BEYOND SOCIAL INTEGRATION: ACADEMIC MOTIVATION AND INTERNATIONAL GRADUATE STUDENTS’ SENSE OF BELONGING

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Beyond Social Integration: Academic Motivation and International Graduate Students’ Sense of Belonging

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Abstract

This study examines international graduate students’ sense of belonging through in-depth interviews with 12 doctoral students at Oakdale, an elite research university in the United States. Students emphasize the importance of successful academic experience in cultivating a stronger sense of belonging; they also acknowledge the challenges of acculturation to the unique institutional context of Oakdale. The results suggest that universities and colleges should engage international graduate students in meaningful academic experiences and provide a supportive research environment to promote a sense of belonging. In addition, this study calls for greater attention to students’ motivations for attending graduate programs.
Influential 20th century philosopher Simone Weil states in her book *The Need for Roots*, “To be rooted is perhaps the most important and least recognized need of the human soul” (Weil, 2002, p. 40). Researchers have affirmed this opinion. The desire for connection and belonging are some of the most fundamental human motivations (Baumeister & Leary, 1995; Maslow, 1954). Scholars have emphasized how one’s *sense of belonging* has positive significance for health and intellectual achievement in both academic and professional settings (Bolger, Zuckerman, & Kessler, 2000; Walton & Cohen, 2007). In the educational context, uncertainty of belonging has been found to undermine minority student performance in mainstream institutions such as primary and secondary school (Steele, 1997; Walton & Cohen); numerous researchers have identified a sense of belonging as one of the most significant indicators of student satisfaction and persistence (Lovelace & Rose, 1996; Pascarella & Terenzini, 1991; Walton & Cohen, 2011). Despite the importance of belonging and its impact on minority performance, the construct of a sense of belonging in higher education institutions has not been studied in-depth. This study explores specifically the issue of belonging in U.S. colleges and universities through the examination of the perspectives of international graduate students, a non-traditional population, in order to assist their academic and social success.

International graduate student populations in U.S. higher education institutions have rapidly increased in recent years. The Institute of International Education (IIE) reported that 300,430 international graduate students were enrolled in U.S. colleges and universities in the 2011/12 academic year—a 26% increase compared to the 2000/01 academic year (IIE, 2012). Due to educational, cultural, and economic benefits that international student populations contribute to U.S. colleges and universities, higher education institutions have actively sought to recruit

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1 International graduate students refer to students on F-1 and J-1 visas who are currently enrolled in a graduate degree program (masters or doctoral) in the United States.
international students (Andrade & Evans, 2009). Consequently, to attain the full benefits of international student contributions, higher education administrators have started to focus on the issue of international student adjustment and persistence as much as recruitment (Andrade & Evans).

Although administrators and scholars started exploring the issue of international student adjustment and persistence, they have not thoroughly understood what belonging means to international students and often focus only on the undergraduate population. International students may experience a different or even weaker sense of belonging than what is commonly expected from that of American students because of the necessity to adjust to unfamiliar cultural, social and linguistic environments. Furthermore, the meaning of the construct sense of belonging for graduate students may vary from that of undergraduate students as their motivations, experiences, and backgrounds differ from each other (Strayhorn, 2012). With only 67%² completing their graduate studies (Council of Graduate Schools, 2008), developing a better understanding of what a sense of belonging means for international graduate students and universities is a timely issue, not least because of the economic, but also the psychosocial costs of attrition (Golde, 2005).

The purpose of this study is to understand how international graduate students perceive and explain the development of their sense of belonging in a U.S. higher education institution. This study extends previous research by focusing on international graduate students at Oakdale University, an elite research university in the United States.³ The narratives provided by each individual interviewed for this study emphasize the complexities of the issue, exploring the

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² Data were collected from students starting their Ph.D. programs between 1992/93 and 1994/95
³ The institution and all participants discussed in this paper are referred to using pseudonyms to ensure confidentiality.
experiences of different international graduate students regarding their sense of belonging in U.S. colleges and universities.

**International Graduate Students in U.S. Colleges and Universities**

The recent upward trend of enrollment is indicative of the growing popularity of the United States as a study destination for prospective international graduate students (Council of Graduate Schools, 2012). Between the academic years ending in 2011 and 2012, the total number of international graduate students increased by 4% (CGS). Students from China are the largest group to enroll as graduate students, constituting 37% of all international graduate students in the United States (CGS). Chinese student enrollment increased by 16% in the 2011/12 academic year compared to the previous academic year, following a 15% increase in 2010/11, a 13% increase in 2009/10 and a 12% increase in 2008/09 (CGS). Students from Mexico, Brazil and Canada show 11%, 4% and 3% increases, respectively, compared to the academic year of 2010/11 (CGS). Figure 1 illustrates the change in total international graduate enrollments from 2011 to 2012 by country of origin.

[Figure 1 about here]

In the 2011/12 academic year, the most popular fields of study for international graduate students were Business/Management and Engineering, comprising 47% of all first-time enrollments (CGS). The first-time enrollments in these programs rose by 15% and 12% respectively, marking the third consecutive year of enrollment increases (CGS).

Despite a progressive increase in enrollment, over one-third of international doctoral students do not complete their programs within a ten-year period (CGS, 2008). This low completion rate leads to an inefficient use of economic resources including departmental and institutional resources (Cook & Swanson, 1978; Golde, 2005; Tucker, Gottlieb, & Pease, 1964).
Furthermore, individual student and faculty work ethic may decrease because of the perceived low pay off for their time and effort in the long run in the presence of such a high attrition rate (Baird, 1990; C. E. Lunneborg, & P. W. Lunneborg, 1973). In this context of economic and psychosocial costs, promoting persistence and completion for this population has become an important issue.

**Defining Sense of Belonging**

Defining a sense of belonging in the context of higher education is challenging because of the complexity of the university setting. The higher education setting encompasses many sub-contexts such as institutional structures, values, people, goals, academia, and bureaucratic procedures (Hurtado, Milem, Clayton-Pedersen, & Allen, 1998). Because of this complexity, the nature of belonging has not been studied specifically; rather, it has been used as an open and nonspecific concept in higher education research (Hurtado & Carter, 1997; Maestas et al., 2007).

Definitions of a sense of belonging vary from general sociological descriptions to more education-relevant illustrations. An example of a sociological definition is “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis, 1986, p. 9). More school-specific illustrations include (a) “an individuals’ sense of identification or positioning in relation to a group or to the college community, which may yield an affective response” (Tovar & Simon, 2010, p. 200); and (b) “students’ sense of being accepted, valued, included, and encouraged by others (teachers and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class” (Goodenow, 1993, p.25). These definitions, however, fall short of reflecting the
complexities of higher education settings as international graduate student experiences, in particular, are often unconsidered.

Although a number of studies have examined a variety of factors that affect a sense of belonging, the results of these studies do not easily cohere into a clear understanding of its formation and development. One explanation for this lack of clarity is that the definitions and measures of the construct may not be the same from one study to another; they are often non-specific and are open to different interpretations. For instance, the measures from Bollen and Hoyle’s (1990) Sense of Belonging Scale, which had been replicated in many studies, such as “I feel a sense of belonging [at this college]” has a fundamental problem: One person’s definition of what belonging entails could be completely different from another person’s definition. To address this issue, researchers have tried to use more direct measures such as the perception of a welcoming and respectful environment (Curtin, Stewart, & Ostrove, 2013), or a willingness to recommend the college to others (Hurtado & Ponjuan, 2005). However, these measures are inconsistent across the studies, and this discrepancy leads to conflicting findings regarding the concept of sense of belonging.

In this study, I aim to explore what a sense of belonging means for a specific sub-group on campus. I introduce the term, sense of belonging, as “an individual’s perception on whether he or she feels qualified, included, or connected in the institution” and investigate what a sense of belonging entails and means for international graduate students.

**Determinants of Sense of Belonging**

Researchers have identified several indicators of college students’ social integration and sense of belonging: marital status, interactions with peers and faculty, departmental

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4 This description is developed based on the definitions of the previous studies, including Hurtado and Carter’s (1997) and Maestas et al.’s (2007) work.
characteristics, involvement in community, and perception of racial identity on campus (Golde, 2005; Hoffman, Richmond, Morrow, & Salomone, 2003; Hurtado & Carter, 1997; Strauss & Volkwein, 2004; Velasquez, 1999). Furthermore, some empirical studies focused on specific determinants of a sense of belonging in the context of higher education. For instance, Johnson et al. (2007) examined the relationship between ethnicity and sense of belonging. They compared the perceptions of belonging of 2,967 students from public, large and predominantly white universities in the United States. The result indicated that African American, Hispanic/Latino, and Asian Pacific American students experienced a weaker sense of belonging than White/Caucasian students. Additionally, Hurtado and Carter’s (1997) study examined various factors correlating, particularly, with Latino college students’ sense of belonging. The sample included 272 respondents from 127 colleges, and the authors found that involvement in community organizations, religious clubs, sports teams, or sororities/fraternities had a positive association with Latino students’ sense of belonging in colleges.

Museus and Maramba (2011) explored the influence of cultural factors on students’ sense of belonging by analyzing 143 Filipino American students’ Likert scale survey data. The authors found that cultural factors (i.e. “cultural suicide” which is defined as the pressure to disconnect with individual’s precollege cultures and assimilate into his or her dominant campus cultures and connections to cultural heritage) are associated with a sense of belonging. While connections to one’s cultural heritage are positively correlated with students’ ease of social adjustment, pressure to commit cultural suicide is negatively associated with the adjustment process (Strayhorn, 2012).

Even though previous literature exploring the issue of belonging in the higher education context with a focus on specific populations exists, the international graduate student population,
which possesses unique cultural and social backgrounds, has not been closely examined in this regard. Additionally, in most of the existing empirical research, scholars have concentrated on identifying determinants of a sense of belonging by analyzing a large amount of quantitative data and did not illuminate why those factors are reflected in a student’s sense of belonging, which makes it difficult to understand the full context. My study contributes to addressing this issue by employing a qualitative approach and investigating the characteristic peculiarities at the individual level.

**International Student Adjustment Struggles and Sense of Belonging**

Most of the previous literature that addresses international students’ integration focuses on students’ issues with social, cultural, and linguistic adjustment. Coming from different cultures, international students face significant academic and social adjustment difficulties (Pedersen, 1995; Pruitt, 1978). For instance, many international students are not familiar with U.S. universities’ academic settings including more independent instructional pedagogies and grading systems (Smith & Smith, 1999; Ward, Bochner, & Furnham, 2001). Additionally, their insufficient language skills make it hard for them to integrate academically and socially (Andrade, 2006; Hull & Lemke, 1978; Lee, Abd-Ella, & Burks, 1981; Tannenbaum & Wylie, 2004). International students often experience loneliness in a new environment because they are unfamiliar with the cultural or linguistic environment and lack social networks (Adelman, 1988; Sawir, Marginson, Deumert, Nyland, & Ramina, 2008).

In addition, several empirical studies show a strong correlation between social integration and the adjustment of the international student population (Perrucci & Hu, 1995; Surdam & Collins, 1984; Zimmerman, 1995). For example, Surdam and Collins (1984) interviewed and surveyed 101 male and 42 female international students from 35 countries and concluded that
one social integration indicator—spending more time with American students—had an association with better adjustment. Perrucci and Hu (1995) found a similar result that the adjustment and satisfaction of international graduate students are related to their degree of interaction with American students.

Although international students’ integration issues have been studied extensively, the nature of a sense of belonging—what it means for international students—has not been researched. This lack of understanding has left the issues regarding the international graduate students’ sense of belonging untreated. Furthermore, previous literature on international student integration issues does not consider individual-level variables. The dearth of individual-level data on what international graduate students experience prevents the higher education institutions from understanding and resolving the issue of belonging specific to this population. To address this gap in the existing literature, this study builds on previous scholars’ theoretical foundations and aims to comprehend sense of belonging formation processes of international graduate students in U.S. colleges and universities through their voices.

**Conceptual Framework**

This study establishes its conceptual basis from Tinto’s (1993) integration model and Hurtado and Carter’s (1997) sense of belonging model. Many scholars have argued that successful social integration of college students leads to higher levels of satisfaction and persistence (Astin, 1970, 1975; Spady, 1970; Tinto, 1975, 1993). Durkheim (1953) introduced the concept of social integration in the mid-century. He identified alienation and segmentation in society as principal explanatory causes for suicide, but also general lack of integration. Spady (1970) then applied this theory to college persistence and argued that the interaction between student characteristics and campus environment helps explain student departure from universities.
and colleges. Furthermore, Astin (1970, 1975) developed involvement theory, which argues that there is a positive correlation between students’ level of involvement with their college and their likelihood of continuing attendance. Astin defined involvement as the amount of energy that students physically and mentally invest in the campus activities. He further claimed that more frequent interpersonal relationships with peers and faculty improve student performance.

Tinto (1975) expanded the framework developed by previous scholars and created the social and academic integration model that has dominated the field of persistence for the past 40 years. Tinto’s college persistence model (1975, 1993) emphasizes the importance of students’ academic and social integration into college communities and norms. He claimed that students are more likely to remain in college if they experience higher levels of integration (Tinto, 1975, 1993). Each student enters a university or college with individual attributes such as prior school experience and family backgrounds. These factors interact with environmental and institutional factors such as academic curriculums. Tinto argues that with other variables held constant, if the individual and institutional characteristics are congruent, a student experiences a stronger social and academic integration. Students with greater social and academic integration tend to gain a higher commitment to attain a degree (goal commitment) and a higher commitment to the institution (institutional commitment). Consequently, an individual with high goals and institutional commitments has a greater probability of remaining at the institution. In Tinto’s (1987) model, the degree of academic integration is reflected in students’ grade performance and perceptions on the institution’s academic requirements and their abilities. The level of social integration was measured by students’ perceptions on quality of interactions with peers and faculty.
However, Tinto’s integration model does not sufficiently identify the nature of integration (Attinasi, 1989). Tinto’s model has limitations to its applicability because it does not consider students with diverse backgrounds, particularly minorities (Tierney, 1992). The integration processes are exclusively “intra-cultural transitions,” not “cross-cultural” as Tinto implies (Braxton, 2000). In other words, college experience could have different contextual meanings for non-traditional groups due to their unique characteristics and circumstances.

Hurtado and Carter (1997) call for a reconsideration of some of the central assumptions of Tinto’s integration model. They point out that Tinto’s model only emphasizes mainstream activities that might not reflect cultural diversities (Hurtado & Carter, 1997). In their study, Hurtado and Carter adopt the concept of sense of belonging in a more direct way by measuring students’ perceptions on whether or not they feel included in the community. While Tinto’s integration model emphasizes sole students’ responsibility for successful integration into institutions, Hurtado and Carter’s work illuminate institutions’ role and responsibility as well by questioning what aspects of the institution are associated with a students’ sense of belonging.

Various attributes and background characteristics, which are identified in Tinto’s model as college persistence predictors, are reflected in a sense of belonging of international graduate students. The conceptual framework of this study, thus, incorporates Tinto’s variables correlated to integration and Hurtado and Carter’s concepts of cultural context and students’ perception. By applying Tinto’s model to the international student population, my approach considers various aspects of individual attributes such as country of origin, linguistic ability, or cultural understanding. Furthermore, by extending Tinto’s model to the graduate student population, this study examines institutional factors such as departmental and professional settings as well as individual attributes. In sum, my theoretical framework posits the roles and relationships of
international graduate students’ backgrounds and institutional characteristics on a sense of belonging. Based on this conceptual framework, I address the following research questions:

1. How do international graduate students in a U.S. higher education institution describe their sense of belonging?
2. How do international graduate students in a U.S. higher education institution understand the development of their sense of belonging?
3. What does international graduate students’ description of their sense of belonging tell us about how a U.S. higher education institution interacts with them?

**Methods and Data**

To answer my research questions, I conduct a qualitative case study, using in-depth interviews as a method of data collection. An interpretive qualitative approach allows a researcher to illuminate constructions and interpretations of reality at a particular point in time and in a particular context (Merriam, 2002). In this study, I seek to understand international graduate students’ perception on their sense of belonging in a U.S. higher education institution through open-ended interviews with a selected group of students at Oakdale University. The participants can construct the meaning of a situation; this allows me to explore participants’ perspectives of their situation, and concepts under current study (Creswell, 2009).

**Site of the Study: Oakdale University**

Oakdale University has a large pool of international graduate students (2,949), 33.2% of the entire graduate student body. The top region of origin is Asia with 1,724 students, followed by Europe, the Americas, the Middle East and North Africa, Africa and Pacific Basin. Ninety-nine total countries are represented.

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5 All statistical information about Oakdale University is collected from the official Oakdale website and various reports published by the institution. To ensure confidentiality, the citations that could reveal the institution’s identity were omitted.
As I show in Figure 3, the graduate school within the university that has the largest number of international graduate student enrollment is School of Engineering with 1,455 students, constituting 49.3% of the entire international graduate student enrollments at Oakdale.

In addition, Oakdale ranks in the top 25 American Research Universities nationally on all nine measures: total research, federal research, endowment assets, annual giving, national academy members, faculty awards, doctorates granted, postdoctoral appointees, and SAT scores (Lombardi, Philips, Abbey, & Craig, 2011). Even though this is an elite university, as described above, the demographics and enrollment context of international graduate students at Oakdale reflect well those of the entire international graduate students in the United States and serves as an appropriate site for my case study.

Participants

In order to select 12 participants who best helped me elucidate the research questions, I employed theoretical and judgment sampling (Creswell, 2009). As presented previously, factors such as departmental characteristics and institutional atmosphere have been studied as determinants of college students’ social integration and a sense of belonging (Golde, 2005; Hurtado & Carter, 1997; Strauss & Volkwein, 2004). Therefore, to prevent these factors from confounding this study, all participants were male, international Ph.D. students in Electrical Engineering at Oakdale (see Table 1).

Gender criterion was decided because participants would feel more forthcoming about sharing their personal emotion and experience to the interviewer of the same sex. Previous
literature has explored the importance of researcher’s gender in the in-depth interviews and how participants consider the gendered context of the interview (Barker, 1987; Williams & Heikes, 1993). I decided to interview doctoral students in the program because this study seeks to explore the development of a sense of belonging over time, and Ph.D. students intend to spend a longer period of time at the institution. Last, the Electrical Engineering program was selected because it has the largest male international doctoral student body of 240, which facilitates the recruiting process. A trade-off to my selected population of male Electrical Engineering doctoral students is that the findings of this study are not generalizable to the broader population of all international graduate students (Creswell, 2009). However, this sampling limit, in fact, makes my samples more comparable to each other and helps me truly focus on each participant’s internal development of a sense of belonging in the given context.

The School of Engineering and the Oakdale International Center, which manages international student affairs at Oakdale, supported me to reach out the population of interest via their mailing lists. My participants also partially constitute a snowball sample of interviewees who were invited by others to participate in my study. Because I asked people to volunteer to be the participants via mass mailing lists, certain individuals with extremely positive or negative sense of belonging who feel compelled to share their experience could have been overrepresented in my sample. To minimize this bias, I provided only a general description of the study without mentioning the specific term, “sense of belonging,” in the recruiting email.

**Data Collection and Analysis**

The data were collected via semi-structured face-to-face interviews with 12 participants. Two hour-long interview sessions with each participant were conducted, recorded, and transcribed in English between April and May of 2013.
To analyze the collected data, I first reviewed the interview transcriptions and took notes about the overall impressions and meanings of the data. I then initiated a coding process by organizing the transcriptions into different segments of text (Rallis & Roseman, 2011). I created a codebook with initial codes induced from the raw data and added external codes generated from previous literature and pilot interviews, using Microsoft Excel and Dedoose (see Table 2). The codes were used to generate themes, which contributed to developing a theoretical model (Creswell, 2009).

Before I started collecting and analyzing data, I expected to encounter the bias that I would bring to the study as an international graduate student myself in the United States. The questions or codes I developed could reflect my personal opinions and beliefs. I addressed this bias by receiving feedback from various external and peer scholars on my research design, interview protocol, and coding. This strategy enhances the overall validity of this research. Intercoder reliability tests were conducted throughout this study, and the agreement rates were 95%; disagreements were resolved after discussions among the coders.

**Interview Protocol**

The interview protocol consists of two main components: 1) open-ended interview questions and 2) interview activity (see Appendix). Participants were scheduled for two interview sessions and asked to engage in different activities in each. In the first session, I began the interview asking the participants to introduce themselves and describe what type of “student” they consider themselves. These opening questions were essential to understand each interviewee’s background and self-identification in an academic environment. I then focused on exploring participants’ perception on the development of their sense of belonging over time. For
instance, I asked them to describe their transition as a graduate student and discuss the level of connectedness with the institution by academic year.

For the second session, I prepared flash cards with various determinants of a sense of belonging that were generated from the previous literature and pilot interviews. The determinants included university, department/school, cohort, faculty and staff (including advisor), residential community/area, and international student community. The participants were asked to put these flash cards in order that had influenced their sense of belonging by academic year, from least to greatest. I then followed up and asked them to explain their decisions. This activity encouraged the participants to clarify and justify their perception on the sense of belonging, by making them to choose the order. Additionally, the participants uncovered how institutional and individual-level predictors changed in magnitude over time by repeating this activity for each academic year in which they have been enrolled at Oakdale. This second interview session verified whether respondents’ answers were consistent with the answers from their first interview sessions.

**Becoming an Oakdale Student**

International graduate students at Oakdale University perceived and developed their sense of belonging in similar ways. Students cultivated their sense of belonging as they established their academic identities and orientated themselves in a given institutional setting. In this section, I present students’ perspectives and experiences regarding this process of becoming an Oakdale student according to three topics: construct of belonging, development of belonging, and institutional impact on belonging.

**Construct of Belonging**

When I asked participants to describe their sense of belonging, all 12 participants referred to academic factors as an important element. All participants discussed academic-related
indicators such as grade point average (GPA), the amount of time they spent with advisors, and research progress as the main constructs of a sense of belonging. When I asked my participants to briefly introduce themselves, 10 out of 12 explained their research foci or interests, while only three mentioned hobbies and two talked about family background. This may indicate how academic factors are essential elements for the participants’ identity within the institution.

A response by Mason, a first-year Ph.D. student from Turkey, exemplified a common student sentiment toward academic belonging: “For me, to feel that I belong to Oakdale is about academics. I mean, how can I belong to Oakdale just with my social life because Oakdale after all is an academically high university?” Mason emphasized the importance of excelling academically as an important component of belonging because he goes to Oakdale. In his perspective, as a student at a prestigious education institution, academics should be the priority, and thus whether he feels qualified or included depends on the academic indicators. Chris, a first-year Ph.D. student from India, also reflected this attitude as he recalled an occasion when he felt disconnected at the university:

I did not feel a sense of belonging in my first quarter. . . . I had serious doubt about my qualification[s] here at Oakdale, looking at the people around me, seeing how much work I had to put in compared to other [students]. The other people, it didn’t seem like they were putting as much work as me in class but seemed to be getting better results. So I felt like I am not smart enough to be at Oakdale.

He experienced a difficult transition because he devalued his competency by comparing himself to other students and questioned whether he deserved to be a member of Oakdale. Chris’ response is representative of the other eight participant responses in this study. The participants
held strong convictions about the role of academic success in their sense of belonging and measured their adequacy in relation to the others.

The strong emphasis on academics was often accompanied by participants’ self-identification as graduate students. Max, a first-year Ph.D. student from China, stated:

What I value the most is research environment because I want to do research. It’s the most important goal in my Ph.D. study. If I feel that my research is going very smoothly, very nice, then it makes me feel very fulfilled. . . . I feel that if the research environment here is very bad, then no matter how good social activities are, I never care about it. The most important [part] that makes me feel Oakdale is the right place is the research environment.

Max explicitly described research as the goal of Ph.D. students and emphasized the importance of a rigorous research environment for him to feel belonging. He clarified his motivation to enroll in a graduate program at Oakdale and did not consider the factors that were not essential for his goal. Although his response was consistent with seven other participants who stressed their responsibility to research, Max was unique in his reference to Oakdale being the “right place” for him. While most students focused on assessing whether they are the right fit for the institution to measure their belongingness, Max was concerned whether the institution was the right fit for what he wanted.

Similarly, Alex, a fifth-year Ph.D. student from India, stressed the importance of finding an advisor who matches one’s learning style and interest. He added that faculty, staff, and advisors were important factors for Ph.D. students to feel connected at the institution. They not only provide funding for students’ research but also evaluate students’ performance and expertise. Among six participants who mentioned that faculty and staff influenced their sense of
belonging in their first year, only two had positive experiences; those two found their advisors in their first quarter. The other four students stated that faculty and staff had negatively impacted their sense of belonging. Lucas, a third-year Ph.D. student from the Republic of Korea, exemplified a shared dissatisfying interaction with faculty and staff in the department: “[They] made me frustrated. Because in my first year, especially the first quarter, they didn’t respond to anything, they weren’t really responsive and they didn’t encourage my research abilities.” Lucas was detached from the department because he felt that faculty and staff were neglecting him. The narratives among participants were consistent that their department seemed to lack channels for students to establish meaningful relationships with faculty and staff during their first year.

Despite placing less emphasis on personal elements than on academic factors, nine students shared social and cultural transitions, as expected from the previous literature. A comment by Noah, a second-year Ph.D. student from China, demonstrated a common student experience:

Sometimes I try to talk with some American students but I don’t think that I can quite understand their cultures and their backgrounds. For example, they would like to talk something about football or some of the games they would like to play but I didn’t know anything about it so it’s hard to continue the conversation. So that might be a problem.

When I talk with someone from China, I can talk with them very well.

For Noah, a lack of understanding about U.S. culture not only hurt his relationship with American students but also limited his social circle to a specific nationality. The other participants’ responses displayed a similar narrative. Eight students, in particular, mentioned that they often struggled because of cultural differences between the United States and their home countries. In general, participants underwent challenges because they were not familiar with U.S.
culture and the new environment. The participants stated that the unfamiliarity and the lack of understanding often made them feel less connected to Oakdale.

**Development of Belonging**

In their first year, students expressed varying degrees of belonging to the academic and personal constructs described above. However, all 12 participants said that their sense of belonging increased over time. Eleven participants stated that establishing their academic identities helped them feel qualified and more connected to the institution. One of the ways to form an academic identity was passing the qualifying exam. Alex’s response characterized those 11 students’ overall anxiety about the qualifying exam: “When you come in [Electrical Engineering], everything is about [qualifying exams], that’s what people talk about. Everyone, the Ph.D. students, is afraid of it.” Mason affirmed Alex’s point: “Once you pass the exam, you feel like you belong to Electrical Engineering.” Ten participants explicitly linked passing the qualifying exam and an increased sense of belonging as described by Alex and Mason.

While passing the qualifying exam was important for students, five participants said that they felt greater belonging at Oakdale when they made successful academic achievements. The notion is well represented in Noah’s comment:

> When I first came here I don’t think I am qualified so I need to work very hard to get adapted to here. . . . Now my GPA is higher than my colleagues, and I think I work well with my advisor so I think maybe, I don’t know, but maybe [Oakdale] made the right decision. I’m qualified now.

Noah confirmed his academic capability through quantified indicators such as GPA. Once he learned that he outperformed his peers on tests, Noah gave himself an approval that he deserved to be at Oakdale. Justifying their presence at the institution by comparing themselves to peers
was evident in the other four participants’ responses as well. However, one participant, Chris, explained that he could develop a sense of belong to the institution even when he was not outperforming his peers:

I have come to accept the fact that I am not as smart, I’m in the middle of the pack. I don’t have the same academic status in my class as I did in my undergraduate institute. So it’s just accepting the fact and moving on, just living with that. The thought that I tried my best.

Chris was one of the participants who expressed some serious doubts about his academic competence. He was a very successful student at his undergraduate institution and became frustrated when he could not be at the top at Oakdale as he used to. However, Chris’s comment shows his realization that he does not have to compete against others. Instead, he explored his own capabilities and limits and found a solid placement within the institution based on his reflections. His experience indicates that students can cultivate a sense of belonging if they successfully identify their academic position within the institution, regardless of its ranking. Four participants said that they underwent this type of self-awareness process as exemplified in Chris’ case.

However, for Chris, the self-awareness process was not the only instrument that helped him foster a sense of belonging. He said:

[My advisor’s] interest aligned a lot with mine and joining her lab, I guess it motivated me, pushed me in the direction for research. Actually, to be honest, at the end of the first quarter, I had half a mind not do a Ph.D. at all. I thought I would just do a Master’s and leave. But then after joining this lab, I felt like, “Oh no, I have a purpose.” . . . [She] is motivating me to keep going with the research.
Chris perceived his advisor as the one who reminded him why he was at Oakdale. By working under someone whose academic focus is similar to his, he may have felt the inclusion to the field while gaining recognition. He voiced the narrative of the other six students who were also inspired and supported by their advisors when they felt less qualified and connected at Oakdale. In general, students in later years of the program expressed a stronger connection and association with advisors and more clearly articulated their academic characters.

In addition to forming a clear academic identity, seven participants mentioned that they developed their sense of belonging by building strong friendships on campus. Alex described this experience:

> Both inside and outside of the class, starting to make a connection of friends slowly made me feel like there is a meaning to why I’m here. . . . I meet with other Oakdale students in an outside setting, and they share all the difficulties that they go through too. In a sense that they say, “I feel the same way too.” So that kind of openness encouraged me to feel like, “Okay, so it’s not just me.”

In Alex’s case, he not only created a social support group but also realized that he was not the only one making a transition. This realization helped him understand that academic and social adversity on campus was not unique to him but common for all students. He started to perceive other Oakdale students as companions who bore similar burdens instead of competitors whom he needed to outplay.

In fact, because of the desire for shared values and experiences, most international graduate students commonly sought to interact with other students from their home countries. Josh stated:
The main point of being a graduate student is not learning culture, [but] doing research and showing the performance. . . . You have 24 hours, and after removing the sleeping time and eating time, maybe you have 12 hours everyday, and you want to spend 80% of your time to do the research or studying. . . . So given the 20% of the [free] time, how can you be more refreshed from the stress? . . . It might increase stress [if you hang out with Americans]. So if you have only one hour, you can just talk with this guy with the common background, and that’s more efficient.

While six participants mentioned that interacting with American students would have promoted their sense of belonging as a student in the United States, Josh made an interesting argument that he intentionally decided not to interact much with American students. He explicated his priority as a graduate student and made an economical decision in order to maximize his research time and manage stress. For Josh, success of his research was an instrument to legitimize his enrollment and feel included at the university, and not necessarily social integration.

**Institutional Impact on Belonging**

Students felt that Oakdale’s institutional setting was influential in forming and developing their sense of belonging. In particular, all 12 participants strongly emphasized Oakdale’s brand as an internationally well-known prestigious higher education institution. Five participants mentioned that whenever they introduced themselves as Oakdale graduate students to other people, including strangers, family, and friends, people perceived them differently, and this perception promoted their sense of belonging to Oakdale. At the same time, students often questioned their academic abilities because they were in a competitive environment with other highly capable students at the prestigious institution. Michael, a first-year Ph.D. student from France, commented:
You can get to know people from your department but the relationship doesn’t really evolve because you always feel that there is some competition and sometimes they ask questions to know how you do in some classes or whatever. And you don’t have really this true feeling like I am not talking to the person but more like a competitor.

Michael described the competitive environment and its impact on social connection. While most participants undergo similar difficulties during their transitions to the new environment, many of them interpreted adversity as a personal threat to their qualifications. Michael’s comment reflects how this anxiety was aggravated by the competitive culture of the institution.

Similar to the influence of the competitive culture at Oakdale, seven participants stated that diversity within the institution contributed to their sense of belonging. In particular, diversity within the department appeared to contribute to students’ sense of belonging both positively and negatively. The Electrical Engineering department, in which all 12 participants study, has the largest body of international graduate students at Oakdale. Two participants shared that seeing many different students with similar issues helped them feel belonging at Oakdale. While these responses highlighted the positive aspect of diversity, Mason pointed out that having a diverse group of students, in fact, caused nationality-based divisions within the department:

Most of the time, in my department, [people from the same nationality] hang out together. . . . For example, you look on Facebook you see photos like, Chinese people went to Santa Cruz; Chinese people went to this place. It is not like some Turkish [with] some Chinese but [all Chinese]. I mean, Chinese is an example. It is not just Chinese. Same thing for Indians, same thing for Turkish too. For example, generally I hang out with Turkish friends.
In Mason’s viewpoint, the dominance of the international population within the department was an obstacle to develop a sense of belonging to the groups outside of their comfort zone. This perception appeared in other six students’ responses. Even with the desire to build relationships outside of their limited social circle, students were often hesitant to insert themselves in situations that might make them feel vulnerable or uncomfortable.

Student responses of this study show that the participants had different levels of awareness of the institutional atmosphere and confidence in their capabilities when they first arrived at Oakdale. Regardless of the differences, I found that all participants increased their sense of belonging as they oriented themselves academically and personally within the institution.

**Sense of Belonging: Contextualized Narrative**

The narratives of the participants in this study challenge the common notion that social integration is major foundation of a sense of belonging for graduate students (Strayhorn, 2012). Instead, a strong sense of belonging may result both from academic and social integration. And for this particular group of students, academic integration appears to play the most important role in promoting students’ sense of belonging. All participants indicated that academic-related experiences were essential aspects of their sense of belonging. For instance, Noah did not feel he belonged at Oakdale because he doubted his academic ability, but this changed when he received a higher GPA than his classmates. Chris considered leaving the program because he was struggling with group projects and class participation. This perception seems to dominate students’ descriptions of belonging. Participants indicated that positive attitudes about their academic performance contributed to the development of a sense of belonging. Previous literature has shown that a sense of belonging facilitates academic success (Hausmann,
Schofield, & Woods, 2007; Ostrove & Long, 2007; Strayhorn, 2012). Importantly, this study finds that the relationship works the other way around as well.

While the findings of this study are helpful to understand international graduate students’ sense of belonging, the key question we need to ask is: Why? Why do international graduate students assess the degree of their belonging in the university heavily on the academic factors? Perhaps their heavy focus on academic factors arises from Oakdale’s setting and reputation as an elite research institution (Curtin et al., 2013). To feel comfortable as a member of the prestigious research institution, students may feel pressure to be academically successful. In fact, students’ descriptions about their sense of belonging revolve around the self-identification of “I’m a grad student at Oakdale.” This self-identification may encourage students to focus on conducting research instead of on non-academic components of graduate life (as in Max’s case).

Participants’ emphasis on academic belonging may have grown from their desires to learn the norms of their chosen academic field or profession (Green, 1991; Weidman & Stein, 2003). Individuals who felt successfully socialized to their advisors or the department felt a strong sense of belonging because they understand the values and beliefs of the field, and feel valued and respected by others as a competent member (Bell-Ellison & Dedrick, 2008; Bragg, 1976; Lovitts, 2001; Strayhorn, 2012). The participants in this study referred to their advisors as guides in orienting them to their fields and promoting their confidence. For example, Max perceived his advisor as serving to familiarize him with expectations and practices of his field; Lucas and Alex leveraged deep relationships with their advisors to obtain confidence in their capabilities as researchers. The findings indicate that participants value their relationships with their advisors because these relationships will help them make smooth academic and professional transitions, which enhance their sense of belonging.
Some participants also mentioned their social and cultural integration as important factors for developing a sense of belonging. Noah limited his social circle only to Chinese students who shared the same background because he lacked an understanding of U.S. culture; Alex locked himself in his room for his first few months at Oakdale because he did not have a close group of friends and family members nearby. These findings are consistent with the existing literature on international student adjustment that describes a lack of social connection and cultural understanding as negatively influencing students’ sense of belonging (Sawir et al., 2008; Tannenbaum & Wylie, 2004). Furthermore, researchers have found that international students who built stronger relationships with American students are better adjusted to the higher education setting (Surdam & Collins, 1984). Most participants’ experiences in this study appear to be consistent with this previous work. However, because of their focus on academics as a “grad student,” students may decide not to make efforts to establish relationships with American students as in Josh’s case. Josh perceived the time and effort required to interact with people outside of his home culture as inefficient and unnecessary for his research. Although this specific case does not represent participants’ overall sentiments, it reaffirms the importance of academic belonging for this population. Students could still have a strong sense of belonging without the acculturation process because they feel a strong academic fit to which they attach more importance than social fit.

Before I started data collection, I anticipated that students would develop their sense of belonging based heavily on their identities as international students because much of the existing literature on international graduate students in the United States has explored students’ acculturation process in this light. My conceptual framework, in which I incorporate Tinto’s (1993) integration model with Hurtado and Carter’s (1997) concepts of cultural context and
students’ perception, was developed based on this expectation. The findings in this study confirm the broader theoretical perspective that both student backgrounds and institutional settings are reflected in a sense of belonging.

However, an additional component should be added in order to fully explain the findings: students’ motivations for attending graduate school. People attend graduate school for different reasons. Some want to learn practical knowledge and skills for a specialized field; some want to enrich their theoretical backgrounds; some hope to get a higher position in their industry after the graduate degree; and others have no career plans so they decide to continue their schooling (LaPidus, 1997; Poock, 1999). I suspect that international graduate students’ clear academic motivation, which inspired them to come to a foreign country for school, are reflected in their emphasis on academics in their sense of belonging. In fact, this new addition to the framework may even help us investigate why international graduate students have higher completion rates compared to domestic students.6

The analysis presented in this study suggests that learning students’ motivations for pursuing graduate degrees and picking a particular program may help understand graduate students’ priorities and needs. Supporting international graduate students’ academic experience is crucial to help students feel qualified, connected, and included in the institution. This comprehensive understanding could benefit college officials and administrators in their efforts to promote a sense of belonging for their students, which might in turn contribute to higher completion rates.

Based on the results of this study, universities and colleges may find that providing more opportunities for students to establish their academic identities within the institutions could

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6 The cumulative ten-year completion rate for international students is 67%, while the rate for domestic students is 54%. The difference is statistically significant.
increase students’ sense of belonging and persistence. Mandatory regular meetings with faculty members could help the students identify as respected members of the academic community, particularly during their first years; creating a dialogue and culture that all students are qualified and deserved to be at Oakdale could ease students’ stress; reforming the curriculum and grading system so that students focus more on their research could also facilitate one’s academic transition. Furthermore, universities and colleges could find various ways to assure students’ association with the institutions. The assurance does not need to be large-scale; each department could issue free business cards for students with their positions and associations; the department’s website could regularly update current students’ profiles and post pictures of each cohort; the department or the university could hold a formal matriculation ceremony in which students sign in as members of the academic field and community. These strategies may help students think that the institution cares about their presence and achievement and accepts them as valued scholars. As students feel qualified and valued members of an academic field or profession to which they aspire, they will have a stronger sense of belonging in the given environment.

However, the academic and social environments of universities and colleges vary from one department to another, and from one institution to another. Thus, future research that investigates students’ narratives in different departments and institutions could explore whether the findings of this work can be extended to a larger population. In addition, more micro-level work that only includes a particular group of students from the same region or country would be valuable to consider unique cultural contexts. Lastly, future studies that compare sense of belonging of international and domestic graduate students could identify which findings of this study are specific to international students or applicable to the entire graduate student population.
Many scholars have argued that sense of belonging is one of the most powerful and basic human needs (Baumeister & Leary, 1995; Maslow, 1954; Strayhorn, 2012; Walton & Cohen, 2007). In the educational setting, one’s sense of belonging has been acknowledged to have a positive relationship with students’ academic performance, satisfaction, and persistence (Bolger et al., 2000; Lovelace & Rose, 1996; Pascarella & Terenzini, 1991; Walton & Cohen, 2011). However, a higher education environment where the values, people, norms, and organizational structures are new and unfamiliar could threaten many individuals’ sense of belonging, which is particularly the case for international students.

While most literature on international students in higher education has focused on their acculturation and social integration when discussing their sense of belonging, this study emphasizes the importance of a successful academic transition. The findings of this research have a significant implication for the constructs and measures of sense of belonging, which has been incoherently used in previous studies. The results point to the value of understanding individual student's motivations and goals in order to promote their sense of belonging in colleges and universities.
References


language (TOEFL), the test of spoken English (TSE), the test of written English (TWE), and the test of English for international communication (TOEIC). Princeton, NJ: Educational Testing Center.


Figure 1. Change in Total International Graduate Enrollment 2011 to 2012, by Country of Origin. Data were obtained from *Findings from the 2012 CGS international graduate admissions survey, Phase III: Final offers of admission and enrollment*, by CGS, 2012, Washington, DC: Council of Graduate Schools.
Figure 2. Counts and Proportions of Graduate Students by Geographic Origin at Oakdale, 2012-2013. Data were derived from the Oakdale University website.
Figure 3. School Enrollment of International Graduate Students at Oakdale, 2012-2013. Data were gleaned from an enrollment report published by Oakdale University.
Table 1

Participants Characteristics

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Program</th>
<th>Years</th>
<th>Marital Status</th>
<th>Country of Origin</th>
<th>Previous U.S. Higher Ed. Experience*</th>
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</thead>
<tbody>
<tr>
<td>Chris</td>
<td>E.E.</td>
<td>1st Ph.D.</td>
<td>Single</td>
<td>India</td>
<td>Y</td>
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<td>Ethan</td>
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<td>Single</td>
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<td>Mason</td>
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<td>Jacob</td>
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<td>Single</td>
<td>Turkey</td>
<td>N</td>
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<tr>
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<td>Korea</td>
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<tr>
<td>Josh</td>
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<td>6th Ph.D.</td>
<td>Married</td>
<td>Korea</td>
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</table>

* Attended a U.S. higher education institution as a matriculated or exchange student
Table 2

Coding Manual

<table>
<thead>
<tr>
<th>Theme</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Identity</strong></td>
<td></td>
<td>Academic Achievement: Research progress, Test score, GPA, etc.</td>
</tr>
<tr>
<td></td>
<td>Advisor Interaction</td>
<td>Frequency and depth of interaction with the advisor</td>
</tr>
<tr>
<td></td>
<td>Advisor Search</td>
<td>Experience with finding an advisor</td>
</tr>
<tr>
<td></td>
<td>Faculty &amp; Staff</td>
<td>Behavior of faculty and staff toward students</td>
</tr>
<tr>
<td></td>
<td>Grad Student</td>
<td>Distinctive characteristics and responsibilities as a graduate student</td>
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<td></td>
<td>Language</td>
<td>Proficiency with English language</td>
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<td></td>
<td>Qualifying Exam</td>
<td>Individual experience with the Qualifying exam</td>
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<tr>
<td></td>
<td>Research</td>
<td>Student's emphasis on conducting research</td>
</tr>
<tr>
<td></td>
<td>Workload</td>
<td>The amount of workload</td>
</tr>
<tr>
<td><strong>Personal Orientation</strong></td>
<td></td>
<td>American: Interaction with American students on campus</td>
</tr>
<tr>
<td></td>
<td>Comfort</td>
<td>Feeling of comfort due to familiarity and regular routine</td>
</tr>
<tr>
<td></td>
<td>Confidence</td>
<td>Feeling of confidence in one’s own ability and discretion</td>
</tr>
<tr>
<td></td>
<td>Cultural Difference</td>
<td>Experience with cultural difference between their home country and the U.S.</td>
</tr>
<tr>
<td></td>
<td>Home Community</td>
<td>Interaction with the community which consists of students from home country</td>
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<tr>
<td></td>
<td>International Community</td>
<td>Interaction with the international community on campus</td>
</tr>
<tr>
<td></td>
<td>Living Adjustment</td>
<td>The process of obtaining knowledge about everyday-life tips</td>
</tr>
<tr>
<td></td>
<td>Marriage</td>
<td>Change in students' sense of belonging due to marriage</td>
</tr>
<tr>
<td></td>
<td>Previous U.S. Experience</td>
<td>Students’ knowledge or experience in the United States before coming to Oakdale</td>
</tr>
<tr>
<td></td>
<td>Self-awareness</td>
<td>Awareness about one’s own capabilities, personality, and learning styles, etc.</td>
</tr>
<tr>
<td><strong>Institutional Setting</strong></td>
<td></td>
<td>Brand: (Dis)Connectedness toward Oakdale Brand as an elite and prestigious institution</td>
</tr>
<tr>
<td></td>
<td>Competition</td>
<td>Competitive Environment at Oakdale University</td>
</tr>
<tr>
<td></td>
<td>Department</td>
<td>Department characteristics and degree requirement</td>
</tr>
<tr>
<td></td>
<td>Institutional Difference</td>
<td>Institutional difference between their undergraduate institution and Oakdale</td>
</tr>
<tr>
<td></td>
<td>Diversity</td>
<td>Student's perception or experience with &quot;diversity&quot; on campus</td>
</tr>
</tbody>
</table>
Appendix

Interview Protocol

First Interview Session

1. Please briefly introduce yourself to me / please tell me about yourself
2. Please describe what type of “student” you are
3. Please describe your transition to Oakdale as a graduate student

   In my study, I define “sense of belonging” in higher education as “an individual’s perception on whether he or she feels qualified, included, or connected in the institution.” Give this definition of sense of belonging:

4. Please describe your sense of belonging to Oakdale in your first year
   a. Tell me a story of a particular time when you felt a strong sense of belonging at Oakdale in your first year.
   b. Tell me a story of a particular time when you felt a less sense of belonging at Oakdale in your first year.
5. Please describe your sense of belonging to Oakdale in your second year
   a. Tell me a story of a particular time when you felt a strong sense of belonging at Oakdale in your second year.
   b. Tell me a story of a particular time when you felt a less sense of belonging at Oakdale in your second year.
   c. How was different/same from the previous year?
6. In sum, how would you describe your sense of belong over the time?
7. What can the university do to improve your sense of belonging?
8. Is there anything you would do differently / you would recommend for the incoming Ph.D.
students (to improve sense of belonging)?

Second Interview Session

- Prepare flash cards with the following words written:

  University, Department/School, Cohort, Faculty and Staff (including Advisor), Residential Community/Area, International Community

- Put these factors in order that had influenced your sense of belonging from least to greatest

  - Reflecting your first year
  - Reflecting your second year

- Please tell me why you put each component in that order