theory presented by McMillan & Chavis in 1986.

The index utilizes four subscales (membership, influence, reinforcement of needs, and shared emotional connection). The short version of the Sense of Community Index asks for a response of true or false to 12 questions, with three questions for each specific subscale (Table 3.1)

Table 3.1 Sense of Community Index (SCI – short version), with the four subscales consisting of true/false questions, developed by Chavis (n.d.)

| Sense of Community Index Subscales | Survey Items |
|---|--|
| Membership | I can recognize most of the people who go to school at MSU I feel at home at MSU Very few people at MSU know me |
| Influence | I care about what people at MSU think about me I have almost no influence over what MSU is like If I have an issue, the people here can help me solved it Fitting into the MSU community is important to me |
| Shared emotional connection | It is very important to me to be a student at MSU I expect to stay at MSU for the full duration of my degree |
| Reinforcement of needs | I think MSU is the right place for me to go to school People at MSU do not share the same values My classmates and I want the same things for MSU |

In section five of the survey, questions were asked about international graduate students' involvement with campus activities and their participation in outdoor activities on and off-campus. Portions of this section were adopted from Elkins, Forrester, and Noel-Elkins, 2011, and Greene, 2017. Items related to these extracurricular activities used a scale ranging from 1 (never) to 4 (very often), although these data were later recoded as either never participating (score of 0) or participating (score of 1).

Within section six, one question asked about participants' country of origin. This information was necessary to investigate differences between high and low-context cultures. The classification of countries as either high or low-context cultures was based on research literature (Kim, Pan & Park 1998 and Salleh 2005). Although some studies use multiple items to identify survey respondents as being part of a high vs. a low context culture, the researcher classified each respondent's country of origin as either a high context or a low context culture, based on work done by Würiz, 2005 and Kim, Pan, & Park, 1998. When a respondent listed two countries

of origin, the researcher coded the first of the two countries to be the participant's country of origin. The assumption was that the participants moved to the last country listed before traveling to the United States. Two respondents listed their country of origin as the United States; these were recoded as missing data.

The seventh section consisted of open-ended questions; this format allowed participants to share more about their country of origin, their transition to the MSU campus community, and their program department. They were also asked to describe their sense of belonging within their program department and the MSU campus community and to provide ideas they believe would foster a sense of belonging for international graduate students.

Data Analysis

The analysis was conducted using IBM Statistics SPSS (Version 27.0). Descriptive statistics such as means and percentages were calculated using SPSS. Given the relatively low number of cases when doing any analysis that compared types of respondents, a nonparametric, Mann-Whitney U test was used.

Exploratory Factor Analysis was conducted to investigate a scale or subscales to identify potential underlying factors that could measure for a Sense of Belonging. The initial analysis was done using principal axis factoring—only factors with eigenvalues greater than one were considered. No rotation was applied, and the maximum iterations were set to twenty-five. A scree plot was created, and the Kaiser Meyer-Olkin statistic (KMO) and Bartlett's Test of Sphericity were calculated (Appendix H2). A standard recommendation is that if the KMO measurement for adequacy is greater than 0.6, factorability is assumed (Coakes & Ong, 2011). Therefore, the study's KMO of .875 (Appendix H2) indicates sampling adequacy for factor

analysis. Bartlett's Test of Sphericity was significant at $p < .000$ (Appendix H2), thus illustrating redundancy between items and, therefore, suitability for factor analysis.

An anti-image correlation matrix was generated. An anti-image correlation matrix consists of the negatives of the partial correlation coefficients. Partial correlations represent the degree to which the factors explain each other in the results. For the study, the individual diagonal elements (anti-correlation matrix) were greater than .08. The results produced two factors. However, the scree plot (Appendix H2) showed a three-factor extraction. Therefore, the factor analysis was repeated with a fixed three-factor extraction. The output produced three factors with a few elements loading to two or more factors, thus indicating the need to apply a rotation method.

Factor rotation improves the interpretability of the factor result by reaching a simple structure (UCLA, n.d.). Rotation suitability was determined by asymmetrical off-diagonal elements in the factor correlation matrix (Appendix H3). The matrix helps assess how reasonable it is to assume independence between factors. Therefore, the analysis was repeated a third time, applying rotation using Varimax (an orthogonal rotation) with Kaiser normalization rotation to the three-factor solution. The Factor Transformation Matrix (Appendix H3) illustrates the suitability of the rotation technique.

Reliability of the Sense of Belonging subscales was calculated using Cronbach's Alpha as an internal consistency measure (Hair, Tracey, and Ortinau, 2000 quoted in Kanibar and Nart, 2012). Cronbach's Alpha for these subscales ranged from .62 to .88 (Appendix H4). The alpha threshold value is suggested as .60 (Kanibar & Nart, 2012). The Alpha value for each factor (subscale) was higher than the recommended threshold, indicating the reliability of these subscales for measuring Sense of Belonging.

Analysis of Open-Ended Questions

An Excel spreadsheet was developed to organize responses to the survey's open-ended section. An inductive manual-coding process was used to analyze these results.

Findings

Characteristics of International Graduate Student Respondents

There were 319 respondents to the survey (Table 3.2). The overall response rate was 17.5%. According to the Center for Higher Education Quality (2008), quoted in Nair, Adams, and Mertova (2008), surveys with a response rate of 10% should be considered viable. Of the 319 respondents, Ph.D. students were the most numerous (65.8%), and Masters's students comprised 29.2% of respondents. Professional graduate students (MD, DO, law, etc.) comprised 5.0% of the respondents (Table 3.2). Thus, the percentage of responding international graduate students was similar to each graduate student at MSU.

Of the total survey respondents, 53.9% were female, 41.4% were males, 0.9% were non-binary, and one person (0.3%) reported being a genderless soul (Table 3.3). This is somewhat different from the gender composition of the MSU international graduate student population, which was 55% male and 45% female, based on the 2018 statistical report (OISS, 2018). More than 62% of respondents were 20-29 years old, and 34% were aged 30-39. A little more than one-third of international graduate student respondents (37.3%) had lived in the United States for more than three years, whereas 19% had lived in the United States for two years. Most students (80.6%) reported not having any family members living in the area of MSU, but 18.5% reported living in the United States with family members (Table 3.3). Results showed that 24.1% of survey respondents attended another U.S. institution before arriving at MSU; 7.2% attended for

their undergraduate degree, and 19.1% for a graduate degree (Table 3.4). Many international graduate students (72.7%) received funding from their program departments (Table 3.5). About one-third of the respondents (30.1%) were expecting to complete their program of study within a year of taking the survey (Table 3.4).

There were fifty-five represented countries among the survey respondents, with most countries considered high context cultures (Tables 3.5 and 3.6). The four countries with the highest number of respondents were India, China, and Argentina (high context cultures) and Canada (low context culture) (Table 3.6).

Table 3.2 Survey recipients and respondents among international graduate students

| Characteristics of survey recipients: International graduate students at MSU | | | | Number of survey respondents providing usable data* | Percentage of usable respondents |
|---|-------------------|-----------------|--|--|-------------------------------------|
| Type of graduate degree | April 21, 2020 | May 27, 2020 | % of MSU International Graduate Students | | |
| MS Students | 517 | 512 | 28.1% | 93 | 29.2% |
| PhD Students | 1226 | 1196 | 65.8% | 210 | 65.8% |
| Professional Students | 124 | 111 | 6.1% | 16 | 5.0% |
| Human medicine | 9 | 9 | | | |
| Osteopathic medicine | 63 | 52 | | | |
| Veterinary medicine | 5 | 3 | | | |
| Juris Doctorate | 32 | 32 | | | |
| Advanced Law | 15 | 15 | | | |
| Total | 1858 | 1819 | 100% | 319 | 100% |

*The usability of the survey responses was determined by participants completing the six sections of the survey.

Table 3.3 Demographic characteristics of survey respondents

| Demographic Characteristics | Frequency | Percentage (%) |
|---------------------------------------|-----------|----------------|
| Gender | | |
| Female | 172 | 53.9 |
| Male | 132 | 41.4 |
| Non-Binary | 3 | 0.9 |
| Genderless | 1 | 0.3 |
| Age (years) | | |
| 20 – 29 | 199 | 62.4 |
| 30 – 39 | 109 | 34.2 |
| 40 – 49 | 7 | 2.2 |
| 50 – 59 | 3 | 0.9 |
| 60 and over | 0 | 0 |
| Time lived in the U.S. | | |
| Less than 3 months | 2 | 0.6 |
| Less than 6 months | 13 | 4.1 |
| Less than one year | 60 | 18.8 |
| One year | 12 | 3.8 |
| Two year | 62 | 19.4 |
| Three years | 47 | 14.7 |
| More than three years | 119 | 37.3 |
| Family members living in the MSU area | 59 | 18.5 |
| Family members elsewhere in the U.S. | 106 | 33.2 |

Table 3.4 Academic characteristics of survey respondents

| Academic Characteristics | Frequency | Percentage (%) |
|---|-----------|----------------|
| Graduate Degree Sought | | |
| Masters | 93 | 29.2 |
| Ph.D. | 210 | 65.8 |
| Professional (MD, DO, Law, other) | 16 | 5.0 |
| Enrolled for credits Spring 2020 | 258 | 80.9 |
| Employed by program department | 234 | 73.4 |
| Funding source* | | |
| My program department | 232 | 72.7 |
| Another department | 25 | 7.8 |
| Native country | 27 | 8.4 |
| Other | 42 | 13.2 |
| Attended another university/college in the U.S. | 77 | 24.1 |
| Attended U.S. institution as an undergraduate student | 23 | 7.2 |
| Attended another U.S. institution as a graduate student | 61 | 19.1 |
| Length of time as a graduate student at MSU | | |
| Less than one year | 58 | 18.2 |
| 1 year | 82 | 25.7 |
| 2 years | 66 | 20.7 |
| 3 years | 47 | 14.7 |
| 4 years | 38 | 11.9 |
| 5 years | 22 | 6.9 |
| More than five years | 3 | 0.9 |
| Anticipated time before completing degree program | | |
| Completed | 9 | 2.8 |
| Less than one year | 50 | 15.7 |
| 1 year | 96 | 30.1 |
| 2 years | 57 | 17.9 |
| 3 years | 45 | 14.1 |
| 4 years | 38 | 11.9 |
| 5 years | 17 | 5.3 |
| More than five years | 4 | 1.3 |
| Not sure | 2 | 0.6 |

*Percentage will not add to 100% because some respondents listed more than one funding source

Table 3.5 Countries of origin for survey respondents, and classification of countries as high- and low-context cultures

| | Number of countries | Percentage of countries (%) |
|----------------------|----------------------------|------------------------------------|
| High Context Culture | 51 | 73 |
| Low Content Culture | 4 | 6 |
| Missing | 15 | 21 |
| Total | 70 | 100 |

Table 3.6 Country of origin among responding MSU international graduate students, with classification regarding each country's coding as either high or low context cultures

| Country of origin | Total MSU Population | Percentage at MSU | Number of cases | Percentage of cases |
|------------------------------|----------------------|-------------------|-----------------|---------------------|
| High Context Cultures | | | | |
| India | 289 | 14.2 | 75 | 23.5 |
| China | 686 | 33.8 | 49 | 15.4 |
| Argentina | 4 | 0.2 | 27 | 8.4 |
| South Korea | 181 | 8.9 | 16 | 5.0 |
| Pakistan | 23 | 1.1 | 12 | 3.8 |
| Indonesia | 11 | 0.5 | 9 | 2.8 |
| Iran | 84 | 4.1 | 9 | 2.8 |
| Chile | 6 | 0.3 | 8 | 2.5 |
| Columbia | 16 | 0.8 | 6 | 1.9 |
| Taiwan | 65 | 3.2 | 6 | 1.9 |
| Brazil | 0 | 0 | 5 | 1.6 |
| Asian | | | 4 | 1.2 |
| Mexico | 20 | 1 | 4 | 1.2 |
| Thailand | 15 | 0.7 | 4 | 1.2 |
| Bangladesh | 32 | 1.6 | 3 | 0.9 |
| Italy | 6 | 0.3 | 3 | 0.9 |
| Japan | 15 | 0.7 | 3 | 0.9 |
| Jordan | 5 | 0.2 | 3 | 0.9 |
| Sri Lanka | 13 | 0.6 | 3 | 0.9 |
| France, | 7 | 0.3 | 2 | 0.6 |
| Ghana | 16 | 0.8 | 2 | 0.6 |
| Peru | 7 | 0.3 | 2 | 0.6 |
| Turkey | 35 | 1.7 | 2 | 0.6 |
| Vietnam | 31 | 1.5 | 2 | 0.6 |
| Others | 142 | 7.0 | 24 | 7.5 |
| Subtotal | 1888 | 93.1 | 284 | 89.0 |
| Low Context Cultures | | | | |
| Canada | 123 | 6.1 | 20 | 6.3 |
| Germany | 13 | 0.6 | 4 | 1.3 |
| U.S. | - | | 2 | 0.6 |
| The UK | 5 | 0.2 | 1 | 0.3 |
| Subtotal | 141 | 6.9 | 27 | 8.5 |

MSU population data are based on a 2018 statistical report by OISS

Sense of Belonging Scales and Sense of Community Index

Sense of Belonging among international graduate students could be explained by three factors, with 55.03% of total variance explained (Table 3.7). Factor one, University Connection (UC), accounted for 27.88% of the total variance explained. All of the items related to participants' feelings towards the MSU campus community loaded onto factor one. The second factor, Departmental Acceptance (DA), accounted for 15.90% of the total variance explained. Three items about participants' feelings of acceptance within their program department were loaded to factor two. The final factor, Departmental Connection (DC), explained 11.23% of the total variance, with three items (Table 3.7). A very substantive and interesting result was that the items concerning students and their departments were separated into two subscales. Subscale reliability (Cronbach's Alpha) ranged from .624 to .881.

Respondents' subscale scores for Sense of Belonging were then calculated by averaging the item scores within each of the three factors (Table 3.7). The Departmental Connection mean score was the highest subscale score within Sense of Belonging.

Sense of Community Scale scores was calculated by adding all the “True” answers for each subscale. Among the SCI mean scores, the subscale score for Influence was the greatest (Table 3.8).

Table 3.7 Factor loadings and reliability for Sense of Belonging scale items*

| | Factor Loading | Eigenvalue | % Variance Explained | Cronbach's Alpha (Reliability) |
|---|---------------------------|-------------------|---------------------------------|---|
| All items | | | 55.03 | |
| Factor 1: University Connection | | 5.04 | 27.89 | .881 |
| I feel a sense of belonging at MSU | .785 | | | |
| I see myself as a part of MSU | .770 | | | |
| I feel that I am a member of the MSU campus community | .727 | | | |
| I feel like MSU is a part of me | .740 | | | |
| Being a member of the MSU campus community helps my identity | .724 | | | |
| I can trust members of the MSU campus community | .594 | | | |
| Factor 2: Departmental Acceptance | | 1.95 | 15.91 | .812 |
| Sometimes I feel like no one in the department likes or knows me | .732 | | | |
| I am not valued as a member of my department | .715 | | | |
| I have felt lonely in my department | .667 | | | |
| Factor 3: Departmental Connection | | .987 | 11.24 | .624 |
| I have developed a personal relationship with my peers and others in my department | .648 | | | |
| I feel like I belong in my department | .521 | | | |
| I only interact with a few specific people in my department | .309 | | | |

*Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization

Table 3.8 Respondents' mean scores on Sense of Belonging subscales and Sense of Community Index (SCI)

| | Mean | Standard Deviation |
|-------------------------------|------|--------------------|
| Sense of belonging | | |
| University connection* | 2.94 | .51 |
| Departmental acceptance* | 2.97 | .68 |
| Departmental connection* | 3.11 | .62 |
| Sense of Community | | |
| Member** | 1.59 | .99 |
| Influence** | 2.74 | 1.11 |
| Shared emotional connection** | 1.77 | .47 |
| Reinforcement of needs** | 1.90 | .65 |

* The maximum score for the Sense of Belonging subscales = 4

** The maximum score for Sense of Community Index subscales = 3

Comparisons of International Students' Sense of Belonging and Sense of Community

Results show that females had significantly higher scores for Department Acceptance than males. However, there were no significant differences between males and females in other measures of Sense of Belonging or Sense of Community (Table 3.9).

International graduate students represent many different cultures; one way of classifying such cultures is whether individuals come from a high context culture (people are deeply involved with each other) or from a low context culture. When comparing students from high and low context cultures, this study found these two cultural groups differ significantly in these measures: University Connection (one measure of Sense of Belonging), and Shared Emotional Connection, and Influence (two measures of Sense of Community) (Table 3.10). For these measures, the mean score was higher for the high context culture group.

Table 3.9 Comparison of male and female international graduate students' Sense of Belonging and Sense of Community Index

| | Female | | Male | | p-value (2-tailed significance)* |
|---------------------------------|--------|-----------------------|------|-----------------------|-------------------------------------|
| | Mean | Standard Deviation | Mean | Standard Deviation | |
| Sense of Belonging | | | | | |
| University connection | 2.94 | .53 | 3.00 | .47 | .47 |
| Departmental acceptance | 3.02 | .69 | 2.93 | .66 | .05* |
| Departmental connection | 3.13 | .59 | 3.12 | .67 | .80 |
| Sense of Community Index | | | | | |
| Member | 1.64 | .96 | 1.56 | .1.02 | .99 |
| Influence | 2.81 | 1.10 | 2.76 | 1.08 | .67 |
| Shared emotional connection | 1.77 | .46 | 1.78 | .49 | .82 |
| Reinforcement of needs | 1.92 | .61 | 1.89 | .66 | .44 |

*Mann-Whitney U test $p \leq .05$

Table 3.10 Comparison of international graduate 'students' Sense of Belonging and Sense of Community Index, based on whether a student is from a high vs. a low context culture

| | High Context Culture | | Low Context Culture | | p-value (2-tailed significance)* |
|---------------------------------|----------------------|--------------------|---------------------|--------------------|----------------------------------|
| | Mean | Standard Deviation | Mean | Standard Deviation | |
| Sense of Belonging | | | | | |
| University connection | 3.00 | .50 | 2.74 | .45 | .01* |
| Departmental acceptance | 3.00 | .66 | 3.00 | .88 | .95 |
| Departmental connection | 3.11 | .62 | 3.22 | .59 | .43 |
| Sense of Community Index | | | | | |
| Member | 1.58 | 1.00 | 1.81 | .96 | .23 |
| Influence | 2.82 | 1.07 | 2.26 | 1.35 | .04* |
| Shared emotional connection | 1.79 | .46 | 1.63 | .49 | .04* |
| Reinforcement of needs | 1.90 | .65 | 1.96 | .71 | .54 |

**Mann-Whitney U test $p < .05$

Relationships Between Extracurricular Activity Participation and Sense of Belonging and Sense of Community Index

Overall, taking walks, enjoying the river scenery, departmental activities/events, visiting an art gallery, and attending departmental graduate student organization events were the most frequently reported activities undertaken by international graduate student respondents (Tables 3.11, 3.12, and 3.13). Conversely, meager participation by international graduate students was noted in winter outdoor recreation activities (Table 3.11).

Among the outdoor recreation activities, international graduate students most frequently reported these: taking walks, enjoying the river scenery, visiting gardens, running outdoors, and observing nature. Within the category of campus recreation activities, respondents' most frequently reported activities were organized sports activities (Table 3.12). Additionally, students frequently attended theater productions and participated in the Council of Graduate Students (COGS) activities (Table 3.13).

Participation in outdoor recreation activities

International graduate students' participation in several recreation activities showed a statistically significant positive relationship with certain Sense of Belonging and Sense of Community factors/elements. Outdoor activities such as enjoying the river scenery and visiting gardens were significantly related to the Sense of Community element of Membership. Participants who engaged in hiking, biking, going to the playground, skiing, fishing, and snowboarding were significantly more likely to have a higher score on the Sense of Community element of Influence. Those who went camping, went to playgrounds and went fishing had significantly higher Sense of Community scores for the element shared emotional connection.

None of the listed outdoor activities were significantly related to the Sense Community element Reinforcement of Needs. Participating in biking, fishing, and going to playgrounds had a significant relationship with the Sense of Belonging factor of University Connection. Going to playgrounds was the only outdoor activity significantly related to the Sense of Belonging factor Departmental Acceptance. Participating in outdoor activities such as taking walks, biking, going to playgrounds, and fishing had a statistically significant relationship to the Sense of Belonging factor Departmental Connection (Table 3.11).

Participation in organized sports activities

Participating in all four organized sports activities (campus recreational sports, attending MSU athletic events, participating in athletics/sports teams on or off-campus, and intramural sports) were significantly related to the Sense of Community element of Membership.

Participating in athletic/sports teams was significantly related to the Sense of Community element Influence. There was no significant relationship between organized sport activity and the Sense of Community elements of Shared Emotional Connection, Reinforcement of Needs, or the Sense of Belonging factor, Departmental Connection. Respondents who participated in campus recreational sports, attended MSU athletic events and participated on athletic/sports teams had significantly higher scores for the Sense of Belonging factor University Connection. Students involved in organized activities such as campus recreational sports, attending MSU athletic events, and intramural sports were significantly more likely to score higher on the Sense of Belonging factor Departmental Connection than those who did not participate (Table 3.12).

Participation in general campus-wide and departmental activities

Respondents involved in cultural activities, theater productions, science fairs, university activity board events, concerts, registered MSU student organizations, and MSU student government were significantly more likely to have a higher score on the Sense of Community element Membership, than students who did not participate in those general campuses or departmental activities. Campus activities such as visiting an art gallery, attending theater productions, taking part in Council of Graduate Students or student government or registered MSU student organization activities, attending cultural activities or concerts, or taking part in faith development/spirituality activities were significantly related to the Sense of Community element Influence. Participants who attended concerts, faith development/spirituality events, and MSU student government had significantly higher scores for the Sense of Community element, Shared Emotional Connection. Engaging in campus activities for departmental graduate student organization events and faith development/spirituality were significantly related to the Sense of Community element Reinforcement of Needs. Participating in or attending theater productions and registered MSU student organizations showed significant relationships with the Sense of Belonging factor Departmental Acceptance. Participants involved in their department activities/events, attending theater productions, registered MSU student organizations, cultural activities, science fairs, faith development/spirituality events, and MSU student government were significantly more likely to have a higher score on the Sense of Belonging factor Departmental Connection. Engagement in the department graduate student organization events, theater productions, the Council of Graduate Students (GSO) events, registered MSU student organizations, university activity board events, concerts, faith development/spirituality, and

MSU student government were significantly related to the Sense of Belonging factor University Connection (Table 3.13).

Most substantial relationships between activity participation and Sense of Belonging and Community

Involvement in registered MSU student organization activities, going to a playground, and theater productions showed significantly higher scores in all three Sense of Belonging factors. Attending theater productions was significantly related to all Sense of Belonging factors and all Sense of Community elements except Shared Emotional Connection and Reinforcement of Needs. Going to playgrounds was significantly related to all Sense of Belonging factors and all Sense of Community elements except Reinforcement of Needs. Participating in MSU student government is significantly related to three Sense of Community elements (Membership, Influence, and Shared Emotional Connection) and two Sense of Belonging factors (Departmental Connection and University Connection).

Table 3.11 Relationship of participation in outdoor activities and students' Sense of Belonging and Sense of Community

| Outdoor recreation activity | Percentage Participating | Sense of Belonging | | | Member | Sense of Community Index | | |
|-----------------------------|--------------------------|-----------------------|-------------------------|-------------------------|--------|--------------------------|-----------------------------|------------------------|
| | | University Connection | Departmental Acceptance | Departmental Connection | | Influence | Shared Emotional Connection | Reinforcement of needs |
| Taking walks | 84% | .37 | .20 | .04* | .01* | .10 | .91 | .44 |
| Enjoying the river scenery | 79% | .53 | .47 | .99 | .13 | .18 | .51 | .78 |
| Visiting gardens | 65% | .80 | .87 | .47 | .18 | .07 | .41 | .34 |
| Running outdoors | 65% | .41 | .31 | .25 | .00* | .09 | .30 | .65 |
| Nature observation | 58% | .32 | .20 | .24 | .01* | .05* | .30 | .86 |
| Hiking | 52% | .60 | .12 | .07 | .00* | .05* | .24 | .97 |
| Biking | 49% | .03* | .20 | .01* | .00* | .02* | .83 | .79 |
| Going to playgrounds | 47% | .00* | .00* | .02* | .00* | .00* | .00* | .73 |
| Camping | 26% | .86 | .41 | .53 | .02* | .59 | .04* | 1.00 |
| Skiing | 14% | .09 | .14 | .14 | .00* | .02* | .36 | .20 |
| Fishing | 10% | .02* | .25 | .05* | .00* | .00* | .04* | .90 |
| Snowboarding | 9% | .13 | .80 | .16 | .05* | .04* | .32 | .48 |

**Mann-Whitney U test $p < .05$

Table 3.12 Relationship of participants in organized sports activities to students' Sense of Belonging and Sense of Community

| Organized Sports Activities | Percent Participating | Sense of Belonging | | | Member | Sense of Community Index | | |
|---------------------------------------|-----------------------|-----------------------|-------------------------|-------------------------|--------|--------------------------|-----------------------------|------------------------|
| | | University Connection | Departmental Acceptance | Departmental Connection | | Influence | Shared Emotional Connection | Reinforcement of needs |
| Campus recreational sports | 52% | .00* | .45 | .01* | .00* | .01* | .11 | .09 |
| Attend MSU athletic events | 46% | .01* | .80 | .20 | .00* | .02* | .81 | .06 |
| Participate in athletics/sports teams | 28% | .04* | .48 | .07 | .01* | .06 | .65 | .26 |
| Intramural sports | 26% | .18 | .96 | .21 | .00* | .02* | .91 | .49 |

**Mann-Whitney U test $p < .05$

Table 3.13 Relationship of participation in campus activities to students' Sense of Belonging and Sense of Community

| Campus Activities | Percent Participating | Sense of Belonging | | | Sense of Community Index | | | |
|---|-----------------------|-----------------------|-------------------------|-------------------------|--------------------------|-----------------------------|------------------------|------|
| | | University Connection | Departmental Acceptance | Departmental Connection | Member Influence | Shared Emotional Connection | Reinforcement of needs | |
| Department activities/events | 88% | .09 | .11 | .02* | .21 | .10 | .54 | .10 |
| Art gallery | 82% | .26 | .49 | .24 | .19 | .00* | .95 | .70 |
| Department graduate student organization events | 72% | .03* | .98 | .30 | .79 | .21 | .13 | .05* |
| Theater productions | 67% | .00* | .02* | .00* | .00* | .00* | .56 | .17 |
| Council of graduate students (GSO) events | 64% | .08 | .62 | .51 | .09 | .04* | .81 | .59 |
| Registered MSU student organization | 59% | .00* | .03* | .00* | .00* | .01* | .10 | .87 |
| Cultural activities | 53% | .07 | .23 | .01* | .00* | .01* | .86 | .98 |
| Science fairs | 47% | .08 | .26 | .08 | .00* | .14 | .74 | .18 |
| University activity board events | 39% | .00* | .49 | .87 | .02* | .15 | .14 | .23 |
| Concerts | 38% | .00* | .07 | .44 | .00* | .01* | .04* | .35 |
| Faith development/spirituality | 23% | .01* | .47 | .04* | .13 | .03* | .05* | .02* |
| MSU student government | 20% | .00* | .60 | .02* | .00* | .02* | .01* | .43 |
| Greek organization | 8% | .15 | .22 | .72 | .06 | .25 | .10 | .10 |

**Mann-Whitney U test $p < .05$

Results from Survey Open-Ended Questions

A total of two hundred and twenty-nine international graduate students responded to the survey's open-ended section. Of the 229, 73 respondents reported that they are from close-knit communities. They stated that community members in their country of origin are closely tied to family and friends and that people are community-oriented.

Students reported mixed experiences during their transition to study in the United States. Some (n~30) found the transition smooth, while others (n~55) found it challenging. Some (n~45) participants reported that language, weather, culture, and social differences were challenging. Many felt lonely. Regardless of the transition experience, it is evident that many students had some challenges.

Additionally, respondents had vastly different experiences as they transitioned into the MSU community. Some words used to describe their experience were smooth, friendly, difficult, fine, hard, tough initially, enjoyable, and challenging. Several (n~15) found the experience challenging, lonely, individualistic, isolated, and presenting a language barrier. Others (n~20) reported having a smooth/easy transition onto campus, with the experience being friendly and helpful.

When asked about their most memorable experience during their transition into the MSU community, all respondents gave several social activities they participated in: COGS cookout, OISS coffee hour, football games, tailgating, Thanksgiving with lab-mates, and department orientation. Students (n~25) suggested that social activities help international graduate students develop a sense of belonging within the MSU community, while others (n~30) suggested implementing a buddy system. One suggestion was cultural events, where students share cultural differences and similarities to build bonds among fellow international graduate students and

between international and domestic students. Other activity suggestions included a graduate student organization hosting monthly social events, campus orientation programs, and inter-departmental activities.

Participants had mixed emotions toward their program department. Some (n~20) reported having no emotional connection with the department, no feeling of belonging, and isolation. Some (n~30) noted that they have a professional connection with department members. In contrast, others (n~70) indicated feeling a sense of community, supported, or connection to their department.

Respondents indicated having mixed feelings towards their connection to MSU. Some of those who answered the open-ended questions (n~ 25) used positive descriptions of perspectives related to MSU, such as being proud to be a Spartan, sense of belonging, welcoming, and feeling like home. Others (n~30) shared negative feelings such as embarrassment associated with the university because of the recent scandal, no sense of belonging, or not engaged with attending or doing any activities.

Discussion

Key Findings

The study's analysis measured international graduate students' Sense of Belonging with three factors (subscales: University Connection, Departmental Connection, and Departmental Acceptance). This measure focused on whether or not respondents had built relationships and formed connections within their university and home departments. In addition, respondents were described in terms of their Sense of Community Index scores, according to an existing instrument by Chavis and colleagues.

The researcher hypothesized that international graduate students from high context cultures would have more difficulty than those from low-context cultures in feeling a Sense of Belonging and a Sense of Community. Results showed a difference in the sense of belonging between high and low-context cultures based only on a limited scope of specific Sense of Community elements (Influence and Shared Emotional Connection) and one Sense of Belonging factor (University Connection).

This study also investigated to what extent a sense of belonging differs among international graduate students according to gender. It was hypothesized that gender would significantly impact international graduate students' Sense of Belonging and Sense of Community. There was a significant difference between genders only in the Sense of Belonging factor Departmental Acceptance. Females had a higher mean thus had a higher sense of belonging than males in their departments. However, there was no difference between genders on the Sense of Community elements.

The study's findings supported the hypothesis that an outdoor orientation program would enhance international graduate students' sense of belonging. Participants who indicated

participation in outdoor activities, organized sports, and campus activities showed a statistically significant positive relationship with measures of Sense of Belonging.

Limitations of Study

There are a few limitations of this study. First, the survey was scheduled to be distributed earlier, but the distribution date was postponed due to the pandemic onset, perhaps limiting the number of international graduate students' participating.

Second, participation in outdoor activities is a preference; therefore, findings may be biased toward a particular group of international students. There may be response bias resulting in that mainly those students with some level of interest in outdoor recreation and social events were more inclined to respond after they started responding to the survey questions than those who lack such interest. Additionally, we could not conduct a non-response follow-up survey to examine any response bias because of the continued COVID-19 research restrictions.

Thirdly, most countries tend to have both high and low-context cultures due to individuals' living conditions, location, family morals, and local societal norms. This study only used a single, dichotomous variable (rather than a scale) to classify respondents according to high or low context culture. Findings from this study could be based on participants' upbringing due to their location within a county and not necessarily reflect actual differences between cultures in their sense of belonging or community on campus.

Finally, findings are specific to international graduate students enrolled at MSU, and generalizations should be made with caution. However, based on the country representation of participants in the study, findings may provide some insight into the perspective of diverse international graduate students at other comparable U.S. institutions.

Implications and Recommendations

Analysis of results indicates a significant interest in outdoor activities among international graduate students, supporting the belief that an outdoor orientation program could help international graduate students become familiar with their campus community and feel a sense of belonging. Thus, there is an opportunity for colleges and universities to focus on programs that offer positive and influential experiences to international graduate students. The results have several practical implications for building a sense of belonging and campus community among international graduate students. Survey participants expressed the importance of having social activities to build connections and foster relationships. As noted by Strayhorn 2018, hosting social events and allowing graduate students time to participate in outdoor and campus activities creates positive emotional and psychological outcomes. The participants in this study emphasize the importance of social networking on how students interact with peers and faculty and experience the campus community. The intentional design of programs that allow international graduate students to develop a sense of belonging is critical to their academic progress.

A noteworthy finding is that this study provided ideas for enhancing international graduate students' engagement through on-campus and nearby recreation, such as walking, biking, enjoying the river scenery, and visiting playgrounds (*rather than* emphasizing the sorts of wilderness or outdoor adventure activities used in undergraduate outdoor orientation programs). Another important finding is that involvement in campus life is related to international graduate students' positive Sense of Belonging and Sense of Community. Important campus life activities related to Sense of Belonging include: participating in MSU registered organizations, MSU student government, COGS events, and program department activities.

The findings from this study are consistent with the research findings of Vlamis, Bell, and Gass, 2011 on the potential impact of outdoor programs; the development of an outdoor orientation program will likely facilitate a sense of belonging and enhance graduate students' learning outcomes. Therefore, research needs to be conducted to evaluate the impact of outdoor activities on international graduate students' sense of belonging. Conduct and research a pilot program would shed more light on enhancing international graduate students' sense of belonging.

Future Research

The research was conducted during an unprecedented time, and international graduate students' perceptions might have reflected their lived experience during a pandemic, and during a time of political uproar with lack of support for international residents in the U.S. Therefore, it would be good to repeat this study with a similar population of international graduate students, run an EFA, and compare factors to determine any impact the present situation might have had on their responses.

The researcher would also like to do confirmatory factor analysis (CFA). Confirmatory factor analysis is similar in concept to the exploratory factor analysis (EFA), except factors do not emerge from the quantitative analysis. Instead, the researcher pre-determines hypothesized factor structures, and these hypotheses are tested to “confirm” the reliability of factors. Therefore, CFA would be a way to test whether the factors extracted during EFA are consistent with understanding international graduate students' sense of belonging.

Finally, the researcher is interested in examining how an outdoor orientation program would impact international graduate students' sense of belonging by implementing a small-scale on-campus outdoor orientation program and inviting students to participate (much as Greene

2017 did with undergraduate, domestic students). The best research design would allow participants to take part in a program, then do pre-and post-program surveys to evaluate any change in the sense of belonging. The ultimate goal would be to determine if an outdoor orientation program would positively impact international graduate students' sense of belonging and campus community and, in turn, affect their retention and successful graduation from US institutions.

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LITERATURE CITED

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CHAPTER FOUR – Second Article

Second Article

Outdoor Orientation Programming for International Graduate Students to Foster Sense of
Belonging: Results of a Focus Group Study

Article for submission to (SCHOLÉ: A Journal of Leisure Studies and Recreation Education)

Introduction

Outdoor Orientation Programs for Students

According to Rude, Bobilya, & Bell (2017), outdoor orientation programming is a high-impact experience-based practice emphasizing holistic student development. Outdoor orientation programs may include but are not limited to these activities: backpacking, hiking, rock climbing, swimming, canoeing, camping, wilderness travel, group challenges, and discussions. Outdoor orientation helps students acquire technical skills derived from challenging activities to develop group support, work toward specific goals, and transfer lessons to life experiences (Vlamiš, Bell, & Gass, 2011).

Bell, Gass, Nafziger & Starbuck (2014) found more than 191 outdoor orientation programs for students in operation across the United States and Canada. However, programs run independently of each other, with their goals, design, and curricula reflecting institutional missions (Temes, 2016). Regardless of the difference in program design and mission, the primary goal of programs is to assist first-year students in transitioning into college. At the onset of the semester and before classes begin, outdoor orientation can be a catalyst for cultivating early college student engagement (Rude, Bobilya, & Bell 2017). Students appreciate an authentic environment in which they are valued and accepted (Bell, Gass, Nafziger & Starbuck, 2014), and outdoor orientation programs can provide such a first learning environment.

The strength of outdoor orientation programs lies in the social context of the experiential learning it provides (Temes, 2016). One byproduct of the social conditions present during outdoor orientation may be a sense of belonging; according to Bell, Gass, Nafziger & Starbuck (2014), any advances in student development can be attributed to developing the sense of belonging. Furthermore, Gardner (2010) proclaimed that graduate students' achievements,

continuation, and completion are contingent upon the quality of their socialization experiences. The argument is supported by Wolfe & Kay (2011), who indicated that participants who have a sense of belonging have social and personal growth and a high commitment to their university. Therefore, implementing an outdoor orientation program specifically for international graduate students could increase a sense of belonging.

The actions and skills expected of graduate students are culturally and contextually situated (Gardner, 2010; Weidman et al., 2001) within the department and across campus. Failure in socialization can significantly impact a graduate student's decision to leave the institution before graduating (Tinto, 1993). Thus, building a friendly atmosphere and providing students mentors and resources may increase students' sense of belonging.

International Graduate Students: Unique Needs for Orientation

As early as 1970s, Lane (1976) noted that graduate schools overlooked the needs of their students. Unfortunately, this may still occur today, perhaps because of the misconception that graduate students can navigate their way, manage their time, and make responsible decisions; thus, it may be that university staff and faculty believe that graduate students do not require unique and specific orientation services. On the contrary, graduate students require particular services and assistance, especially if they are from outside the United States and it is their first time studying in the United States. International graduate students require assistance as they start navigating their degree programs and new social environments/cultures. According to Benavides et al. (2016), most orientation programs today ensure graduate students are informed about tools and support structures to assist them in achieving their goals and in navigating the program. However, such orientation programs may lack the social support students need.

Graduate students are at many diverse stages of adulthood, with some balancing school, family, and a full-time job. As a result, these students could become overwhelmed and require additional social support and encouragement. Therefore, Student Service Centers, the Graduate School, and the various colleges or departments can work to ensure that students are acclimatized to their new environments and responsibilities, thus helping them feel welcomed and supported, and thus leading to a sense of belonging, and in turn to their retention, progress, and graduation.

Research Purpose

Exploring the benefits to students of participating in an outdoor orientation program has been done but is still nascent. Other realms of published research illustrate that a general and departmental orientation is essential (Poock, 2002) in motivating and socializing graduate students, making it possible for them to feel a sense of belonging. However, to date, there is no research explicitly investigating whether an outdoor orientation program could benefit international graduate students.

The purpose of this qualitative study is to investigate international graduate students' feelings of belonging on campus, their beliefs about a potential outdoor orientation program, and whether they believe their sense of belonging would be impacted if they participated in such a program. Therefore, this study allows the exploration of situations associated with international students' transition into an American campus and the exploration of how various types of students perceive their transition and orientation experience at one campus (Corbin & Strauss 2014; Babbie 2007; Morgan 1996 quoted in Waller, Costen, & Wozencroft, 2011). This article

concludes with insights into outdoor orientation best practices and events that may foster students' sense of belonging, likely leading to persistence and success in their studies.

Methods

Research Context: Michigan State University, East Lansing, Michigan

Michigan State University (MSU) was founded in 1855 by the State Legislature (MSU History, n.d.). The university is one of the top 100 global universities and has approximately 49,695 students with more than two hundred academic programs across 17 degree-granting colleges (MSU Facts, n.d.). As of 2018, MSU was home to 4,265 international students, 1,819 were graduate students (OISS, 2018). International students represent more than 140 countries (OISS, 2018). According to the report, the top ten represented countries are China, India, South Korea, Canada, Taiwan, Iran, Bangladesh, Saudi Arabia, Turkey, and Vietnam (OISS, 2018).

Located in East Lansing, Michigan, on the banks of the Red Cedar River with total acres of 5,300, MSU has several botanical gardens, including the W. J. Beal Botanical Garden across the river from the stadium, many horticulture Gardens, and the 4-H Children's Garden (MSU History, n.d.). The oldest part of campus is north of the Red Cedar River and is highly forested (MSU History, n.d.). In addition, the campus houses Baker Woodlot and the Rachana Rajendra Neotropical Bird Sanctuary located in the south-central section of the campus (History of the Sanctuary, n.d.). Also on campus is the Sanford Natural Area, located on the east side, which takes up 34 acres, where the Red Cedar River runs along the north end of the floodplain forest (Hall, 2018). The MSU campus is known for these many pockets of the natural landscape and the River Trail along the Red Cedar River, which connects to expansive greenspace throughout the metropolitan Lansing area along the larger Grand River. In addition, there are many state and

local parks within walking distance, a bus ride, or a short drive from campus (Hall, 2018). These areas make the region ideal for offering an outdoor orientation program.

At the beginning of the academic year, the MSU Graduate School hosts a student Resource Fair. Students can speak with representatives from varying departments, clubs, and organizations by stopping at their display tables. The representatives provide international graduate students with information about activities and hand out brochures, pamphlets, and memorabilia. Immediately following the Resource Fair, the Council of Graduate Students (COGS) hosts a cookout – with the intention that graduate students can meet and greet one another. In addition to the campus-wide Resource Fair and the COGS cookout, each academic department is required to hold an orientation for their new graduate students; however, attendance may not be mandatory. Therefore, some students may opt-out because they fail to see the relevance of participating or had schedule conflicts. During this orientation session, new students are provided with resources specific to their program of study — additionally, some departments host a welcome luncheon with new and continuing graduate students, faculty, and staff members. These orientation sessions can provide new graduate students with resources and familiarity with the department, but they rarely allow enough time for bonding or quality shared experiences. Lack of shared experience may be tough on new international graduate students, who are making the transition to American schooling, and asking themselves during this period, "Do I belong and how do I belong?" (Bell, Gass, Nafziger & Starbuck, 2014).

Benefits of Focus Groups

"A focus group is, according to Lederman (Thomas et al. 1995), a technique involving the use of in-depth group interviews in which participants are selected because they are a purposive, although not necessarily representative, sampling of a specific population, this group being 'focused' on a given topic" (Rabiee, 2004 p.655).

Small group discussion has played a central role in behavioral science and health education (Basch, 1987) and has been used in academia for decades (Cheng, 2007). According to Mico and Ross, 1975, in Basch, 1987, small group discussions can bring about personal, organizational, and social change. This thinking was supported by Calder, 1977 as he believed that focus groups generate different types of knowledge. These benefits of focus groups depend upon the structure of the discussion and the information produced from the group discourse. Focus groups may also be used for educational program development and evaluation (Rennekamp & Nall, 2000), especially when potential participants are invited to weigh in on a proposed educational initiatives' type, timing, duration, and essential elements.

A focus group's uniqueness is its ability to generate data based on the synergy of the group interaction (Green, Draper & Dowler, 2003). A distinct element of the focus group is the group's dynamics; hence, the type and range of data generated through the group's social interaction are often more in-depth than those obtained from one-to-one interviews (Thomas et al., 1995).

Moreover, the qualitative method discloses the nature of students' perspectives in specific instances (Corbin & Strauss, 2014). In this research, choosing a qualitative method would provide indepth details about students' sense of belonging and outdoor activities of interest. It can provide the researcher with a new understanding of situations associated with transition into the MSU campus community for international graduate students (Corbin & Strauss, 2014). Thus,

the process allows for exploring how international graduate students from varying countries perceived their experiences within the MSU campus community (Babbie, 2007, Morgan, 1996 quoted in Waller, Costen, & Wozencroft, 2011).

Thus, the researcher utilized a focus group to generate insights into MSU international graduate students' sense of belonging and their perspectives on developing an outdoor orientation program to build a sense of belonging and campus community. The researcher wanted to draw on international graduate students' attitudes, feelings, beliefs, experiences, and reactions towards an outdoor orientation program; focus group methods allow for probing participants regarding their deeply-seated thoughts.

Focus Group Participant Recruitment

After completing this study's phase one quantitative survey of international graduate students at MSU, respondents were asked to indicate their interest in participating in a focus group to discuss survey content in greater depth. Interested respondents were asked to provide their name, gender, country of origin, and urban or rural status in a Google form. Their email addresses were collected automatically by the software system. The required information was necessary to the researcher because it would help contact interested participants and create the focus groups.

There were 319 survey respondents in phase one, and 64 participants completed the focus group interest form during the initial implementation of the survey instrument in the spring 2020 semester. During summer 2020, additional invitations were sent to these 64 students. Unfortunately, several participants withdrew their availability (some at the last minute), likely due to displacement and schedule disruption associated with the COVID-19 pandemic or other

factors. This resulted in twenty-two focus group participants. In this study, the researcher used a stratified purposive sample (Kuzel, 1999) in which international graduate students were identified for focus groups. Then, among the identified international graduate students, the researcher ensured that participants were of different genders, from different countries, and from both urban and rural settings.

According to Kahan, 2001 in Waller, Costen, & Wozencroft, 2011, a focus group should be homogenous (e.g., international graduate students), and the recommended number of persons in a focus group is six to ten (Krueger, 1998; Morgan, 1997 in Dymment & O'Connell, 2003). Therefore, participants were grouped according to these recommendations and based on individuals' availability.

Before conducting the focus groups, participants were asked to indicate their availability using a Doodle poll. A three-week window was provided to give participants ample dates and times that could fit within their schedule. After getting participants' preferred times and dates, the researcher created an Excel spreadsheet with participants' names, gender, country of origin, and whether they lived in an urban or rural area.

Six focus group sessions and one personal interview were conducted, with a total of 22 participants. The participants were divided into two mixed-gender groups, two all-male groups, one all-female group, and one personal interview of a female. It was important for the researcher to have gender varying groups because perspectives might differ among males and females, and what might emerge in one focus group might not be that important to other groups' members. Additionally, some females are not comfortable speaking when in the company of their male counterparts, and the researcher wanted to allow each participant the space to share their perspective without hindrance.

Conducting the Focus Groups

The duration of the focus group was scheduled to last an hour and a half to two hours. Using a sixteen-question focus group facilitation guide (Appendix G), the researcher-led the focus group by encouraging all participants to share their perspectives regarding specific topics and questions (Table 4.1). In addition, follow-up prompting questions were used to urge participants to expound on specific topics being discussed.

Table 4.1 Focus group research questions and section of focus group facilitation guide

| Focus Group Research Questions | Section of Facilitation Guide |
|--|-------------------------------|
| What is the sense of belonging of international graduate students on the MSU campus? | Section 4 |
| What activities do international graduate students describe as essential to their development of a sense of belonging? | Section 3 & 4 |
| What are international graduate students' viewpoints toward the use of an outdoor orientation program? | Sections 2, 3 & 4 |

Data Collection

Due to the continued COVID-19 pandemic, in-person focus groups could not be conducted. As An Alternative, Zoom Video Communications, an online video conference platform, was used to conduct focus group sessions. A Zoom link with a unique password was created in advance and distributed to each focus group session's respective participants. Participants were asked to log into the sessions five minutes early to ensure they could get into Zoom without difficulties.

After gaining the Institutional Review Board (IRB) approval, the focus groups were conducted between November 2 and 25, 2020. Each focus group session was initially scheduled with six participants. However, due to the ongoing COVID-19 pandemic, some sessions resulted in less than the initial number. Therefore, the total participants in each focus group ranged from two to six participants. A seventh focus group session was created to facilitate those participants who indicated their willingness to reschedule since they still expressed willingness to participate in the focus group. However, only one participant logged in to the Zoom link; the researcher then interviewed the lone participant. Even though "focus group seven" was an individual interview, the researcher followed the same focus group guide to ensure that all participants answered the same questions. The focus group sessions lasted between 41 and 95 minutes.

The focus group sessions were recorded (video, audio, and chat) and stored in a specific protected folder on the researcher's personal computer for analysis. Additionally, the researcher took limited notes during each focus group session. Recordings were then sent to Daily Transcription Inc. to be transcribed. After receiving the transcripts, the researcher read through each transcript while listening to the recording, correcting any words, filling in gaps marked as inaudible, and adding names to responses when the speaker could be identified. However, some participants did not share their videos, and the researcher could not determine who spoke. (Therefore, in the Results section of this article, some quotes do not have a specific pseudonym assigned.)

Data Coding and Analysis

To gather a deeper understanding of the data, the researcher listened to the recording, taking notes on each participant's perspectives. Then, the researcher read through the transcripts a second time, coding responses to the focus group guide questions. Finally, the researcher re-read each transcript two more times, coding relevant statements that provided insight into the study's purposes. Inductive coding was done based on Miles and Huberman, 1984; selected statements were organized in a table using Word, focusing on specific questions discussed. After manually coding, the researcher generated a table with codes and relevant quotes.

The researcher then re-read the data to seek out other common ideas not noticed in the first reading. The researcher then read the table a third time to extract critical quotes relevant to the research purpose. The extracted 24 codes were compiled accordingly into a display table. The researcher then examined the display table with all codes and quotes to determine if codes could be broken into sub-groups or grouped into major themes. Ultimately, codes were organized into seven major themes. Finally, when possible, the researcher coded each quote according to the participant's background: male, female, or binary, whether from low context cultures or a rural area.

Table 4.2 Codes derived during inductive coding of focus group discussions

| Initial Codes (based on questions in focus group interview guide) | Grouping of codes | Final Themes |
|---|--|--|
| Not sure what OOP* entails | <i>Program codes</i> | |
| Program design | - Not sure what OOP* entails | Orientation program ideas and design |
| Design length/structure and timing | - Program design | |
| Activities | - Length-structure-time | Interest in OOP*: need for social events |
| Program need | - Activities | |
| Motivation | - Program need | |
| Forming connection | <i>Sense of belonging/connecting</i> | |
| Connection off-campus | - Motivation | Sense of belonging |
| Family connection | - Forming connection | |
| Connection to people | - Connection off-campus | |
| Need social events | - Family connection | |
| Peer support | - Connection to people | Connectedness |
| No connection to MSU | - Need for social events | |
| Peer connection | - Peer support | |
| COVID-19 impact | - No connection to MSU | |
| Connecting and bonding | - Peer connection | |
| Transition | - Departmental support and connection | |
| International support/connection | - Connecting and bonding | |
| Departmental support and connection | - Connecting to place | |
| Connecting to place | <i>Other factors</i> | |
| High/Low context culture | - International student support/connection | Transitional experience |
| | - Transition | |
| | - Negative – Positive | Impact of COVID-19 pandemic |
| | - COVID-19 impact | |
| | - Negative - Positive | |
| | - High/Low context culture | |

*Outdoor Orientation Program

Quality and Rigor in Qualitative Focus Group Research

A combination of several procedures was used to confirm the quality and rigor of this study. Creswell & Miller (2000) identified eight procedures for ensuring credibility, transferability, dependability, and confirmability in qualitative research (Lincoln & Guba, 1985).

Creswell (1998), quoted in Anfara, Brown, and Mangione, 2002, recommends that qualitative research utilize at least two of the eight procedures in any given study. *Credibility*

refers to the truth of the data or the participant's views and the interpretation and representation of them by the researcher (Polit & Beck, 2012). *Transferability* refers to findings applied to other settings or groups (Houghton, Casey, Shaw, & Murphy, 2013; Polit & Beck, 2012). In qualitative research, *dependability* refers to the consistency of the data over similar conditions (Polit & Beck, 2012; Tobin & Begley, 2004). Finally, *confirmability* refers to the researcher's ability to demonstrate that the data represent the participants' responses and not the researcher's biases or viewpoints (Polit & Beck, 2012; Tobin & Begley, 2004). The approaches are summarized in Table 4.3, which will be explained in further detail in this section.

Table 4.3 Quantitative and qualitative criteria for assessing research quality and rigor

| Quantitative term | Qualitative term | Strategy employed |
|-------------------|------------------|--|
| Internal validity | Credibility | <ul style="list-style-type: none"> • Peer debriefing |
| External validity | Transferability | <ul style="list-style-type: none"> • Provide direct quotes • Purposive sample |
| Reliability | Dependability | <ul style="list-style-type: none"> • Create an audit trail • Code-recode strategy • Date stamping |
| Objectivity | Confirmability | <ul style="list-style-type: none"> • Practice reflexivity |

In this study, peer debriefing served as a *credibility* check during the data coding process. For this study, one peer debriefer was selected based on her experience as an international graduate student and her expertise in educational leadership. Both the researcher and the peer debriefer read the focus group transcripts separately to identify emerging ideas. The researcher and peer debriefer met once (March 28, 2021) to compare coded quotes by identifying similarities and differences in choices. The peer debriefer and the researcher had similar codes

for the sense of belonging section but different codes for the outdoor section. The differences were not significant, and it was agreed to use the researcher's codes since they were more inclusive and depictive of what the participants were conveying.

Direct quotes demonstrate findings central to the research. Direct quotes allowed the researcher to consider *transferability* and to examine and report findings as objectively and accurately as possible (Creswell, 1998). This study's transferability relates to other international graduate students experiencing similar challenges. Nonetheless, the study's relevance is specific to international graduate students attending MSU.

The audit trail of thoughts and ideas help in keeping track of decisions on procedures throughout the study (Rodgers and Cowles, 1993). For this study, *dependability* was achieved by tracking all documents such as the focus group guide, notes taken during the focus group, notes from peer debriefer meetings, discussion with advisor, and focus group transcripts. Additionally, each document was date-stamped by affixing dates to each processed document. By coding and recoding the data, the researcher organized broad concepts into narrower and more focused ones. For example, in the study, the researcher underlined ideas on the transcript based on question responses. Then the researcher transferred each question response to a notebook, so all responses were together. After this, a table was crafted. The researcher then reviewed the quotes, groups, and assigned codes, which were rearranged into sub-groups or combined. Finally, themes representing coded data were extracted.

Confirmability in qualitative research can be addressed through procedures related to reflexivity on the part of the researcher. Reflexivity involves awareness that the researcher and the object of study affect each other mutually and continually in the research process (Alvesson & Skoldburg, 2000). The researcher kept a notebook to record details, information, and

reflections as the study progressed (according to recommendations by Merriam & Grenier, 2019). Notes were made after each focus group session to highlight the logistics of the session and whether responses were similar to what was expected. Also, the researcher reflected on the meeting with the peer debriefer regarding similarities in coding to consider what codes would be kept or discarded.

Additionally, the researcher reflected on the coding process. The researcher reflected on her biases and the derived information and was open to changes based on findings. Reflecting helped maintain processes for confirmability in this study by providing records to assist the researcher in drawing meaning from the study findings and recognizing study limitations.

Results

Characteristics of Focus Group Participants

There was a total of ten males, eleven females, and one binary participant. Participants' names have been changed to protect their identity (Tables 4.4 and 4.5). Also, of the 22 participants, three were from a rural area, 15 were from an urban area, and four did not state if they were from an urban or rural area (Table 4.5).

There were eleven represented countries amongst the participants, with the highest number of focus group members from India (7 people) and Canada (3 people) (Table 4.5). A high context culture is one in which people are deeply involved with each other (Kim, Pan, & Park, 1998), and a country with a low context culture is considered an individualist culture (Salleh, 2005). Among the focus groups, only four participants (3 from Canada and one from Germany) were from low-context cultures (Table 4.6).

Table 4.4 Gender of focus group participants

| | Number of Focus Group Participants | Percentage (%) |
|--------------|---|-----------------------|
| Male | 10 | 45.5 |
| Female | 11 | 50.0 |
| Non-Binary | 1 | 4.5 |
| Total | 22 | 100 |

Table 4.5 Demographic characteristics of participants in each focus group

| Groups | Gender | Country | High/Low Context | Urban/Rural | Number |
|-------------------|-----------------------|-------------|------------------|-------------|-----------|
| All Female | | | | | |
| Group 1 | | | | | 6 |
| 1 | Mary | Argentina | High | U | |
| 2 | Jane | India | High | U | |
| 3 | Sue | South Korea | High | NS | |
| 4 | Betty | Germany | Low | U | |
| 5 | Lizy | Chile | High | U | |
| 6 | Bonnie | Iran | High | U | |
| Group 2 | All Male | | | | 3 |
| 1 | Tom | India | High | U | |
| 2 | Frank | Argentina | High | R | |
| 3 | Paul | South Korea | High | NS | |
| Group 3 | Mixed Genders* | | | | 3 |
| 1 | Vicky | Turkey | High | U | |
| 2 | Meagan | Canada | Low | R | |
| 3 | Adam | Canada | Low | U | |
| Group 4 | All Male | | | | 5 |
| 1 | Hugh | India | High | U | |
| 2 | James | India | High | R | |
| 3 | William | India | High | U | |
| 4 | Ben | India | High | U | |
| 5 | George | Canada | Low | NS | |
| Group 5 | Mixed Genders* | | | | 2 |
| 1 | Ron | Malaysia | High | U | |
| 2 | Jessi | Chile | High | U | |
| Group 6 | All Female | | | | 2 |
| 1 | Suzie | Malawi | High | U | |
| 2 | Karen | China | High | U | |
| Group 7 | Female | | | | 1 |
| Interview | Amy | India | High | NS | |
| Total | | | | | 22 |

*The nonbinary participant took part in one of the Mixed Genders focus groups.

Table 4.6 Country of origin and high/low context culture of focus group participants

| Country | Number of Focus Group Participants | High /Low Context Culture |
|-------------|------------------------------------|---------------------------|
| Argentina | 2 | High |
| Canada | 3 | Low |
| Chile | 2 | High |
| China | 1 | High |
| Germany | 1 | Low |
| India | 7 | High |
| Iran | 1 | High |
| Malawi | 1 | High |
| Malaysia | 1 | High |
| South Korea | 2 | High |
| Turkey | 1 | High |

Overview of Focus Group Results

The focus group outline addressed three specific areas: 1) transitional experiences into the United States, 2) what sense of belonging means to international graduate students, and 3) outdoor orientation program activity ideas, structure, and design. Findings are presented based on the six emergent themes: transitional experience to study in the U.S., Sense of Belonging, connectedness, the impact of COVID-19 pandemic, interest in an outdoor orientation program (need for social events), and orientation program ideas and design. A range of quotes from focus group participants is used to illustrate themes.

Transitional Experience into the U.S. Culture

Transition into studying in the United States was expressed differently among students. Participants used words to describe their positive experience were smooth, excited/excitement, nice and welcoming. One participant (Meagan), from a rural and low context culture, said her

transition was "smooth, and that is because I think my program did a good job. Our program is not an integrated part of MSU campus in general, but they did a good job of making it known what steps I had to do and such."

Some participants had mixed experiences, noting a struggle to adjust to lifestyles and cultures while balancing their academics and personal life events. Participants expressed that the adjustment at first was difficult, leading to feelings of being isolated, overwhelmed, and confused, yet being in graduate school gave them something to direct their focus. Two participants, both from a low context culture country, described their transition as an adjustment. For example, George said,

"The transition academically was not the adjustment ... it was more the cultural aspect, not everyone understood where you were coming from, why your ideas were different—seeing how other people in my department who are not Canadian but are international, it is an adjustment. It is not bad or good. It is just that it takes time to adjust to the lifestyle here."

Others with a mixed transitional experience described their transition as exciting but overwhelming, confusing but with excitement, unanticipated, and better than expected. Frank said,

"I felt excited but overwhelmed with all the new information ... I was really excited because I did not know what it was like to study in another country but at the same time ... it was confusing not just in my department but like in general, they would talk about things I did not know. It was kind of like tiring, but still, this feeling of excitement was always there."

According to some participants, moving to study in the United States was rocky initially, resulting in a negative transition experience. They described their experience as overwhelming, leaving them feeling it was hard to fit in. Suzie said,

"overwhelming; there were many things to get accustomed to, things in terms of like the system, things that I was not familiar with from previous academic institutions back home. Everything here is automated; you have to make sure you are logged into things, You miss one step along the way, and you find yourself having a problem down the line ... So all these systems, it was just quite overwhelming to get all of that."

However, some participants expressed having no difficulty in their transition. For example, one male participant said, "it was easy to fit into – the whole transition was very well structured from the university or program side." A female participant said it was adventurous because everything is new – the food, the culture," and another female student said, "I felt it was a smooth process because my department staff was knowledgeable." So they felt it to be smooth and welcoming.

Participants coming from a different U.S. college to MSU indicated having a positive experience because they knew what to expect. For example, Tom said,

"This is not ... the initial transition for me. So, I did my undergraduate at the University of Colorado, and so that initial feeling of homesickness and stuff that people normally have, I sort of went through that when I first joined Colorado. So, the transition ... coming to Lansing was quite a bit smoother than that ... I think I generally knew what to expect in some ways."

Vicky said, "so the first word that came to mind was smooth ... I made some connections who eventually became friends, ... but I had gone through all these at a different university. [So] I guess coming to this point, I am feeling comfortable now."

Several participants spoke about their department providing essentials for them to navigate the department, but the students lacked vital resources to navigate the MSU campus, which they found challenging to traverse. Additionally, a male participant mentioned starting his program of study in the spring semester, and he did not experience the welcoming events and had to learn protocols on his own - "I was a student who came in the spring, and the campus was not very active; fall is extremely different. Once fall came, I am like, wow, this is MSU campus."

Surprisingly, participants were mainly concerned about becoming familiar with their new environment and socializing and placed less emphasis on adjusting to the US academic system.

For example, a male participant said, "the academic was not the adjustment, it was more the social and cultural side of things."

The transition process

Participants moving from colleges in their country of origin to study in the United States mentioned specific challenges (bigger school, a higher level of competitiveness, living away from home, no immediate support system, and more difficult academic work). In addition, struggles were related to moving from their country of origin and culture to the United States and being without friends and family. Participants mentioned going through a withdrawal period but did not describe a significant struggle that caused depression or lack of self-worth.

Based on the collection of responses to the focus group section on transition to an American college, the researcher developed a conceptual framework to summarize and illustrate four transitional changes as international graduate students become acclimated to their program department and the MSU campus community. The first stage (transitional feelings) deals with the initial feeling of students as they arrive at MSU and begin navigating their way. The second stage (lifestyle changes) relates to the differences they experience and realize they will have to alter their usual way of doing things to align more with the new environment where they now live. In the third stage (adapting to the changes and environment), participants become familiar with the system and function more effectively. Students have fully adapted to their new environment during the final stage (student integration of the academic, cultural, and social environment of the MSU campus community). At that point, students feel a sense of belonging and have formed connections with others across the campus community.

The transition process was challenging for participants and, at times, hindered their progress and self-motivation, but it became easier after becoming familiar with the new environment and forming friendships. For example, one female participant said, "it was overwhelming, many things to get accustomed to, especially in terms of the system – trying to stay on top of things." A male student said, "I was confused, not just in my department but in general. It was tiring, but I still had a feeling of excitement; it was always there. I was eager to start my program."

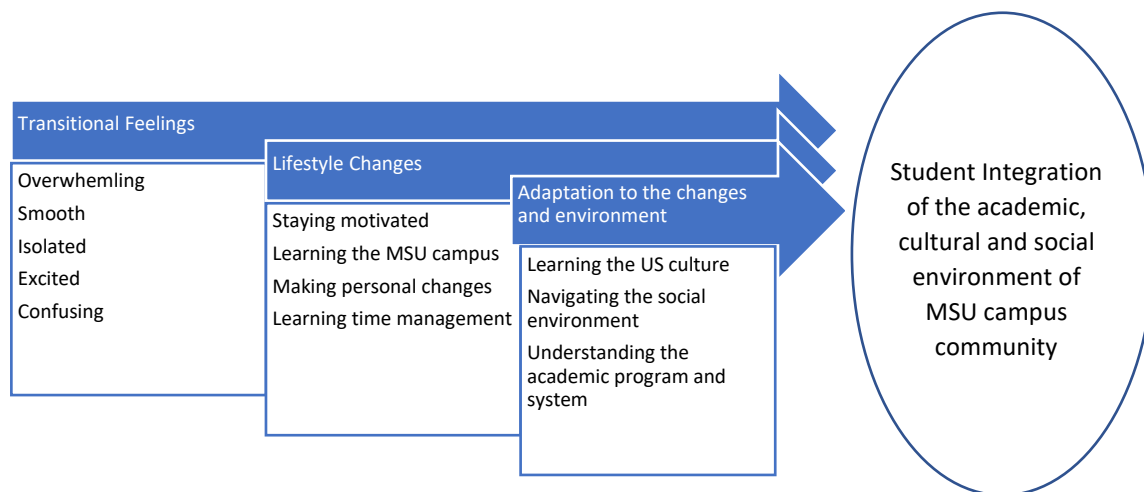


Figure 4.1: Conceptual Framework: Transitional stages of MSU international graduate students

Sense of Belonging of International Graduate Students to the MSU Campus and Program Department

Connection and support from peers, department, and fellow international students

Each participant expressed a sense of belonging in varying ways, but the underlying meaning was the feeling of connection with others. One participant, Karen, said,

"it does not matter if I am not there physically with the group. It is more (about) the values I agree with, the values I really hold dear. I feel a connection with them, and I know people around me feel the same, and we share some type of culture."

Another female participant said, "the positive way for me to create a sense of belonging is through people. MSU is an institution. It is finding friends that I can rely on that can help me out, where I feel at home." One male individual said, "for me, a sense of belonging has to do more with other people in my department." Another male student said, "I think that a sense of belonging would imply that each side in that social interaction sees the values [and] the contribution from the other side through the interaction that they are having."

One participant, Paul, whose wife traveled with him to the United States, describes a sense of belonging as a Spartan, not like a stranger. He further described a sense of belonging emanating from attending sports events like football and sharing the experience with other Spartans. He also mentioned his wife voicing her feeling as she belongs to MSU when she attends the games at the stadium and shouts "Go Green, Go White" with others. Frank, who was in the same focus group as Paul, also commented that sports help develop a sense of belonging. Frank said, "If I play a sport with someone, I think that also contributes to a sense of belonging if there is an understanding that everyone who participates sees everyone as important to their activities."

Some participants expressed a sense of belonging as knowing nuances about the campus and not feeling vulnerable. Jessi said,

"to me, a sense of belonging means I have to know how things worked. I felt so stupid most of the time because I did not know how things worked. Luckily, I had people in my department who sat me down and told me how this works. That was how they welcomed me to be more of a functional human being in the MSU and Lansing community. I was part of knowing how to do things, to the point that people now think that I have lived here, you know, forever."

Ron said,

"what I perceive as creating a sense of belonging is eliminating the sense of vulnerability, to know that you are not vulnerable to anything because you belong here. This is your house. This is your place. This is your campus. You know how things work, how things should [be], what is acceptable and what is not."

A sense of belonging was described as what you feel once you experience an open environment. Being in such an environment, an individual could suddenly, by default, feel a sense of belonging. One male participant said,

"I think it is the difference between acceptance and tolerance. I think many people sometimes get that confused. You might tolerate a certain person, culture, smell, food but not accept. While the person who is giving [tolerance] might not realize it, the receiving person is definitely seeing [non-acceptance]."

This male participant believed persons should not act as though they welcome a student solely because of MSU inclusion policies, but people should get to know them as a person and accept them for themselves. Amy said, "for me, a sense of belonging means there is a give and take relation between me and my peers. We are interacting with each other in a healthy way, and we are listening to each other regarding the problems we face or the issues we are facing in adjusting to the new environment."

Regardless of the differences in how each international graduate student perceived a sense of belonging, it was evident that they felt being included and accepted contributed to their

sense of belonging. Moreover, international graduate students noted that forming connections, having their voices heard, sharing values, and being seen as important contributors to the community helped develop their sense of belonging.

Additionally, international graduate students explained the importance of having a sense of belonging in their department. Vicky said, " I feel I belong somewhere if I am welcomed, and I am accepted. If I feel like the people are happy to see me around, that increases my work efficiency and then life, happiness, and everything tremendously." Also, Ron said,

"knowing the resources available to you is crucial... If you do not have a sense of belonging, you cannot capitalize on your utmost potential. You do not create an ambiance for graduate students to perform their best. They could perform their best, but they are bounded by other life limitations."

A sense of belonging was deemed vital to participants from all the focus groups. They all shared that having a sense of belonging helps in their stability and in feeling at home. International graduate students expressed that a sense of belonging provides them the key elements of motivation. They believed that having a sense of belonging, primarily in their department, plays a crucial role in staying focused and feeling motivated to progress in their academics. The feeling was expressed best when James said,

"It is quite important. When you feel a sense of belonging, it is less likely you will get depressed, and if you have a problem anytime, you can discuss it with your peers, which is very important to keep you motivated in your work. When there is no one (with whom) you can freely discuss your problems, it will become difficult. You might get depressed. Your work is not in good shape. So, I think that is very important. Feeling a sense of belonging in the place where you live is very, very important."

A female participant said, "I feel that it [sense of belonging] is very important. It can be considered one of the primary things that you need to have as a graduate student. Feeling isolated in this place is exactly the worst thing that can happen to you."

Impact of COVID-19 Pandemic

Also mentioned by participants were the effects of the COVID-19 pandemic on restricting in-person, on-campus interactions and transitioning most campus work to remote work. Several state and national emergency policies further restricted movement and the gathering of persons. The continued impact of the COVID-19 pandemic reduced international graduate students' ability to become familiar with their peers in their department and across campus. National, state, and local policies restricted any form of group gathering on campus, eliminating in-person informal events for connecting and causing students concern for their social well-being. Karen said,

"it is tough in the way. We lose social connections, lose social connection like bumping into people on the corridor and have a conversation. We are losing a lot of other social connections, and it is hard. But, I just want to admit that I really feel it is important to have a sense of belonging. It keeps you going; some way, you know you belong to a bigger community."

One female participant expressed not having a sense of belonging.

"I kind of feel like I probably do not have as much because I came last year, so, the first [non-pandemic] semester well, it went by. Then, in the second semester, COVID came. So I think, for now, I do not think I can go as far and say I have that emotional connection."

The COVID-19 pandemic displaced several international graduate students. The national and political policies that disallowed the entry of international students into the U.S. forced some students to work from their countries of origin, and prohibited others from traveling to their home country. Subsequently, their inability to be on campus impacted their sense of belonging.

Nevertheless, some participants expressed a positive impact from the COVID-19 pandemic. Vicky said,

"Before COVID, it was really hard to attend seminars. And I remember I was emailing people. Can you provide us Zoom access? And they were like, not really. You know, people did not know how to use Zoom or set up all those. But now everything you know is virtual. I am happy about that."

Another female participant said,

"This year, I was supposed to go back home, and I did not go because of the COVID situation. But thanks to that, I also got the chance to go out and just, like, go to the Upper Peninsula. And those kinds of things that I was able to do because I had to stay [in the U.S. due to travel restrictions]."

It is evident that the COVID-19 pandemic has impacted the lives of international graduate students, be it negatively, positively, or both.

Connectedness to people, place, and MSU

Participants often said they did not connect solely to any place on or off-campus, but they connected to people they shared experiences with while visiting or being in a few places. For example, Amy said, "I think it [connection] is because of the persons I have interacted with. They have introduced me to different places, and they have shown me that there are these places we should try going there. So, yes, that kind of connection influences you as an individual."

Some felt a sense of pride associated with the institution, even in the light of the recent issues on campus due to the sexual assault of female athletes. A male participant said, "what has the campus done to me? We have a history, a recent history of sexual abuse." Emma said, "it is a lot of politics that come into play into that sense of belonging and how they manage that public image. I think that MSU has a great P.R. [public relations]. They are like, Spartans will do this, Spartans will do that."

Students noted particular instances of pride and belonging to the institution. One male participant said, "I was in Colorado a couple of months back visiting my friend there, and a random guy just walked past me and shouted, "Go Green" because I was wearing the MSU cap, that was a moment of pride, my community even though I do not know them." Then Hugh said, "My department is top ten nationwide, so when I go abroad, I am very prideful of my affiliation with MSU School of ----- . But, with the MSU community, I am not too sure. It has to be on a case by case basis."

Six out of twenty-two participants mentioned having some connection to natural places on the MSU campus and natural areas in the surrounding community. A female participant said they connect to the Wells Hall Courtyard where her office and department are located. She spends most of her time there when on campus. They also said they love the nature preserve on the north side of campus. That is where they would go when feeling stressed. Another female student also mentioned feeling connected to the Wells Hall Courtyard; she said it is her spot and goes there to people-watch. She would use the fall color chairs during the summer and did several readings there. Another said she spends time in Wells Hall and would take lunch breaks by the river. Suzie said she "feels connected to the wildlife, specifically the squirrels." She said they make her smile, and she finds herself talking to them like they are humans. She believes they are one of MSU's significant assets.

The campus offers various events that create space for socializing with peers outside of an academic setting. One male participant said, "I think it is really good for me to disconnect in a way from what I do academically speaking, and that helps me maintain a balance between my social life and school. So, I think it is very important to be mentally healthy."

Participants also expressed their connection to both on and off-campus areas. One female student said, "the Red Cedar River is a given" as a place of special meaning. Another female participant said,

"I think Lake Lansing is a great spot here in Lansing because it is not too far. You have the lake and lots of greenery. Then on-campus, I am always kind of close to the Red Cedar River. I think the two places are places that I tend to go often. I enjoy both. For the Red Cedar River, I love hearing the sound of the water. I think it is relaxing and I have seen people walking by with their dogs. I think that it is nice and chill and relaxing."

Some participants mentioned a connection to State Parks across Michigan. They enjoy the scenery, hiking, and biking the trails—also, the flora and fauna of the state. However, they pointed out that while they enjoyed the state's beauty, the people they were with were what connected them to the places. One male participant summed it up well when he said,

"I think that it is not the place by itself but the people that I am with, in that place. For example, I usually go to Lake Lansing with friends, and one moved away. So now, whenever I go to that place, it reminds me of her. I was like our little community. So, yea, I think it is related more to the people that I spend the time with within those places specifically rather than the place itself."

The connection to a place or MSU stems from the memories of the shared activities with other persons.

Outdoor Orientation Program Ideas

Unfamiliarity with outdoor orientation programs

The focus group facilitator began with defining outdoor orientation programs as:

"those used on some campuses as organized activities in the natural environment, which help new students adjust to their new living environment. They often include team-building activities designed to help students become acquainted with each other and their new community. These programs also help new students form relationships with people outside of their classes or departments, learn teamwork and collaborative skills, and bond through shared experiences and new memories."

Seventeen of the twenty-two participating international graduate students indicated they had never heard of an outdoor orientation program. A few voiced that they had heard of an outdoor orientation program, but it was not precisely as outlined by the researcher; they were familiar with a traditional orientation day. In general, the events or activities included in an outdoor orientation program were not familiar to most. For example, a male participant said, "so in the fall of 2018, the welcome cookout organized by the Council of Graduate Students (COGS) would be close to what I called outdoor orientation." Another male participant, who had attended another university before coming to MSU, mentioned hearing about an outdoor orientation program elsewhere.

Interest in outdoor orientation: Need for social events

Participants commented that an outdoor orientation program would help them socialize more with others. When asked, one male participant said, "yeah, absolutely. It gives you a chance to interact with others in a different environment that is not so formal and structured as the office."

Participants voiced their support for implementing an orientation program. For example, a male participant said, "I think being a part of either sort (outdoor or indoor) of experience in some sense is very useful in my opinion." Participants believed an outdoor program would help them become familiar with the MSU campus and create an opportunity to meet other international students, especially those from their country of origin. Participant Jane said,

"In a way, when we come initially here, some people know persons, but some people come completely without contact. And in that case, having outdoor activities that actually give us an opportunity to interact with all the internationals. [For example], I am from India, there is [others from] England, we communicate with them, and then you find comfort [similar interest]. So if we have this kind of activity initially, we will be able to go outside and meet different nationalities and then make friends."

Half of the participants believed that involvement in some form of social activity would have helped them navigate the campus and according to Betty, [it would have been] "helpful just to ease the transitions. Orientation is important "because [when] you come to another country, you need someone to show you how to even get on a bus."

Vicky, who attended another U.S. university, expressed her disappointment with MSU not having opportunities such as outdoor activities for students. She said,

"I do have this previous grad school experience in another American university. I know how active they were, and these kinds of things, and it is kind of disappointing that MSU being a very large university, does not offer those opportunities for students."

Participants agreed that an outdoor orientation program would be an excellent opportunity for "grad students to get to know their new home state." A male participant felt MSU does not provide a structured and **ongoing** international student orientation. He said, "It is like, in one year we get a lot and then the next year it is very scattered, and so we do not have a dedicated international orientation."

Although participants noted that implementing an outdoor orientation program would add to their MSU experience, they feared attending the events alone. Attending events alone requires stepping out of one's comfort zone to meet and greet others. In their opinion, going to the events and not meeting and chatting with others would defeat their reason for attending. For example, a male participant said,

"so, yeah, when there are campus-wide international gatherings, a lot of our students find it difficult to attend because you have to go alone. The first few they have to go alone, and unless there is a structured program, where it lets us get into groups, and do a group activity, it is hard to acclimate yourself into that environment if you are going alone."

Individuals interested in an outdoor orientation program were not keen on large group activities but said they would probably participate if they were ten or fewer persons. Sue said,

"it is the group dynamic, and in order to make friends or connections in any way, it needs to be a group size that can more easily split into smaller groups without having issues. But I connect more with people if the group size is a little smaller. Maybe it is just me, but I feel we are doing this for the connection rather than randomly on the same trip to the same place."

A male participant said,

"yeah, I think it would definitely help. So any kind of social activity that you do that is either a lot of co-academic or non-academic in nature is generally good in fostering a sense of belonging. Yeah, any form of club or group experience will improve 'students' sense of belonging."

Another male said,

"it is not [only] about the education that we come here for; it is also about understanding the cultural differences. Trying to fit into the cultures, trying to learn what these nuances are, and through these kinds of events, you constantly keep learning by observing how people interact – and I have made many good friends."

Notably, some students did not feel an outdoor orientation program would foster a sense of belonging for some students. These individuals indicated that an outdoor orientation would foster a sense of belonging for people who enjoy participating in outdoor activities but might not for persons who are not so inclined. A female participant said, "I think it depends on which students you are targeting." Another female student said,

"I think it depends on the program because I think with outdoors, there is a lot of room for bonding, but much room for alienation, depending on your fit? Like my colleague just mentioned, a ski club. Because he enjoys that environment or he wants to be in that environment. But let us say everyone was going to football, and I do not care about football, whether indoors or outdoors. I am not going to feel like belonging."

Another perspective was that an outdoor orientation program is not, by itself, sufficient to foster a sense of belonging. A male individual said,

"I think it depends on the students you are targeting. I think it is a bit tricky to use as a means to achieve belonging. It is never enough, in my opinion, to make somebody feel comfortable about everything that is happening. But also make sure that there is some other support system that allows you to feel comfortable enough to do that."

When the researcher asked about the potential for outdoor orientation programs to build a sense of belonging among spouses and children of graduate students, focus group participants thought it would be helpful. Participants mentioned that spouses and children have to adapt to the environment just as graduate students do. For example, a female participant said, "yes, I agree, because their spouse comes here to study and they will be with their lab mates, but his or her spouse would also like to know where they are going to be living for the next years. So it will help them greatly, I think."

Paul, whose wife is here with him, liked the outdoors and always found activities to occupy her time. She goes to the Friendship House (organized by a local church that connects international students with others) and makes many friends. However, his friend's wife feels lonely because she does not have other opportunities to meet or make friends. Therefore, if MSU provides an outdoor orientation, families who enjoy these experiences may develop a sense of belonging. Another male focus group participant said he has a friend whose wife is with him, and he wondered what they do because they do not get to go out and meet other people. So he thinks that an outdoor orientation program would help the dependents to get to know other people and make new friends, maybe inside and outside the scope of MSU.

Orientation program ideas and design

Participants provided specific activities that could be included in an outdoor orientation program. Also, several participants indicated that they already participate in outdoor activities such as hiking, biking, walking, and especially attending picnics to meet and talk with other people. Around twelve participants were keen on offering outdoor activities that would allow space for conversation and bonding. A male participant said, "I think it [the orientation program]

will have to be a combination of a lot of things." Both male and female participants thought it necessary to have activities throughout the school year, but they insisted on a campus tour within the first two weeks of the semester.

The timing of an initial outdoor orientation program was a concern for many of the participants. They believed it would be difficult for some students, especially medical and engineering students, to find time to participate once their academic training begins. For example, Betty said,

"I think for the timing, if they are around campus, they should be before classes start, and if you do something outside Lansing, maybe if it is a one-day trip. It could be like Saturday. But if planning on something like an overnight stay, maybe the weekend right before Thanksgiving or the weekend before spring break where you know that students are not going to be busy studying like crazy or doing a lot of reading."

Another program design concern voiced by participants was this: who should organize the program and control the logistics? Most participants agreed that their department and Office of International Students and Scholars (OISS) should be major organizers. A male participant, Ben, said

"It should begin with the program that you are enrolled in because that is where you will be spending most of your time with your colleagues. You will be in teams and working alongside them. So it is important to build a relationship with those that you are going to work for the next two, four [years] whatever that time length."

Furthermore, Amy said, "I think OISS, [because] international students will be more comfortable [with OISS] because they are introduced to the department from the beginning."

Additionally, focus group members believed that events should be open to international graduate students and their dependents. They expressed the idea that dependents are also navigating the transition and feel isolated and will need events to help them become comfortable in the new environment. Dependents also need to build a social network and be occupied when

their spouse is away at classes or spending time with their academic friends and colleagues.

Frank said, "I think that it should be both the students and whatever dependents they bring. I am here, by myself, but I definitely think it is important to get families of international students involved." Likewise, Tom said, "I also think it should include both the international student and their dependents. I mean, it will be good to target all of them because, in a way, those dependents are also going to be like international people. So they are in the same situation."

Therefore, participants recommend having events of many different formats, having activities that will appeal to all international graduate students, and allowing families and kids to participate. They also propose having events throughout the year, starting before classes begin, followed by other events on weekends or major American holidays. However, they preferred having events that are short in length. Participants believe the activity length would impact participation because graduate students are busy doing research, reading, and writing and do not have much time to socialize, but if the event lasts for a few hours, students might feel more motivated to attend. Amy said,

"I think the beginning of the semester is good. After that, have two sessions, one in the beginning, one in the middle, but I am not sure if students would be able to get free time in the middle, and one at the end, like before the holiday begins, so that they can still be in touch with each other and they can share their experiences about the semester."

Karen said,

"I think it would be good to firstly take advantage of holidays, probable holidays here. (Therefore), scheduling them along the family holidays and then also semester breaks. So public holidays, semester breaks, but making sure they are not spaced too close to each other for people to feel overwhelmed. So I would say three in a semester sounds reasonable to me."

Essential elements of an outdoor orientation program composed of several events/activities identified by focus group participants included these features: small group sizes, activities that foster peer connection, ways to learn about the MSU campus, and opportunities for

short trips away from campus. Having a sufficient number of people at each event will help them feel welcomed and contribute to their sense of belonging. Additionally, they would like events to form bonds and look forward to attending the next event because they could repeatedly meet familiar people who share the same experiences. For example, Frank said,

"It generally has to be a social program, of course, and I think it is something that should be accessible to as many people as possible, and I mean you need to have like a group that shows up, you know, a fair, at a reasonable frequency. So then you can actually get to know people. So basically, it has to be a social program that is as accessible as possible to international students and whoever wants to join."

Commenting on the same dynamic for on-campus activities, a female participant said,

"so if there could be at least one or two opportunities where people can travel. Let us say at least for a day, like a day trip. I think that creates an opportunity to talk to people. Like on the bus or while walking or those kinds of tours somewhere else. I think it is a great opportunity to get to know people."

Additionally, Sue said, "I do not do outdoor stuff, so walking, hiking biking sounds great, But for me, what appeals is maybe a barbeque would be nice outdoors." A male participant said, "so there are multiple ways to do it. One would be just going on a picnic somewhere, maybe like Lake Lansing." Also, James said,

"Yeah, I think it is; I mean hiking or soccer or other types of sports are very good, a nice activity, outdoor activities that we can do. But, I think there will (is) also good to have some unique activities that we can participate in only Michigan like apple picking, or some picnic, or like going to Lake Michigan, or we can go to like, any kind of a museum, I do not know where it is. But, any kind of museum that we can go to together or we can just talk about, the history of Michigan if we go there if you go to some meet (people) or something like that."

One participant, Ron, pointed out the importance of knowing the community where you are studying for your graduate degree to understand how people around you live their lives and their issues. He believes this learning would help him understand how he needs to behave and what he needs to keep in the back of his mind when observing society. Ron said,

"yeah, it is definitely something that would create an opportunity. In (my country) nobody would wear sleep pants to go outside the house; you just wear them to bed. However, here, you see stuff, you do not meet people, you do not know what the culture is, what is appropriate and what is not. So, it is nice to mingle around (learn) what is allowable and what is not, what is social acceptance level or perception around faith."

Others believed that creating a space where newly arrived international students can dialogue with experienced international students would be beneficial. Vicky said, "One thing I think would be helpful is having upper years from the various graduate programs come as well." Adam supported her suggestion. He said,

"I fully support that. That is something that I assumed would happen, and it did not. So having space where maybe it is like broadly all of our new incoming students and the meeting peers who are upper years. Those are the ones that really help me navigate so many of the complications."

Peer-to-peer learning, the process where different cohorts of international graduate students learn from one another, is essential. Newer international graduate students would begin to understand how to get involved, prepare for classes, and know what is necessary and optional.

Participants believe including off-campus activities would help them gaining familiarity with the area close to campus. A female participant said, "Lake Lansing Park North is my definite favorite, and for some reason, I am emotionally attached to that park, like so-so much." Others commented about going beyond the MSU community and surrounding areas. Another female participant said, "I do not know if you can call it an orientation, but maybe, as a day trip or a weekend to the dunes or to a state park that you can explore during the day – that would be great. I think that is lacking."

Specific ideas included campus tours, cookouts, walking across campus, taking hikes, biking on the trail, hosting picnics and barbeques, and conducting social hours such as coffee or game times, taking a tour around the campus and East Lansing community, going to the farmers

market, going to the mall, learning how to navigate the bus system, apple picking, going to St. John's Cider Mill, and visiting sites such as Lake Lansing Park.

Based on findings, male participants had a greater interest in bonding social events than other genders, but female participants were keener on nature-based activities. Participants from low context culture countries spoke mostly of doing small group gatherings and events.

Discussion

This study identified international graduate students' perspectives on three questions: 1) What does a sense of belonging mean to international graduate students 2) What are international graduate students' views on outdoor orientation programs developing a sense of belonging and 3) What structures and types of activities would international students like to see in an outdoor orientation program?

The focus group results of this study confirmed that developing a sense of belonging for international graduate students is an essential aspect of their graduate experience. Strayhorn (2019) defined a sense of belonging as students' perceived social support on campus, a feeling of connectedness, or that one is essential to the other. The physical environment serves as the context for these life-shaping experiences (Harrington, 2014), specifically for international graduate students. Participants in this study noted that their transitional processes of becoming a student in the U.S. were challenging and that the first year of graduate school was likewise a challenge. Spouses and other dependents also make major transitions along with their student family members.

Living in a new town and learning a new culture can be problematic, especially without family. Dealing with and readjusting to fit within their new living environment is a challenge.

However, when combined with conforming to a new culture and academic system with a different teaching style, international students require new mindsets and perspectives. According to Chickering's (1969) seven vectors of students' development, students develop in a succession of stages, such as thinking, feeling, behaving, valuing, and relationships with others and oneself. However, it is vital to note that changes for a particular student do not necessarily occur for all students (Chickering, 1969). Therefore, resources need to be made available for many types of activities that may assist international graduate students in transitioning from their country of origin to the MSU campus community.

After explaining and discussing what an outdoor orientation entails, over half of the participants favored implementing an outdoor orientation at MSU. For international graduate students to become familiar with their peers and build relationships, they need spaces that facilitate connection. One participant expressed her disappointment with not being offered a formally organized opportunity by MSU to explore the campus. International graduate students see an outdoor orientation program as an open doorway to meeting and connecting with other individuals, forming bonds, and creating friendships. In addition, hosting events on- and off-campus creates an opportunity for international graduate students to form a connection to places on and off campus to build their sense of belonging.

In essence, international graduate students view an outdoor orientation program as a vital way to help in building their sense of belonging within their department and the MSU campus community. However, specific attention must be placed on the intentional design of events that foster conversations to develop a sense of belonging. Graduate students noted that talking space is a crucial ingredient for building a sense of belonging to the MSU campus community. Moreover, they claim that building relationships with others in their department is one aspect of

feeling welcomed and a sense of belonging. Other aspects include speaking with individuals from departments across campus, which helps build a sense of belonging; getting to know the campus and various natural places could help students develop a sense of belonging. One critical point mentioned was the importance of ensuring that any outdoor orientation program is inclusive. The program should not cater to a specific group of international students but all interested students because, through these events, one builds relationships.

Participants said they would like more activities within their department and with other graduate students in different departments. According to Gardner (2010), socialization is essential to graduate students, is unique by discipline, and is imperative for a successful graduate school experience. Today, graduate studies involve some cross-, inter- or transdisciplinary work, so cross-connecting across departments will benefit students as they become oriented to the campus community.

Findings demonstrate that some international graduate students want to be engaged in outdoor activities and believe their participation in activities will help them become comfortable on campus and feel valued as campus community members. Graduate students' most frequently mentioned activities were not the sorts of activities often featured in undergraduate orientations (backpacking, wilderness travel, rock climbing, canoeing, and rope courses, as described by Bell, Gass, Nafziger, and Starbuck, 2014). Instead, everyday activities that are shorter in duration than extended outdoor trips were of most interest.

They believed that the proposed idea of an outdoor orientation would help them become familiar with the campus and know specific aspects of the campus culture that will help them transition into the MSU campus community. They want to have an orientation that includes a campus tour in which key buildings and specific places are highlighted to navigate the campus

quickly. Students noted that some would be interested in exploring campus-based natural areas and nearby places to hike, bike, and visit natural areas or picnic grounds/parks.

Participants also said that an outdoor orientation would allow them to interact with other international students in a different environment and relax and be themselves. Also, such a program would provide them with activities to take their families and friends in the same transitional situation and experience isolation. The activities would help provide them with an opportunity to meet others and form relationships with other families.

The international graduate students who participated in this study recommended implementing various outdoor orientation activities within a program that spans the whole year. Additionally, they spoke about the importance of having formal and informal activities at their program department level. This insight aligns with Vogl's (2016) recommendation to leaders to intentionally create robust and committed communities that aim to build effective and resilient relationships among its members (old and new). Findings from the students emphasize that one-day orientations do not allow enough time for interpersonal interactions for relationship-building.

In terms of timing, it seemed essential to host certain events before beginning classes. For example, a campus walking tour would help them navigate the campus and get across campus to the varying buildings where they need to conduct business and attend classes. The walks would help them form friendships that would lead to a social support network that they see as essential to stay motivated in their graduate study program.

Several characteristics (Figure 4.2) emerged during the focus groups as essential for developing international graduate students' sense of belonging. Some of them are similar to elements Strayhorn (2019) proposed as necessary for graduate students to have a sense of belonging on college campuses.

In summary, focus group participants recommended that the outdoor orientation programs be open to international graduate students and their dependents. The length should be long enough to meet and have a conversation with participants but short enough not to take too much time away from their studies. A recommended two hours was ideal for non-trip activities. Additionally, a recommendation was to host the program throughout the academic year, with the first event happening before classes begin. They state that having programs throughout the year will allow them to connect and gain support as they navigate graduate school together. Participants want activities that create bonding space, such as game nights, apple picking trips, and cookouts. They highlighted the differences among graduate students' interests and looked for something that will help them feel welcomed and comfortable. Therefore, the timing and type of activities must be varied; the host of the events should vary and not only happening during orientation week.

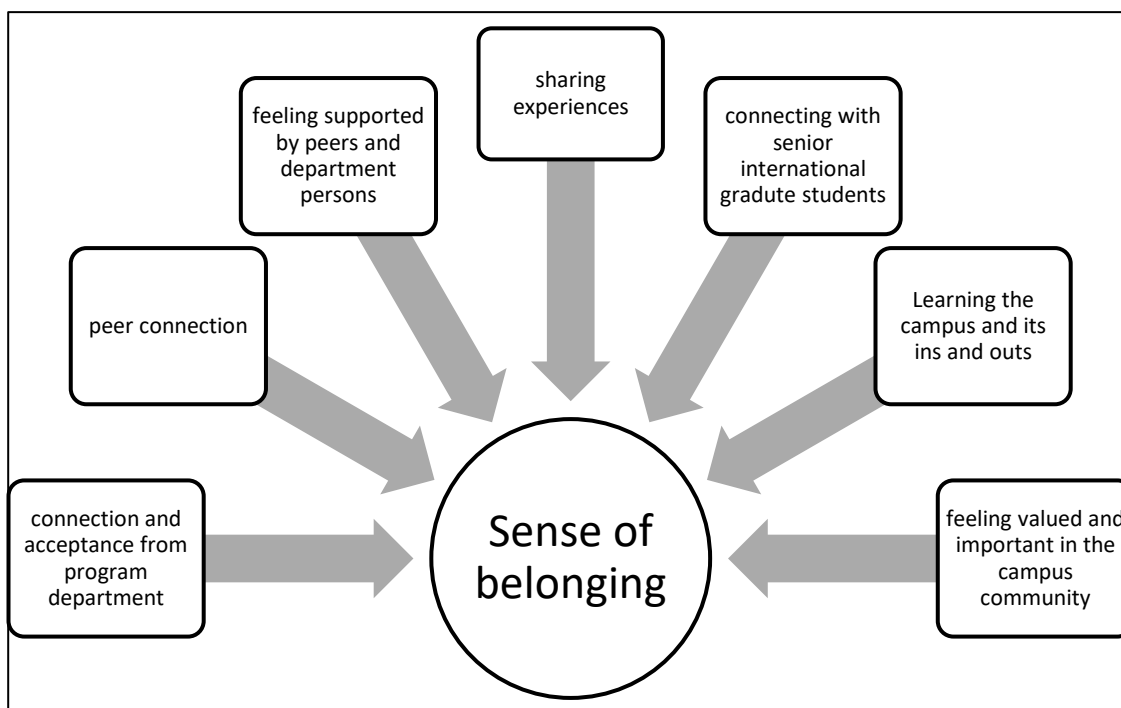


Figure 4.2 Influencing elements on a sense of belonging among international graduate students

Recommendations

Based on the participants' perspectives in the various focus groups, those interested in and responsible for the success of international graduate students on campus should consider the following points:

- 1) *View orientation programs for international graduate students as both a beginning-of-the-year and an ongoing-throughout-the-year priority.* Participants believe that hosting programs at varying times of the academic year provides social activities to step away from their academics and build their social network. Participants voiced the importance of having year-long activities to help with their ability to create friendships and develop a sense of belonging.

- 2) *Focus beginning-of-the-year outdoor orientation programs on locating key campus buildings and getting to know different natural places on campus.* Participants mentioned struggling to find important buildings and places to conduct business or find enjoyment. Therefore, providing a campus tour would help them navigate the campus and develop familiarity with unique and specific spots on campus, thus enhancing their sense of belonging to the campus.
- 3) *Focus throughout the year events on sustaining a sense of belonging.* Continued programming allows the formation of friendships. Friendship enhances their college experience and develops comfort and a sense of belonging. Programming throughout the year supports international graduate students after they have made the initial transition to campus. The development of a sense of belonging requires continued effort and intentional programming. As illustrated in Figure 4.2, international graduate students voiced specific elements as essential in their sense of belonging development.
- 4) *Develop some programs focused on exploring the local, nearby community and others on unique places throughout the state.* Participants expressed the importance of knowing their surroundings. Therefore, programs must include visiting local and state areas and exposure to local cultural and societal norms.
- 5) *Create opportunities for new international graduate students to meet with continuing international graduate students.* Participants voiced the need for peer-to-peer conversing with international graduate students who have been on campus for some time. Therefore, hosting a meet-and-greet session or creating a mentorship program would be beneficial.
- 6) *Develop some programs for international graduate students only; in other programs, specifically include their families and dependents.* Students in the focus groups expressed

the need to include families and dependents in the program. Families are transitioning as well and also require assistance in understanding the changes. Thus, the program activities will need to be designed not only for international graduate students.

Additionally, programs would allow international graduate students' families to become active within the MSU community, allowing them to focus more on their academics and not on their family's discomfort. Also, it could reduce the stress and strain for the student.

- 7) *Focus the beginning of events on welcomes and introductions so that international graduate students can quickly join smaller groups within the event.* Participants want activities to be structured and facilitated so that they can become familiar with others. Breaking orientation participants into small groups and having discussions will help students become interested in forming lasting friendships. Facilitating connections is especially important for international graduate students from high-context cultures.
- 8) *Provide a range of activities that address different interests (e.g., sports, non-sports, outdoor natural area exploration, or closer-to-home experiences).* International graduate students have varying interests, so a year-long orientation program should offer a range of choices that accommodate the varied interests of all students, allowing students to feel welcomed and a sense of belonging.
- 9) *Limit the length of outdoor orientation activities to 2-3 hours (especially during the semester.)* Participants voiced the importance for graduate students to socialize but pointed out their lack of time to attend social events. Therefore, programs must be hosted at convenient times to foster attendance. Participants suggested hosting programs during public holidays or semester breaks since most graduate students would have time to

attend. Perhaps some longer programs could be organized during university breaks (winter, spring) to allow students who wish to participate and build deeper social bonds.

10) *Strategize to offer departmental-level and university-level outdoor orientation programs.*

Students in the focus groups suggested hosting programs at varying organizational levels within the university (i.e. program departments, international student office, and graduate school). With programs hosted by the varying departments, students will meet more potential collaborators, become familiar with different facilities across campus, and thus gain comfort in their knowledge of the campus community.

Limitations

Focus group participants were from Michigan State University and were not randomly selected. Therefore, any generalizations from these findings should be made with caution. Focus groups occurred during November of 2020 when international graduate students were affected by multiple societal stressors (e.g., fluctuating federal immigration laws, national and localized racial unrest, disruptions due to the Covid-19 pandemic). These stressors may have affected international graduate students' participation in the study and their sense of belonging and comfort with outdoor orientation programs. In other words, similar focus groups conducted under more normal conditions might have led to other themes emerging from the data. Due to the hosting of focus groups virtually using the Zoom platform, interpersonal interaction may have been limited. Thus, there may have been less interaction among focus group participants reducing the dynamics that would have led to particular synergistic insights. Additionally, the withdrawal of some participants reduced overall participation somewhat. Another fact to consider is that participants may have been an overrepresentation of those keenly interested in

the sense of belonging, graduate issues in general, more social events, and outdoor activity pursuits, therefore limiting the voice of those who might be interested in other pursuits.

A possible limitation of the survey was the misinterpretation of questions. Given that the population was international graduate students, several of, if not all, may not be familiar with the terminology used or familiar with some outdoor activities. Therefore, their responses may have been influenced.

Directions for Future Research and Practice

The researcher would like to conduct more focus group sessions regarding structural specifics of programs and types of outdoor activities desired. Although this study provided some insights, more discussion would be beneficial to understand what is best (in terms of time and activities) for fostering international graduate students' sense of belonging. Additionally, it would be interesting to broaden this study to other international graduate students attending colleges/universities in the state (such as Wayne State University) and elsewhere (such as HBCUs) to gain more diverse perspectives on using an outdoor orientation program to foster a sense of belonging. Also, understanding the needs of international students with dependents as a specific group requires more investigation.

Another research priority would be to develop a pilot program for new international graduate students. Before and after their participation, they would take a survey that would include the Sense of Community Index items and the Sense of Belonging items (Chapter 3) to examine whether the outdoor orientation program impacted their sense of belonging.

Conclusion

Findings illustrate that students believe conducting social activities that allow for conversation and bonding between peers was essential. Students expressed wanting activities intentionally designed and structured to help them meet and connect to other international students.

In response to research question two, which concerns international graduate students' viewpoints toward using an outdoor orientation program to build a sense of belonging, participants all agreed that it has the potential to make them feel welcomed and a sense of belonging. Although international graduate students were open to the idea of implementing an outdoor orientation program to foster their sense of belonging, they had a few inhibitions about the program's structure. They believed a one-and-done orientation would not create and sustain their sense of belonging, but having several short, 2-3 hour activities throughout the semester/academic years would lead to greater bonding. They added that the orientation is a step in the right direction, but only the first step. Additional programs need to be added throughout the year to help them transition and acclimatize to their new environment and culture.

Regarding the final research question, how an outdoor orientation program should be structured, international graduate students would prefer a year-long program instead of a two/three hour, two-day or one-week-only orientation program. Moreover, they expressed the need for programs to begin in their department and then be hosted by OISS and the graduate school to attract diverse students. The program, they say, must be a mixture of varying activities and cater to both international graduate students and their dependents.

The findings provided valuable insight into the challenges of the transition experience of MSU international graduate students. The findings show differences in how MSU international

graduate students navigate the MSU campus culture, how some program departments welcome them, and how differently they view the MSU campus community. Additionally, findings show that not all students experience a positive transition because they lack support from their program department, faculty, and peers. A more welcoming and socially active transition experience could create higher motivation, familiarity with the campus community, and a strong sense of belonging.

LITERATURE CITED

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CHAPTER FIVE

Final Thoughts

Summary

The study findings addressed the following five research questions:

- 1) What is the sense of belonging of international graduate students on the MSU campus?
- 2) To what extent does a sense of belonging differ among international graduate students from various cultures?
- 3) To what extent does a sense of belonging differ among international graduate students according to gender?
- 4) What activities do international graduate students describe as essential to their development of a sense of belonging?
- 5) What are international graduate students' viewpoints toward the use of an outdoor orientation program?

In response to the first research question, participants expressed a sense of belonging in various ways. Phase one identified three factors that emerged to describe quantitative measures of Sense of Belonging: University Connection, Department Connection, and Department Acceptance. During the focus groups (phase two), participants described a sense of belonging as having a connection with others, knowing how things work, knowing the nuances of the campus, and feeling valued within the campus community.

Regarding the second research question, high and low context cultures (two cultural groups) differed in their measure of University Connection. The groups also showed a significant difference in the Sense of Community Index elements of Shared Emotional Connection and Influence.

Findings related to the third research question included these: females had a higher sense of Departmental Connection than males, and there were no differences between genders concerning a Sense of Community or other measures of Sense of Belonging.

The fourth research question was posed during the focus groups. Participants indicated that conducting social activities would help foster their sense of belonging. They recommended having activities that allow for the intentional forming of relationships. They said participating in social activities would help in social well-being and create a balance between academic and personal life. However, they were not keen on doing the traditional outdoor program activities such as camping and backpacking, but they were more inclined towards events such as bar-b-ques, picnics, game nights, and coffee hours.

Concerning the final research question, international graduate students were open to the idea of implementing an outdoor orientation program. They saw it as an opportunity to meet other international graduate students, particularly from other countries/cultures. They believed they could learn from each other by sharing interests and forming lasting friendships. Nevertheless, there were skeptical about hosting large group events, extended events, or activities only held at the beginning of the first semester. Participants wanted various events to allow for inclusivity, and some events should be designed explicitly with dependents in mind.

International graduate students evolve as they transition from their country of origin to the U.S. However, the journey is challenging and, at times, causes some to return to their home. There is an assumption that international graduate students are self-sufficient and do not require guidance. However, this study showed that social support systems would help them navigate their new environment and culture. In addition, student perceptions of implementing an outdoor orientation included the notion that social integration is linked to international graduate students'

sense of belonging and comfort in the campus community. Students perceived that social events could aid in building their social network, thus allowing them to make and retain friendships and transition smoothly into the campus community. Students noted that a sense of belonging is vital, and continuous participation in social events may help develop a connection to peers, their program department, and the institution and may ultimately help them develop a sense of community.

Previous research has shown that graduate students who have a broad social network feel a sense of belonging and progress within their study program. Additionally, earlier research showed that outdoor orientation programs foster undergraduate students' sense of belonging. My study found that international graduate students believe outdoor orientation programs and activities can help develop their sense of belonging.

Additionally, my study developed and demonstrated the use of a new measurement tool to assess international graduate students' sense of belonging. Three major factors (University Connection, Department Acceptance, and Department Connection) emerged from the analysis of this survey instrument and included items related to building relationships and forming connections within the campus environment and among peers. Both the quantitative portion of my research and the qualitative phase point to the importance of providing opportunities to international graduate students to form connections and receive support so that they then develop a sense of belonging, have a deeper connection to the campus community and feel like a valued member of the campus community.

This study showed no remarkable differences between genders or between high vs. low context culture groups regarding having a sense of belonging. All focus group participants voiced the need for implementing social events to foster their sense of belonging. All were

interested in small group gatherings to build meaningful relationships, and several were interested in group-based outdoor activities that allow inclusive attendance. Students preferred having ongoing social events to provide international graduate students with the opportunity to socialize informally and relax to get away from their academic responsibilities. The outdoor activities of interest included picnics, biking, and walking. One primary interest was an orientation via a campus outdoor walking tour for all new international graduate students at the beginning of each semester.

Recommendations to Improve International Graduate Students' Sense of Belonging and Social Networks

MSU's OISS has a tremendous opportunity to explore the potential of implementing an outdoor orientation program for international graduate students. In designing the program and selecting events and activities, my research results lead to these recommendations considering programming elements for developing the sense of belonging of international graduate students.

Sense of Belonging Recommendations

1. *Intentional peer connection* - was one of the major factors highlighted by study participants as essential for developing a sense of belonging. Students expressed the need to connect with their peers. Also, students mentioned meeting and speaking with international graduate students who have experienced the transition phase to gain insight into the “ins and outs” of the department, the whole campus community, and the East Lansing community. Therefore, events and activities should allow international graduate students access to new and returning international graduate students to create peer-to-peer

connections. This is particularly important for international graduate students coming from high context cultures.

2. *Provide avenues for acceptance in the program department* - was a major factor identified in the quantitative survey as essential for developing a sense of belonging. Feeling comfortable within their program department allows international graduate students to focus on their academics. In addition, it gives them a feeling that they are valued members of the department. Therefore, departmental graduate program administrators can consider ways to create an ongoing, socially inclusive environment.
3. *Offer reassurance of support* - is the combination of Recommendations #1 and #2. While students stressed the general importance of forming connections, specifically gaining the support of their departmental peers and other program department members was crucial. Students noted that forming one-time connections (i.e., meeting once in a departmental orientation) but not having ongoing departmental support does not help them develop a sense of belonging. However, when peers and department members (such as major professors, a departmental graduate secretary, a graduate faculty member coordinator) show interest and support their progress, it motivates them to overcome the challenges.
4. *Encourage the feeling of value and importance in the campus community* - this need stems from students voicing their opinion that if administrators and fellow peers seek their opinions and accept their ideas and innovations, it tells them they are valued members of the department and campus community and helps them feel they belong.
5. *Facilitate the 'know-how' within the department/community* - this procedural knowledge allows international graduate students to navigate their academic and life changes with fewer inhibitions. From the students' perspective, knowing which building houses the

offices, they need to visit and what aspects of the journey are most vital helps reduce stress. Additionally, knowing their way around campus gives them a sense of belonging because they can move around quickly and confidently.

6. *Enable the sharing of similarities and differences* - with others to build contentment. By developing peer-to-peer experiences and memories, they will have deep conversations and form lasting friendships. International graduate students all have varying interests, and finding others with similarities creates group connections and a sense of belonging.

Programming Recommendations

Based on my research findings, international graduate students showed interest in implementing outdoor orientation and program activities. Therefore, considering their ideas and thoughts, I present the following recommendations when designing these programs.

1. *Duration and structure* – Students felt most programs should last about two hours. They were concerned that more extended programs would not allow all international graduate students to participate fully and make connections because of academic constraints. Additionally, a small group setting was felt to be most productive for bonding and forming meaningful social connections. Therefore, to ensure inclusivity and promote relationship-building, programs should be short with small group sizes.
2. *Timing* – Students stated that events times should vary. That is, events should not only happen at the beginning of the semester but throughout the semester. International graduate students voiced the need for **ongoing** social events as they navigate their first year of graduate school since they need social connections more as they get deeper in the

semester. They require peer support and motivational support as the new environment's pressure and academic demands deepen. Therefore, they recommend holding program/events a few weeks after classes begin, during public holidays such as Thanksgiving, Labor Day, Fourth of July, Christmas break, and spring break.

3. *Activities* – Although students were interested in an outdoor orientation program, they were not keen on the types of outdoor orientation activities typically offered to undergraduates, such as an outdoor challenge course or backpacking. Graduate students' interest was strongest for outdoor activities that could include family and friends, such as picnics, barbeques, trips to cider mills, and coffee hours. Hosting events that facilitate connection is critical to high-context culture graduate students because they value close relationships more than low-context culture students.
4. *Program Organizers/Sponsors* – Although students felt it essential to connect with people in their program department, they also felt it important to connect with other international graduate students across diverse program departments. In addition, they believed that forming relationships with persons in the international students' office was critical. Therefore, they recommend that programs/events begin with individuals within the international student's office since this is their first point of contact once on campus, then programs offered within their "home" department because that is where they will spend most of their time in graduate school. Finally, program experiences could proceed to cross-departmental collaborative programming.

Developing an outdoor orientation program would require the support of faculty and staff. University leaders may not be familiar with the natural areas or outdoor activities of interest to international graduate students, so training for leaders would be required. Prior to this training,

experienced graduate students could be involved in developing a community asset map, noting locations on and off the campus of importance, and offering enjoyment to them. Training would also entail persons learning skills to facilitate varied activities, especially those that would make both high and low context cultures comfortable in meeting new people and seeing new places. Equipment will be needed, and leaders may need incentives for involvement, so funding will also be important to support an ongoing program.

Implications of Study

The literature overlaps between outdoor orientation programs, and a sense of belonging and campus community includes self-motivation, self-efficiency, social well-being, persistence, involvement and participation, commitment, and personal and skill development. My new research findings will add to the literature and provide conceptual and practical insights for further research into the sense of belonging and sense of campus community of international graduate students. Graduate students can use findings from the study, graduate school and university administrators, international advisors and counselors, program department graduate coordinators, and faculty members to gain an awareness of international graduates' needs and create policies and programs that help improve students' sense of belonging and campus community, and thus, improve their chances for success in the pursuit of their graduate degrees.

Limitations of Research

A significant limitation of my research was getting voluntary participants during the COVID-19 pandemic. Even though the survey response rate was adequate, I had no way to conduct any study of non-response bias. Some participants who initially indicated their interest

in participating in the focus groups could not follow through. Therefore, discussion groups varied greatly in size, with some falling below the recommended number of participants. Nevertheless, my study provided insight into MSU international graduate students' sense of belonging and what they felt were ideal activities and events to help build their belongingness and inclusion in the MSU campus community.

The study population included only international graduate students at MSU who indicated their interest in participating. Therefore, findings are not immediately generalizable to other settings. Although the study population was limited, findings still provided exploratory insights into understanding what international graduate students would like as organized events to foster their sense of belonging and community on the MSU campus.

Future Research

There are many opportunities for further research to explore international graduate students' sense of belonging and campus community. Using the key findings and emergent themes from my research, one could learn more about what international graduate students describe as essential for the development of a sense of belonging on campus, how participation influences their sense of community, how enhanced social support networks influence them, and what specific changes could occur for university administrators to understand international graduate students' specific challenges and needs.

Future research could focus on the top activities that emerged as significant across the sense of belonging factors and sense of community elements. Several studies have been done to illustrate the connection of having a sense of belonging and how gaining such enhances a sense of community. Moreover, using my Sense of Belonging survey instrument and the prior Sense of

Community Index in several higher education contexts could further investigate international graduate students' sense of belonging and campus community, making findings more generalizable.

Other future research avenues could be replicating the study and conducting confirmatory factor analysis to determine the validity of the extracted factors to identify international graduate students' sense of belonging. My study could be replicated with different and larger populations of international graduate students at an HCBU and an urban public university. Another option would be to pursue a more comprehensive and larger study population by comparing international students from several Midwest universities or nationally across several university types.

Finally, the most critical next step would be to develop an outdoor orientation program for new international graduate students, then give them pre-program and post-program surveys that would include the Sense of Community Index and my new Sense of Belonging items. The impact of an outdoor orientation program on international students would be an important next step in this line of scholarship.

However, it may take several years to have a mixture of year-long activities and outdoor orientation events that would cater to international graduate students. So, future research could use evaluation of each year's participants to enhance the program for the subsequent incoming international graduate students. Once the program has been established, a poll could be used to preplan events annually. This would have the greatest, lasting benefit for international graduate students.

Conclusion

Research participants reported that implementing an outdoor orientation program would benefit their social network. The participants expressed that social events would provide deep relationships with peers and help them to become engaged members of the MSU campus community. Additionally, they would have social support to help them stay motivated and academically focused within their respective program departments. The findings highlight the importance of intentionally providing international graduate students social activities to facilitate bonding, networking, and support. Additionally, findings provide an opportunity for dialogue and tactical partnerships between program departments, the graduate school, and OISS since an outdoor orientation program might significantly affect international graduate students' transition and graduate experience.

APPENDICES

Appendix A - IRB approval letter

MICHIGAN STATE UNIVERSITY

EXEMPT DETERMINATION Revised Common Rule

February 28, 2020

To: Shari L Dann

Re: **MSU Study ID:** STUDY00004000
Principal Investigator: Shari L Dann
Category: Exempt 2(i)
Exempt Determination Date: 2/28/2020
Limited IRB Review: Not Required.

Title: International Graduate Students' Sense of Community and Belonging at a Midwest University: Exploring opportunities for a campus Outdoor Orientation Program

This study has been determined to be exempt under 45 CFR 46.104(d) 2(i).

Principal Investigator (PI) Responsibilities: The PI assumes the responsibilities for the protection of human subjects in this study as outlined in Human Research Protection Program (HRPP) Manual Section 8-1, Exemptions.

Continuing Review: Exempt studies do not need to be renewed.

Modifications: In general, investigators are not required to submit changes to the Michigan State University (MSU) Institutional Review Board (IRB) once a research study is designated as exempt as long as those changes do not affect the exempt category or criteria for exempt determination (changing from exempt status to expedited or full review, changing exempt category) or that may substantially change the focus of the research study such as a change in hypothesis or study design. See HRPP Manual Section 8-1, Exemptions, for examples. If the study is modified to add additional sites for the research, please note that you may not begin the research at those sites until you receive the appropriate approvals/permissions from the sites.

Please contact the HRPP office if you have any questions about whether a change must be submitted for IRB review and approval.

New Funding: If new external funding is obtained for an active study that had been determined exempt, a new initial IRB submission will be required, with limited exceptions. If you are unsure if a new initial IRB submission is required, contact the HRPP office. IRB review of the new submission must be completed before new funds can be spent on human research activities, as the new funding source may have additional or different requirements.



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MSU is an affirmative-action,
equal-opportunity employer.

Reportable Events: If issues should arise during the conduct of the research, such as unanticipated problems that may involve risks to subjects or others, or any problem that may increase the risk to the human subjects and change the category of review, notify the IRB office promptly. Any complaints from participants that may change the level of review from exempt to expedited or full review must be reported to the IRB. Please report new information through the study's workspace and contact the IRB office with any urgent events. Please visit the Human Research Protection Program (HRPP) website to obtain more information, including reporting timelines.

Personnel Changes: After determination of the exempt status, the PI is responsible for maintaining records of personnel changes and appropriate training. The PI is not required to notify the IRB of personnel changes on exempt research. However, he or she may wish to submit personnel changes to the IRB for recordkeeping purposes (e.g. communication with the Graduate School) and may submit such requests by submitting a Modification request. If there is a change in PI, the new PI must confirm acceptance of the PI Assurance form and the previous PI must submit the Supplemental Form to Change the Principal Investigator with the Modification request (available at hrpp.msu.edu).

Closure: Investigators are not required to notify the IRB when the research study can be closed. However, the PI can choose to notify the IRB when the study can be closed and is especially recommended when the PI leaves the university. Closure indicates that research activities with human subjects are no longer ongoing, have stopped, and are complete. Human research activities are complete when investigators are no longer obtaining information or biospecimens about a living person through interaction or intervention with the individual, obtaining identifiable private information or identifiable biospecimens about a living person, and/or using, studying, analyzing, or generating identifiable private information or identifiable biospecimens about a living person.

For More Information: See HRPP Manual, including Section 8-1, Exemptions (available at hrpp.msu.edu).

Contact Information: If we can be of further assistance or if you have questions, please contact us at 517-355-2180 or via email at IRB@msu.edu. Please visit hrpp.msu.edu to access the HRPP Manual, templates, etc.

Exemption Category. The full regulatory text from 45 CFR 46.104(d) for the exempt research categories is included below.¹²³⁴

Exempt 1. Research, conducted in established or commonly accepted educational settings, that specifically involves normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Exempt 2. Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

- (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;
- (ii) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or
- (iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 45 CFR 46.111(a)(7).

Exempt 3. (i) Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met:

- (A) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;
- (B) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or
- (C) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 45 CFR 46.111(a)(7).

(ii) For the purpose of this provision, benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing. Provided all such criteria are met, examples of such benign behavioral interventions would include having the subjects play an online game, having them solve puzzles under various noise conditions, or having them decide how

to allocate a nominal amount of received cash between themselves and someone else.

(iii) If the research involves deceiving the subjects regarding the nature or purposes of the research, this exemption is not applicable unless the subject authorizes the deception through a prospective agreement to participate in research in circumstances in which the subject is informed that he or she will be unaware of or misled regarding the nature or purposes of the research.

Exempt 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Exempt 5. Research and demonstration projects that are conducted or supported by a Federal department or agency, or otherwise subject to the approval of department or agency heads (or the approval of the heads of bureaus or other subordinate agencies that have been delegated authority to conduct the research and demonstration projects), and that are designed to study, evaluate, improve, or otherwise examine public benefit or service programs, including procedures for obtaining benefits or services under those programs, possible changes in or alternatives to those programs or procedures, or possible changes in methods or levels of payment for benefits or services under those programs. Such projects

include, but are not limited to, internal studies by Federal employees, and studies under contracts or consulting arrangements, cooperative agreements, or grants. Exempt projects also include waivers of otherwise mandatory requirements using authorities such as sections 1115 and 1115A of the Social Security Act, as amended. (i) Each Federal department or agency conducting or supporting the research and demonstration projects must establish, on a publicly accessible Federal Web site or in such other manner as the department or agency head may determine, a list of the research and demonstration projects that the Federal department or agency conducts or supports under this provision. The research or demonstration project must be published on this list prior to commencing the research involving human subjects.

Exempt 6. Taste and food quality evaluation and consumer acceptance studies: (i) If wholesome foods without additives are consumed, or (ii) If a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Exempt 7. Storage or maintenance for secondary research for which broad consent is required: Storage or maintenance of identifiable private information or identifiable biospecimens for potential secondary research use if an IRB conducts a limited IRB review and makes the determinations required by 45 CFR 46.111(a)(8).

Exempt 8. Secondary research for which broad consent is required: Research involving the use of identifiable private information or identifiable biospecimens for secondary research use, if the following criteria are met:

- (i) Broad consent for the storage, maintenance, and secondary research use of the identifiable private information or identifiable biospecimens was obtained in accordance with 45 CFR 46.116(a)(1) through (4), (a)(6), and (d);
- (ii) Documentation of informed consent or waiver of documentation of consent was obtained in accordance with 45 CFR 46.117;
- (iii) An IRB conducts a limited IRB review and makes the determination required by 45 CFR 46.111(a)(7) and makes the determination that the research to be conducted is within the scope of the broad consent referenced in paragraph (d)(8)(i) of this section; and
- (iv) The investigator does not include returning individual research results to subjects as part of the study plan. This provision does not prevent an investigator from abiding by any legal requirements to return individual research results.

¹Exempt categories (1), (2), (3), (4), (5), (7), and (8) cannot be applied to activities that are FDA-regulated.

² Each of the exemptions at this section may be applied to research subject to subpart B (Additional Protections for Pregnant Women, Human Fetuses and Neonates Involved in Research) if the conditions of the exemption are met.

³ The exemptions at this section do not apply to research subject to subpart C (Additional Protections for Research Involving Prisoners), except for research aimed at involving a broader subject population that only incidentally includes prisoners.

⁴ Exemptions (1), (4), (5), (6), (7), and (8) of this section may be applied to research subject to subpart D (Additional Protections for Children Involved as Subjects in Research) if the conditions of the exemption are met. Exempt (2)(i) and (ii) only may apply to research subject to subpart D involving educational tests or the observation of public behavior when the investigator(s) do not participate in the activities being observed. Exempt (2)(iii) may not be applied to research subject to subpart D.

MICHIGAN STATE UNIVERSITY

July 14, 2021

TO: MSU Graduate School

FROM: Shari L. Dann, Associate Professor Emeritus 

RE: HRPP IRB Approval for PhD research conducted by Angel S. Forde

I am writing to verify that I was the supervising Principal Investigator for MSU Study ID: STUDY00004000 (Exempt determination date 2/28/2020) entitled "International Graduate Students' Sense of Community and Belonging at a Midwest University: Exploring opportunities for a campus Outdoor Orientation Program.

Angel Forde worked under my supervision, and was approved as doing so when we filed the necessary IRB forms. Please see the image below, captured from CLICK documenting IRB status for Angel Forde.

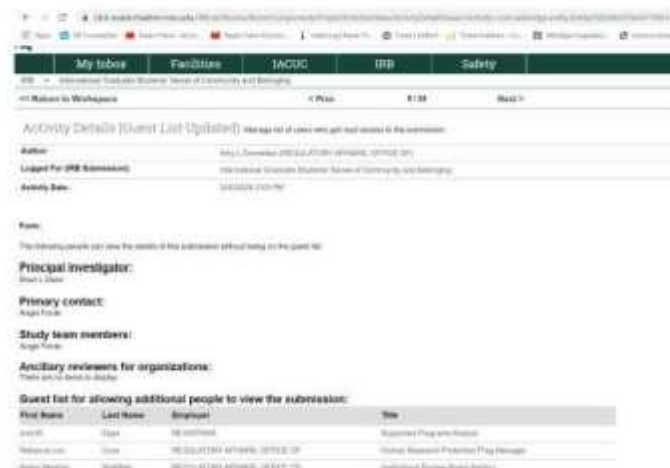


College of
Agriculture and
Natural Resources

Department of
Community
Sustainability

Natural Resources Building
400 Wilson Road Room 131
East Lansing, MI 48824

517-353-5100
Fax: 517-432-3507
osus.msu.edu



| First Name | Last Name | Employee | Title |
|------------|-----------|-----------|------------------------------|
| Angel | Forde | 000000000 | Research Program Manager |
| Shari | L. Dann | 000000000 | Associate Professor Emeritus |

MSU is an affirmative action,
equal opportunity employer.

Appendix B – Email letters sent to participants to solicit their participation

Appendix B1 - Initial email sent

Date: April 08, 2020

Subject line: Your help needed – voice your opinion – survey of MSU international graduate students

Greetings Fellow International Graduate Students!!!

We need your help AS SOON AS POSSIBLE FOR THIS 20-minute SURVEY. We are interested in learning about international graduate students' perceptions of your experiences so far here at MSU. We seek your input to use in developing future on-campus orientation program(s) that best suit international students' needs.

Once you complete the survey, you may choose to be entered into a drawing for one of 3 Amazon gift cards each worth \$15.

Your responses will be kept entirely confidential. Your answers will not be associated with your name; responses will only be seen by the research team. Your participation is voluntary. You may refuse to participate or answer specific questions or discontinue participation at any time without any consequences. If you have any questions before participating or would like to contact the research team, please email Gelica Forde at fordeang@msu.edu or Dr. Shari Dann at sldann@msu.edu. If you have questions or concerns regarding your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – the Human Research Protection Program by phone: (517) 355 2180, fax: (517) 432-4503, email: irb@msu.edu, or mail: 4000 Collins Road, Suite 136, Lansing, MI 48910].

****Please note that this survey will best display on a desktop or laptop. Some features may not be compatible with mobile devices.**

By clicking the link below, you are indicating your consent to participate.

https://msu.co1.qualtrics.com/jfe/form/SV_dhhKpCZTC4d82nX

Sincerely Gelica Forde (Ph.D. Candidate) and Dr. Shari Dann (Associate Professor)

Department of Community Sustainability

College of Agriculture and Natural Resources

Appendix B2 - First email reminder

Date: April 21, 2020

Subject line: CALLING ALL INTERNATIONAL STUDENTS – LET YOUR VOICES BE HEARD - Invest in future International Students

Hello again Fellow International Graduate Students!!!

I do hope all is well and things are going great for you all.

I would like to say thank you to all who have completed the survey already. I am greatly appreciative of your time and opinion.

For those who have not yet taken the survey, there is still time to participate. The survey will take you between 15 to 20 minutes. We seek your input to use in developing future on-campus orientation program(s) that best suit international students' needs. We are asking for your honest opinion.

Once you complete the survey, you may choose to be entered into a drawing for one of 3 Amazon gift cards each worth \$15. Participants will be divided into three separate groups, and a winner will be chosen from each group. You must be age 18 or older and live in Michigan at the time of the drawing, which will take place on May 31, 2020.

Your participation is voluntary. You may refuse to participate or answer specific questions or discontinue participation at any time without any consequences. If you have any questions before participating or would like to contact the research team, please email Gelica Forde at fordeang@msu.edu or Dr. Shari Dann at sldann@msu.edu. If you have questions or concerns regarding your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – the Human Research Protection Program by phone: (517) 355 2180, fax: (517) 432-4503, email: irb@msu.edu, or mail: 4000 Collins Road, Suite 136, Lansing, MI 48910].

*Please note that this survey will best display on a desktop or laptop. Some features may not be compatible with mobile devices.

By clicking the link below, you are indicating your consent to participate.

https://msu.co1.qualtrics.com/jfe/form/SV_dhhKpCZTC4d82nX

Sincerely Gelica Forde (Ph.D. Candidate) and Dr. Shari Dann (Associate Professor)

Department of Community Sustainability

College of Agriculture and Natural Resources

Appendix B3 - Second reminder email

Date: May 13, 2020

Subject line: CREATE AN INCLUSIVE SPACE FOR NEW INTERNATIONAL STUDENTS

My fellow international graduate students!!!

I hope your semester finished positively. As a fellow grad student, I know that your end-of-semester was probably busy and different than usual!

I would like to thank all those who have taken the time to respond to my survey. Your time is much appreciated. If you have not taken my survey, that is ok because

THERE IS STILL TIME – Please complete this survey As Soon As Possible. The survey will take only a few minutes of your time, and I need your input!

While taking the survey is voluntary, I plead for your participation. Gaining a high response percentage will allow me to do my analysis and be able to complete my dissertation requirements. You can refuse to participate or answer specific questions or discontinue participation at any time without any consequences.

Also, a reminder that after taking the survey you may choose to be entered into a drawing for one of 3 Amazon gift cards each worth \$15. Participants will be divided into three separate groups, and a winner will be chosen from each group. You must be age 18 or older and live in Michigan at the time of the drawing, which will take place on May 31, 2020.

Again, I ask that you please take the survey and help a fellow international graduate student accomplish research objectives.

*Please note that this survey will best display on a desktop or laptop. Some features may not be compatible with mobile devices.

By clicking the link below, you are indicating your consent to participate.

https://msu.co1.qualtrics.com/jfe/form/SV_dhhKpCZTC4d82nX

Sincerely Gelica Forde (Ph.D. Candidate) and Dr. Shari Dann (Associate Professor)

Department of Community Sustainability

College of Agriculture and Natural Resources

Appendix B4 - Final reminder email

Date: May 28, 2020

Subject line: INTERNATIONAL GRADUATE STUDENTS, VOICE YOUR OPINION NOW- IT IS ESSENTIAL FOR THE FUTURE

International Graduate Students

Thank you for taking the time to respond to my survey. Your time is much appreciated. Your response will allow me to complete my PhD dissertation.

If you have not taken my survey, **THERE IS STILL TIME – Please complete this survey As Soon As Possible!!!**

Remember, after taking the survey you can entered a drawing to win one of 3 Amazon gift cards each worth \$15. Participants will be divided into three separate groups, and a winner will be chosen from each group. You must be age 18 or older and live in Michigan at the time of the drawing, which will take place on May 31, 2020.

While taking the survey is voluntary, I implore your participation.

Gaining a high response percentage will allow me to do my analysis and be able to complete my dissertation requirements. You can refuse to participate or answer specific questions or discontinue participation at any time without any consequences.

This is the final reminder and your opinion will be missed if the window closes and you did not take the survey. Your voice is essential to developing an inclusive environment for international graduate students. Therefore, I ask that you please take the survey and help a fellow international graduate student accomplish research objectives.

If you have any questions before participating or would like to contact the research team, please email Gelica Forde at fordeang@msu.edu or Dr. Shari Dann at sldann@msu.edu If you have questions or concerns regarding your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – the Human Research Protection Program by phone: (517) 355 2180, fax: (517) 432-4503, email: irb@msu.edu, or mail: 4000 Collins Road, Suite 136, Lansing, MI 48910].

***Please note that this survey will best display on a desktop or laptop. Some features may not be compatible with mobile devices.**

By clicking the link below, you are indicating your consent to participate.

https://msu.co1.qualtrics.com/jfe/form/SV_dhhKpCZTC4d82nX

Sincerely Gelica Forde (Ph.D. Candidate) and Dr. Shari Dann (Associate Professor)

Department of Community Sustainability

College of Agriculture and Natural Resources

Appendix C - Survey instrument

Greetings Fellow International Graduate Students!!!

**We need your input on a short survey being conducted by the
Department of Community Sustainability**

We are interested in learning about international graduate students' perceptions of your experiences so far here at MSU. Our campus is home to over 2,000 international graduate students from all over the world, and your perspective on how best to support international students is highly valued. We seek your input to use in developing future on-campus orientation program(s) that best suit international students' needs.

You will be asked questions about your experiences, your relationship with your department and MSU, and your involvement in other areas/organizations across campus. Once you complete the survey, you may choose to be entered into a drawing for one of 3 Amazon gift cards each worth \$15. Participants will be divided into three separate groups, and a winner will be chosen from each group. You must be age 18 or older and live in Michigan at the time of the drawing, which will take place on May 30, 2020.

We are asking for your honest opinion. Be assured that your responses will be kept entirely confidential. Your answers will not be associated with your name; responses will only be seen by the research team. *The survey will take about 15 minutes to complete.*

As a fellow international student, I too struggled with the transition into the MSU campus community and would like to make it a bit easier for future international graduate students. I am seeking your help to create a welcoming environment, please complete my survey which is part of dissertation research. If you have any questions before participating or would like to contact the research team, please email Gelica Forde at fordeang@msu.edu or Dr. Shari Dann at sldann@msu.edu. If you have questions or concerns regarding your rights as a study participant or are dissatisfied at any time with any aspect of this study, you may contact – (anonymously, if you wish) – the Human Research Protection Program by phone: (517) 355 2180, fax: (517) 432-4503, email: irb@msu.edu, or mail: 4000 Collins Road, Suite 136, Lansing, MI 48910].

Your participation is voluntary. You may refuse to participate or answer specific questions or discontinue participation at any time without any consequences.

By clicking the arrow below, you are indicating your consent to participate.

****Please note that this survey will best display on a desktop or laptop. Some features may not be compatible with mobile devices.**

Sincerely Gelica Forde (Ph.D. Candidate) and Dr. Shari Dann (Associate Professor)

Department of Community Sustainability

College of Agriculture and Natural Resources

The survey has seven sections.

Your responses are essential to our understanding of international graduate students' perspectives on their relationship to their department and the MSU campus community.

Section One: Please provide us with your academic background

1. What is your academic department? (If you are in more than one department, please list all of them - examples: Community Sustainability, Plant Biology, Higher Ed, Kinesiology)? -----
2. What degree are you seeking?
 - a. Masters
 - b. Ph.D.
 - c. Professional
3. What is your graduate degree title? (examples: Civil-engineering, Mathematics Education, Molecular Biology) If you have more than one degree program, please list all of them -----
4. Are you also seeking a graduate specialization and /or certification?
 - a. Yes, if so, please specify all of them -----
 - b. No
5. Are you presently enrolled for credit?
 - a. Yes, if so, how many -----
 - b. No
6. Are you employed by your program department? (examples: research assistant, teaching assistant, hourly employee, salaried employee)
 - a. Yes
 - b. No
7. Do you receive any funding from these sources? (examples: assistantship, fellowship, scholarship, hourly wages, etc.) Check all sources
 - a. My program department
 - b. Another department
 - c. Your native country
 - d. Other -----
8. Before attending MSU, did you attend another university/college in the US?
 - a. Yes – If yes, skip to question number 9
 - b. No – If no, skip to question number 11
9. I attended a US institution as an undergraduate student.
 - a. Yes
 - b. No
10. I attended a US institution as a graduate student
 - a. Yes
 - b. No
11. How long have you been a graduate student at MSU? -----

12. How much longer do you anticipate it will take to complete your current MSU degree program? -----

The following three sections will ask you about your sense of belonging and community at multiple levels. In section two, please focus on your department. In section three, please focus on MSU as a community overall. In section four, please focus on how connected you feel to MSU.

13. Section Two: Your Perspectives on the Department Where You Study

Please indicate how much you agree or disagree with the following statements

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|--|------------------------------|-----------------|--------------|---------------------------|
| I feel like I belong in my department | | | | |
| I have developed a personal relationship with my peers and others in my department | | | | |
| I only interact with a few specific people in my department | | | | |
| Sometimes I feel like no one in the department likes or knows me | | | | |
| I am not valued as a member of my department | | | | |
| I have felt lonely in my department | | | | |

Section Three: The following three sections will ask you about your sense of belonging and community at multiple levels. In section two, please focus on your department. In section three, please focus on MSU as a community overall. In section four, please focus on how connected you feel to MSU.

14. How important is it to you to feel a sense of community with other MSU community members?

- Prefer not to be a part of this community
- Not important at all
- Not very important
- Somewhat important
- Important
- Very Important

15. Please read each statement. If the statement describes how you feel, click "true" if it represents, you and "false" if it does NOT represent you.

| | True | False |
|--|-------------|--------------|
| I think MSU is the right place for me to go to school | | |
| People at MSU do not share the same values | | |
| My classmates and I want the same things from MSU | | |
| I can recognize people who go to school at MSU | | |
| I feel at home at MSU | | |
| Very few people at MSU know me | | |
| I care about what people at MSU think about me | | |
| I have almost no influence over what MSU is like | | |
| If I have an issue, the people here can help me solved it | | |
| It is very important to me to be a student at MSU | | |
| Fitting into the MSU community is important to me | | |
| I expect to stay at MSU for the full duration of my degree program | | |

16. Section Four: Your Perspectives about Belonging at MSU/to MSU
Please indicate whether you agree or disagree with the following statements

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|--|--------------------------|-----------------|--------------|-----------------------|
| I feel like MSU is a part of me | | | | |
| I feel a sense of belonging at MSU | | | | |
| I feel that I am a member of the MSU campus community | | | | |
| I see myself as a part of MSU | | | | |
| Being a member of the MSU campus community helps my identity | | | | |
| I can trust members of the MSU campus community | | | | |

17. Section Five: Your Involvement with Campus Activities and Local Activities off Campus

Please indicate whether you take part in these activities and how often

| | Never | Occasionally | Often | Very Often |
|--|--------------|---------------------|--------------|-------------------|
| Campus recreational sports | | | | |
| Intramural sports | | | | |
| Faith development/spirituality | | | | |
| Greek Organizations | | | | |
| Participate in athletics/sports/teams (on or off campus) | | | | |
| Attend MSU athletic events | | | | |
| Registered MSU student organizations | | | | |
| Council of Graduate Student events (COGS) | | | | |
| Department Graduate Student Organization events | | | | |
| MSU Student government | | | | |
| University activity board events | | | | |
| Your Department activities/events | | | | |
| Taking walks | | | | |
| Hiking | | | | |
| Biking | | | | |
| Camping | | | | |
| Fishing | | | | |
| Skiing | | | | |
| Snowboarding | | | | |
| Running outdoors | | | | |
| Nature observation (wildlife viewing) | | | | |
| Going to playgrounds | | | | |
| Visiting gardens | | | | |
| Enjoying the river scenery | | | | |
| Art gallery | | | | |
| Cultural activities | | | | |
| Theater productions | | | | |
| Science fairs | | | | |
| Concerts | | | | |
| Other activities – please list ----- | | | | |

Section Six: We would like some specific information about you. Remember, your responses will remain confidential and will not be associated with your name.

- 18.** What is your age? ----- years old
- a. 20-29
 - b. 30-39
 - c. 40-49
 - d. 40-59
 - e. 60 and over
- 19.** What is your gender?
- 20.** How long have you been living in the USA?
- a. Less than 3 months
 - b. Less than 6 months
 - c. Less than one year
 - d. One year
 - e. Two year
 - f. Three years
 - g. More than three years
- 21.** Do you have family members living in the MSU area?
- a. Yes
 - b. No
- 22.** Do you have family members elsewhere in the USA?
- a. Yes
 - b. No
- 23.** Where do you consider to be your native country? -----
- 24.** Where do you live in the MSU area?
- a. On-campus ---- (if selected, skip to question 26)
 - b. Off-campus, in the E. Lansing/Lansing are ---- (if selected skip to question 25)
 - c. Off-Campus, elsewhere due to my job situation
 - d. Off-Campus, elsewhere doing graduate fieldwork
 - e. Off-Campus, elsewhere due to COVID-19
- 25.** Approximately how many miles away? -----
- 26.** With whom do you live? Check all that apply
- a. By myself
 - b. Friend(s)
 - c. Someone from my native country
 - d. A fellow grad student from my department
 - e. Spouse
 - f. Children
 - g. Other family members
 - h. Partner/significant other
 - i. Others – please specify

27. Are you disabled in a way that significantly impacts your ability to work or recreate?
- Yes
 - No

Section Seven: In this open-ended section, please provide a few words or sentences in your answers.

28. Describe your community/town/city within your native country? (Please share details like individualistic, community-oriented, stick to your self, have lots of social ties, close to your immediate family, close to your entire extended family, etc.). How would you describe your transition/adjustment from your native country to the US in general? And to MSU specifically?
29. How would you describe your transition/adjustment from your native country to the US in general?
30. How would you describe your transition/adjustment from your native country to MSU specifically?
31. Describe your sense of belonging/connection to your program department. (Share details with your answer)
32. Describe your sense of belonging/connection to the MSU community as a whole? (Share details with your answer)
33. Explain one thing you would improve and or implement to build a sense of belonging/connection for international graduate students as they transition/adjust to MSU?
34. If you have one, describe your most memorable activity that helped you transition/adjust to MSU?

Thank you for taking the time to complete our survey. Your responses will be vital in helping to create a welcoming environment for all international graduate students enrolled at MSU!

End of Survey Message

Would you be interested in participating in a focus group discussion of international graduate students to discuss how MSU facilitates international graduate students orientation and their development of a sense of community?

Each focus group participant will be provided a \$25.00 Amazon gift card.

If you are interested in participating, please click on the link below to submit your information separate from your survey response,

Thank you for taking the time to complete our survey. Your responses will be crucial in helping create a welcoming environment for all international graduate students enrolled at MSU!

Click here-
<https://forms.gle/ywnkUpTgPBdDbfc76>

If you are having trouble logging into the google form, please email me your information at fordeang@msu.edu

If you would like to be entered in a drawing for one of three Amazon gift cards valued at \$15.00, please click on the link below to register separately from your survey response.

[Click here](#)
<https://forms.gle/YQpiGP2jT5dkU54T9>

If you are having trouble logging into the google form, please email me your information at fordeang@msu.edu

Appendix D - Letter to survey winners

Date: June 05, 2020

Subject line: Winner of survey raffle

Good Day fellow International Graduate student

Thank you for taking the time to complete my survey on International graduate students' sense of community and belonging. Your input has made it possible for me to address important questions facing international students at MSU into the future. Your response will help in creating a welcoming environment for future international graduate students.

Congratulations _____!!!

You have been selected as one of three winners for a \$15.00 Amazon gift card.

I will be calling you soon to set up a way to get you your gift card.

Again, Thank you

Gelica Forde

Community Sustainability Ph.D. Researcher

Appendix E – Emails for focus group recruitment

Appendix E1 - Initial request for focus group participation

Date: April 08, 2020

Subject line: Focus group discussion on international graduate student sense of belonging

Would you be interested in participating in a focus group discussion of international graduate students to discuss how MSU facilitates international graduate students' orientation and their development of a sense of community?

Each focus group participant will be provided a \$25.00 Amazon gift card.

If you are interested in participating, please click on the link below to submit your information separate from your survey response,

Thank you for taking the time to complete our survey. Your responses will be crucial in helping create a welcoming environment for all international graduate students enrolled at MSU!

Click here-

<https://forms.gle/ywnkUpTgPBdDbfc76>

If you are having trouble logging into the google form, please email me your information at fordeang@msu.edu

Appendix E2 – Second request for focus group participation

Date: June 05, 2020

Subject line: Focus group participation

Good Day fellow International graduate student

First let me thank you for completing my survey; your response is greatly appreciated. Your response will be vital in building an environment that will allow international graduate students to feel welcomed into the MSU community.

Secondly, thank you for being willing to participate in my focus group discussion. I am hoping to conduct a total of five focus groups, probably around mid-to late-August 2020. Remember, each participant will be given a \$25.00 Amazon gift card time for your time and efforts.

If you are still interested in being a participant, please respond to this email request and indicate if you will be available during the proposed period for the discussions. Please let me know if you will be in the East Lansing area in mid-to late-August. Please share with me any other ways that you would like me to contact you when the exact focus group dates are set.

Thank you and sincerely,

Gelica Forde

Community Sustainability PhD Researcher

Appendix E3 – Third request for focus group participation

Date: August 7, 2020

Subject line: Focus group participation

Good Day my fellow graduate international students.

I hope you all are doing ok in these uncertain times.

I know these times are especially difficult for us as the government tries to send us home and we worry about families in our native country.

I sincerely hope you all are in good standing and can stay in the USA and make progress in your program of study and research work.

I have been going through a lot of changes and had a few obstacles while navigating my research work. Due to these unplanned events, I am not able to follow my proposed timeline.

Thus, I am reaching out again to solicit your participation in my research focus group discussion.

You are receiving this email because you had indicated an interest in participating.

I am hoping to host these discussion sessions in-person as each group will not be more than eight-person (six participants and two facilitators).

Based on the IRB protocol, I cannot conduct in-person sessions at this time. Therefore I am pushing back the sessions to **mid-to late-September 2020**. However, if no changes are made to the protocol at the ending of September, I will host my discussions virtually.

Remember, each participant will be given a \$25.00 Amazon gift card time for your time and efforts.

If you are still interested in being a participant, please respond by completing the google form.

<https://docs.google.com/forms/d/1mTFTVIS26PNbhnn5E7sUIJIQrX-kxMqlHiLG7ZGwXoM/prefill>

Appendix E4 – Final request for focus group participation

Date: October 10, 2020

Subject line: International graduate student focus group discussion

Good Day my fellow graduate international students.

I hope you all are doing ok in these uncertain times. I know these times are especially difficult for us being away from our families. I implore you to keep focus and press on, better days are ahead. Also, I sincerely hope you all are making progress with your program of study and research work.

I am reaching out again to solicit your participation in my research focus group discussions. You are receiving this email because you had indicated an interest in participating during your sitting of the online survey.

All focus group discussion sessions will be conducted virtually to ensure the safety of every participant. The discussion will have no more than six persons at each session and me as your facilitator – a total of seven persons on the call. The sessions are expected to last between an hour and a half to two hours. Full duration will depend on the level of discussion. Each session will be recorded; however, your name will not be associated in any way with the results and your comments will be confidential.

Given the timeline, focus group sessions could begin the last week in October or first week of November. If you are still interested in participating, please respond by filling out this doodle poll indicating your available day and time. <https://doodle.com/poll/322s6xmkqwh3m7x>

I will use this to create group sessions. **Remember, each participant will be given a \$25.00 Amazon gift card after the session ends, in appreciation for your time and efforts.**

Thank you in advance for agreeing to participate.

Appendix F – Focus group participant information sheet

Figure A-F – Focus group participant information sheet

6/11/2021 Focus Group Interest

Focus Group Interest

The respondent's email (**null**) was recorded on submission of this form.
* Required

1. Email *

2. Name *

3. Gender *
Mark only one oval.
☐ Female
☐ Male
☐ Prefer not to say
☐ Other:

4. What is your native country *

5. Are you from an Urban or Rural town/city *
Mark only one oval.
☐ Urban
☐ Rural
6. Phone Number:

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Google Forms

<https://docs.google.com/forms/d/1mTFTy1S26PNbhen5E7sLJIQzX-4xMp4L67ZGwXoM/edit>

Appendix G – Focus group facilitation guide

International Graduate Students' Sense of Community and Belonging at A Midwest University: Exploring Opportunities for A Campus Outdoor Orientation Program

Focus Group Questions

Introduction and Consent Script

Hello, my name is Gelica Forde, a fellow international graduate student. I am a native of Jamaica. My program of study is Sustainable Tourism and Protected Area Management in the Department of Community Sustainability. My study area of interest relates to building a sense of community and creating welcoming environments.

You have been chosen to participate in this focus group because you are an international graduate student attending MSU. This is an opportunity for your opinions, experiences, and perspectives to be heard, and ultimately make a difference!

Today's discussion aims to gain your perspective on how MSU welcomed you into the community and how connected you feel to your department and the MSU campus community at large. A second aim is to listen to your ideas about the potential of utilizing a campus outdoor orientation program that would help an international graduate student get situated on the campus and develop a greater sense of belonging.

Before we get started, I would like to inform you of a few details regarding today's discussion. We will be recording the zoom focus group discussion so we can accurately capture everyone's responses. Also, thoughts and comments shared in the chat will be saved to assist in analysis. If you are uncomfortable with this, please let me know. You have the option to leave. The recording will be used for transcription of the information collected; your name will be kept confidential. The information gathered will only be analyzed by myself and my guidance committee. If at any time, during the discussion, you become uncomfortable, you can say "I pass" if you do not want to reply to a specific question, or you can leave the focus group without any consequences.

Start recording

(Gelica): Please indicate that you agree to be recorded during this zoom focus group discussion by saying, "I consent, putting a thumb up or typing it in the chat." Thank you all for agreeing to participate in the conversation today.

Let us take a few minutes to become familiar with each other by doing quick introductions, if you are comfortable, you can unmute yourself and do your introduction verbally, or you can use

the chat feature. Let us share:

- Your name
- Your department and program
- Your country of origin

As a reminder, your name will not be associated with any of the results from this focus group.

I will start by introducing myself as an example.

.....

Great, thanks, everyone.

Research Objective:

For my research, the objective is:

To explore whether having a stronger sense of belonging increases an individual's sense of community and whether an outdoor orientation program for international graduate students would increase their sense of belonging, and ultimately create a stronger sense of community at MSU.

As we get into answering questions, I would like to give a few guidelines for today's focus group. Let us

- Have one person speak at a time
- Allow each person to finish their point before moving on to the next person
- Feel free to say precisely what you wish to convey. Do not feel like you must hold back.
- All ideas and opinions are of importance.

Discussion Guide Question (90 to 120 minutes):

Section 1 Introduction and Warm-Up (10 minutes)

Can everyone please type in the chat feature their response to the following question

1. What words or phrases would you use to describe your transition into the MSU campus community?

Try not to overthink them. Write down your initial gut reactions. (Gelica—wait a few moments. Watch facial expression of attentiveness for when most are finished).

Now, I am going to turn it over to you all to share what you have written. Who would like to share first? Please feel free to provide additional insights if you believe you have more to share.

(Gelica--If people are having trouble deciding who is going next, call on person and state who is on deck next).

Thank you all for sharing

(Gelica): The focus group will be divided into two sections: 1) the potential of an outdoor orientation program in helping international students to develop their sense of belonging, and 2) recommendations for the outdoor orientation programs, and 3) your experiences and perspectives on a sense of belonging, emotional attachment, and connection to place.

Let us get started on the first section,

Section 2: Outdoor Orientation Discussion (30 minutes)

Outdoor orientation programs are used on some campus as organized activities taking place in the natural environment, which help new students adjust to their new living environment. They often include team building activities designed to help students become acquainted with each other and their new community. These programs also help new students form relationships with people outside of their classes or departments, learn teamwork and collaborative skills, and bond through shared experiences and new memories. Some examples of outdoor orientation programs could include going on walks together, biking, sharing time during a picnic, visiting gardens, or parks together, and these could be considered campus-based outdoor activities. Off-campus outdoor orientation activities could include taking trips to natural areas, pumpkin patches, places to picnic or to walk with friends or family, go bike riding, fishing, hiking, try out kayaking or canoeing, or maybe even to try camping or other outdoor adventure activities.

In this section of the focus group, I am interested in your ideas and opinions about the potential for outdoor orientation programs for international graduate students in general.

1. Have you heard of an outdoor orientation program?
2. What are your thoughts about implementing a **campus-based** outdoor orientation program for international graduate students? Is this a good idea? Why or why not? What topics would you be interested in doing?
3. What are your thoughts about an **off-campus, Michigan-based** outdoor orientation program for international students? Is this a good idea? Why or why not? How far from campus would you go to participate?
4. Do you believe an outdoor orientation program would help in fostering international graduate students' sense of belonging? If so, why, or why not?

Probe: what about international students who are here with spouse, partner, and/or children? Would they have different interests/needs than the others?

(Point of encouragement and transition language to move to the next section). Thank you so much for all your great insights and ideas on outdoor orientation programs in general. You are all doing a great job. OK. Let us move on to section 2 of the discussion. This is where we need your great thinking and ideas. Let us assume an outdoor orientation program for international students is going to happen. I would like to hear your thoughts on a potential schedule of activities.

Section 3: Specific Design of the Outdoor Orientation Program (40 minutes)

Let us assume MSU is going to develop an outdoor orientation program. The goal is to help international graduate students transition to campus, learn more about their new community,

meet new people, and build new connections. Let us consider program specifics about the design of an ideal outdoor orientation program.

5. Given the outdoor activities you have participated in, or the unique natural places you have discovered on your own, what outdoor activities would you recommend be included in the ideal organized campus outdoor orientation program?

Prompts: guided nature walks, running clubs, family-oriented outdoor activities, picnics, geocaching, etc.

6. What recommendation would you provide for the structure of the program look?
 - a. Timing - **When** would the ideal outdoor orientation program take place?
(beginning of the semester, middle of the semester, semester breaks, off and on all year)
 - b. Duration - **How long** would the ideal outdoor orientation program be?
 - c. *(prompts: a couple of hours, a half-day, a whole day, multiple days throughout the semester).*
 - d. University Level - **What level** should this outdoor orientation take place?
(prompts: in your department, in your college, for all graduate students).
 - e. Organizing Unit - **Who** would manage the outdoor orientation program?
(prompts: The Graduate School, OISS, Residence Life, or by your housing unit/area)
 - f. **Participants:** If your family is here with you, would you prefer to participate alone, with your family, or a combination of both options?

Prompt- Would you prefer a program that supports activities for your immediate family or one that supports your well-being?

7. Think about all we have discussed thus far; what would be the ideal campus outdoor orientation program from your perspective? Do not need to ask if discussion mention
8. What are the essential elements of an outdoor orientation program to build a sense of belonging for international graduate students on the MSU campus?

((Point of encouragement and transition language to move to the next section). Thank you so much for all your great insights and ideas. This is exactly the kind of information I hoped to gather. You are all doing a great job. OK. Let us move on to the next section. Let us explore how an outdoor orientation can help in developing international graduate students' sense of belonging to the MSU campus community.

Section 4: Sense of Belonging Exercise (20 minutes)

For us to have the same understanding, in this study, a **sense of belonging** is a human need and an element essential for seeing the value in life and in coping with intensely painful emotions. A sense of belonging is necessary for self-actualization, which can be developed through an increase in one's social network. A sense of belonging is important because it affects a person's well-being and helps students stay motivated during their academic studies.

OK, let us talk a bit about your **sense of belonging** on the MSU campus and your program department.

9. What does a sense of belonging mean to you?
 - a. Where and when have you experienced a sense of belonging?
10. What has helped you develop that sense of belonging?
 - b. How important is that to you?

Prompts – comfort in your department, connection to MSU, friends at MSU, involvement across campus, participation in community activities where the students live (e.g., the public library activities, a religious institution)

Emotional attachment is a critical contributor to people's sense of belonging. Emotional attachments refer to a feeling associated with your peers, your department, and to MSU. It also includes feelings of safety, or shared values, or shared memories.

11. How would you describe your emotional attachment to MSU community?
 - a. When and where do you feel that sense of emotional connection?
 - b. How important is it that you have such a connection to MSU community?

Connection to place is also an essential element of a sense of belonging. I am interested in knowing more about it and how you have made connections to natural areas at MSU, the broader East Lansing community, or even within Michigan. Natural places could include parks, gardens, walking trails, rivers, beaches, etc.

12. What connections have you made with the natural places here?
13. What has helped you make connections to those natural places?
 - a. How meaningful are those connections to you? *Prompt - If people start talking about labs, buildings, and other built environment features as places, redirect them back to natural or environmental features of the campus.*
14. If you have made connections with natural places **on campus**, what helped form that connection?

Prompts: outdoor activities such as taking walks on campus, running outdoors, nature observation, hiking, or fishing, enjoying gardens

15. If you have enjoyed natural places **away from campus**, what outdoor activities have you participated in the greater Lansing/East Lansing area or throughout the state of Michigan?

Prompts –outdoor activities such as visiting a state or national park, the Lansing river trail, visiting Lake Lansing, skiing up north, visiting the Great Lakes, or sleeping bear dunes)

Final Thoughts

We have talked about many different topics today—a sense of belonging, connections to place, outdoor orientation programs in general, ideas for a potential/ideal outdoor orientation program for international graduate students.

16. As we wrap up, what else would you like to share with us? Is there anything else you would like to add?

Wrap up and thank you.

This has been a productive focus group discussion.

Your perspective and opinion are appreciated.

Thank you for giving of your time.

Appendix H – Chapter three additional tables

Figure A-H1 – Scree plot with the 12 Eigenvalues obtained from the exploratory factor analysis; red arrow shows three factors within the construct of sense of belonging.

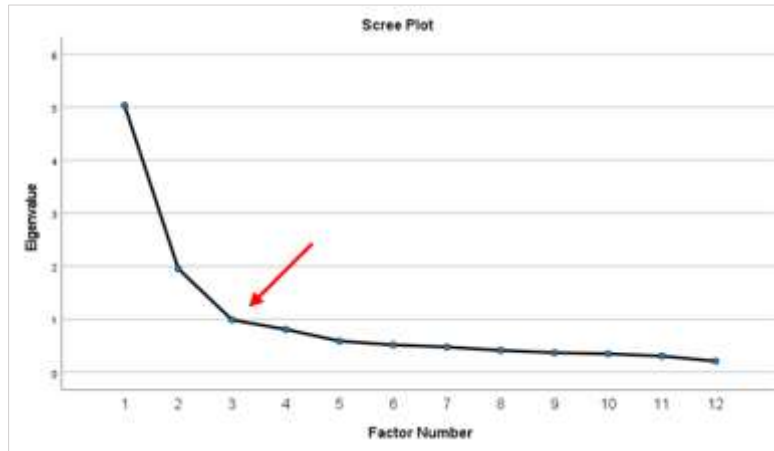


Table A-H2 – KMO and Bartlett's test for Sphericity Table

| KMO and Bartlett's Test | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .875 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1557.862 |
| | df | 66 |
| | Sig. | .000 |

Table A-H3 – Factor transformation matrix illustrating the suitability of the chosen rotation technique used in the factor analysis

| Factor Transformation Matrix | | | |
|-------------------------------------|----------|----------|----------|
| Factors | 1 | 2 | 3 |
| 1 | .771 | .470 | .429 |
| 2 | -.620 | .706 | .342 |
| 3 | -.142 | -.530 | .836 |

*Extraction Method: Principal Axis Factoring
 *Rotation Method: Varimax with Kaiser Normalization

Table A-H4 – Cronbach's Alpha test for reliability

| | Item number | Alpha |
|-------------------------|--------------------|--------------|
| All items | 12 | .862 |
| Factors | | |
| MSU Connection | 6 | .881 |
| Departmental Acceptance | 3 | .812 |
| Departmental Connection | 3 | .624 |

Table A-H5 – Gender comparison of a sense of belonging and campus community

| | Sense of belonging | | | Sense of campus community | | | |
|--|--------------------|----------------------------|----------------------------|---------------------------|-----------|--------------------------------|---------------------------|
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 189 | 207 | 206 | 206 | 207 | 208 | 205 |
| Mann-Whitney U | 4702.5 | 4491.0 | 5148.5 | 5265.0 | 5495.0 | 5436.0 | 4938.0 |
| Asymptotic significance (2-sided) | .470 | .052 | .975 | .985 | .671 | .815 | .435 |

Table A-H6 – Comparison of international graduate students sense of belonging and campus community based on High/Low context Culture

| | Sense of belonging | | | Sense of campus community | | | |
|---|--------------------|----------------------------|----------------------------|---------------------------|-------------|--------------------------------|---------------------------|
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 261 | 284 | 284 | 284 | 286 | 285 | 284 |
| Mann-Whitney U | 2169.0 | 3493.5 | 3774.5 | 3936.5 | 2676.5 | 2893.0 | 3688.5 |
| Asymptotic significant (2-sided) | .013 | .952 | .432 | .231 | .036 | .041 | .535 |

Table A-H7 – Participants sense of belonging and campus community to campus and outdoor activities

| Campus recreational sports | | | | | | | |
|---|---------------------------|----------------------------|----------------------------|-------------|----------------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 287 | 314 | 313 | 313 | 315 | 315 | 312 |
| Mann-Whitney U | 13108.5 | 12895.5 | 14350.0 | 14464.0 | 14344.0 | 13263.5 | 10945.0 |
| Asymptotic significant (2-sided) | .000 | .445 | .005 | .003 | .011 | .114 | .085 |
| Intramural sports | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 8458.5 | 9324.0 | 10230.5 | 11472.5 | 11133.0 | 9600.0 | 9003.5 |
| Asymptotic significant (2-sided) | .181 | .963 | .208 | .003 | .019 | .912 | .494 |
| Faith spiritual development | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 8742.5 | 9235.0 | 10026.5 | 9685.0 | 10183.0 | 9733.5 | 7348.5 |
| Asymptotic significant (2-sided) | .010 | .465 | .042 | .134 | .032 | .047 | .024 |
| Greek organization | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 3184.5 | 4146.5 | 3763.0 | 4257.5 | 3981.5 | 4141.0 | 2847.5 |
| Asymptotic significant (2-sided) | .152 | .224 | .718 | .058 | .247 | .102 | .095 |
| Participate in athletic sports/teams | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 9306.0 | 10422.0 | 11129.5 | 11796.0 | 11340.5 | 10265.5 | 9192.5 |
| Asymptotic significant (2-sided) | .040 | .478 | .068 | .008 | .061 | .648 | .260 |

Table A-H7 (cont'd)

| Attend MSU athletic events | | | | | | | |
|--|---------------------------|----------------------------|----------------------------|-------------|----------------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 12191.0 | 12509.0 | 13235.0 | 15293.5 | 14214.0 | 12532.0 | 10846.0 |
| Asymptotic significant (2-sided) | .007 | .803 | .200 | .000 | .019 | .813 | .060 |
| Registered MSU student organization | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 12102.0 | 13312.0 | 13869 | 14656.5 | 13864.5 | 12621.0 | 11642.5 |
| Asymptotic significant (2-sided) | .000 | .031 | .002 | .000 | .005 | .100 | .870 |
| Council of graduate student events (COGS) | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 10763.0 | 11788.0 | 11798.5 | 12602.0 | 13065.5 | 11602.5 | 11663.0 |
| Asymptotic significant (2-sided) | .083 | .622 | .509 | .093 | .038 | .808 | .589 |
| Department graduate student organization events (GSO) | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 9703.5 | 9761.0 | 10368.0 | 9920.0 | 10760.5 | 10584.0 | 8463.5 |
| Asymptotic significant (2-sided) | .026 | .984 | .298 | .785 | .209 | .129 | .048 |
| MSU student government | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 287 | 314 | 313 | 313 | 315 | 316 | 313 |
| Mann-Whitney U | 8317.0 | 8430.0 | 9565.5 | 10082.0 | 9602.0 | 9343.0 | 8413.5 |
| Asymptotic significant (2-sided) | .004 | .598 | .015 | .001 | .019 | .010 | .429 |

Table A-H7 (cont'd)

| University activity board events | | | | | | | |
|---|--------------------|----------------------------|----------------------------|-------------|---------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 287 | 314 | 313 | 313 | 315 | 315 | 312 |
| Mann-Whitney U | 12059.0 | 12281.0 | 11593.0 | 13474.5 | 12935 | 12628.0 | 10744.0 |
| Asymptotic significant (2-sided) | .001 | .488 | .867 | .019 | .149 | .139 | .230 |
| Your department activities/events | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 5088.0 | 5707.0 | 5921.0 | 5498.0 | 5865.0 | 5260.5 | 4251.0 |
| Asymptotic significant (2-sided) | .085 | .106 | .015 | .205 | .096 | .543 | .099 |
| Taking walks | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 5915.0 | 7256.5 | 7542.0 | 7872.0 | 7462.5 | 6494.0 | 5974.0 |
| Asymptotic significant (2-sided) | .373 | .199 | .036 | .007 | .102 | .908 | .443 |
| Hiking | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 313 | 312 | 312 | 314 | 314 | 311 |
| Mann-Whitney U | 10556.0 | 13462.5 | 13518.0 | 14726.5 | 13847.5 | 12952.5 | 12090.5 |
| Asymptotic significant (2-sided) | .595 | .115 | .069 | .001 | .045 | .243 | .967 |
| Biking | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 288 | 315 | 314 | 314 | 316 | 316 | 313 |
| Mann-Whitney U | 11831.5 | 13424.0 | 14402.5 | 14528.0 | 14327.5 | 12354.0 | 12057.5 |
| Asymptotic significant (2-sided) | .034 | .197 | .007 | .004 | .018 | .825 | .788 |

Table A-H7 (cont'd)

| Camping | | | | | | | |
|---|---------------------------|----------------------------|----------------------------|-------------|----------------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 7631.0 | 9997.0 | 9807.5 | 11162.0 | 10016.5 | 8611.0 | 9495.5 |
| Asymptotic significant (2-sided) | .857 | .410 | .531 | .016 | .558 | .044 | .995 |
| Fishing | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 313 | 312 | 312 | 314 | 314 | 311 |
| Mann-Whitney U | 4460.0 | 5040.5 | 5382.0 | 6373.0 | 5839.0 | 5229.0 | 4411.0 |
| Asymptotic significant (2-sided) | .016 | .253 | .051 | .000 | .004 | .035 | .900 |
| Skiing | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 5592.5 | 6691.0 | 6655.0 | 8023.5 | 7292.5 | 6389.0 | 6588.5 |
| Asymptotic significant (2-sided) | .090 | .144 | .139 | .000 | .019 | .364 | .197 |
| Snowboarding | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Standard error | 399.161 | 454.182 | 441.166 | 449.747 | 452.240 | 332.018 | 407.22 |
| Asymptotic significant (2-sided) | .125 | .801 | .162 | .046 | .036 | .320 | .479 |
| Running outdoors | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 313 | 312 | 312 | 314 | 314 | 311 |
| Mann-Whitney U | 9930.5 | 11875.5 | 11851.5 | 13142.0 | 12362.5 | 10563.0 | 10514.0 |
| Asymptotic significant (2-sided) | .405 | .312 | .249 | .003 | .091 | .297 | .645 |

Table A-H7 (cont'd)

| Nature observation (wildlife viewing) | | | | | | | |
|--|---------------------------|----------------------------|----------------------------|-------------|----------------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 285 | 312 | 311 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 10467.5 | 12764.5 | 12560.0 | 13675.5 | 13301.5 | 11264.0 | 11475.0 |
| Asymptotic significant (2-sided) | .320 | .199 | .240 | .006 | .048 | .299 | .863 |
| Going to playgrounds | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 284 | 311 | 310 | 310 | 312 | 312 | 309 |
| Mann-Whitney U | 13105.5 | 14626.5 | 13717.0 | 15449.5 | 15445.0 | 14253.0 | 11692.5 |
| Asymptotic significant (2-sided) | .000 | .001 | .023 | .000 | .000 | .000 | .730 |
| Visiting gardens | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 8953.0 | 10843.0 | 11485.5 | 11845.5 | 12330.0 | 11466.0 | 10192.0 |
| Asymptotic significant (2-sided) | .796 | .867 | .474 | .175 | .072 | .406 | .342 |
| Enjoying the river scenery | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 6186.0 | 7297.0 | 7755.0 | 8545.5 | 8599.5 | 7481.5 | 7442.5 |
| Asymptotic significant (2-sided) | .534 | .468 | .993 | .128 | .181 | .505 | .781 |
| Art gallery | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 6188.0 | 7159.0 | 7314.5 | 7369.5 | 8779.5 | 6811.5 | 6804.0 |
| Asymptotic significant (2-sided) | .260 | .494 | .242 | .190 | .000 | .952 | .695 |

Table A-H7 (cont'd)

| Cultural activities | | | | | | | |
|---|---------------------------|----------------------------|----------------------------|-------------|----------------------------------|--------------------------------|---------------------------|
| | Sense of belonging | | | | Sense of campus community | | |
| | MSU Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 10212.5 | 11428.5 | 12433.0 | 12892.5 | 12601.5 | 10557.5 | 10464.5 |
| Asymptotic significant (2-sided) | .065 | .256 | .010 | .001 | .006 | .860 | .975 |
| Theater productions | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | Msu Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 168 | 184 | 184 | 182 | 184 | 184 | 182 |
| Mann-Whitney U | 4476.0 | 5010.0 | 5394.5 | 5743.5 | 5330.0 | 4341.0 | 3679.5 |
| Asymptotic significant (2-sided) | .001 | .022 | .001 | .000 | .001 | .561 | .173 |
| Science fairs | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | Msu Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 11394.5 | 13025.5 | 13501.5 | 15351.0 | 13352.0 | 12412.5 | 11065.5 |
| Asymptotic significant (2-sided) | .083 | .259 | .076 | .000 | .142 | .739 | .176 |
| Concerts | | | | | | | |
| | Sense of belonging | | | | Sense of campus community | | |
| | Msu Connection | Departmental acceptance | Departmental connection | Member | Influence | Shared emotional connection | Reinforcement of needs |
| Total number | 286 | 312 | 312 | 311 | 313 | 313 | 310 |
| Mann-Whitney U | 11725.5 | 12995.0 | 12170.0 | 13680.5 | 13761.0 | 12798.5 | 10838.0 |
| Asymptotic significant (2-sided) | .003 | .066 | .435 | .004 | .006 | .043 | .348 |