Library Anxiety among International Graduate Students

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ABSTRACT
While few studies have explored library anxiety among international graduate students in the United States, Jiao and Onwuegnuzie’s study (1999) of international graduate and undergraduate students identified mechanical barriers as the greatest source of library anxiety among international students. Building on this, the current pilot study investigated the level of library anxiety among 15 international graduate students in the United States, using a modified version of Bostick’s (1992) Library Anxiety Scale (LAS) with a proposed Language & Cultural Barriers sub-scale. Findings from the pilot study revealed that mechanical barriers were the smallest source of library anxiety, and affective and staff barriers were the greatest sources of library anxiety. No significant gender or disciplinary differences were found in terms of the level of library anxiety among international graduate students. The results of this pilot study also provided the basis for the refinement of instrument.

Keywords
Library anxiety, international graduate students, library anxiety scale, user perceptions of libraries.

INTRODUCTION
The term “library anxiety” is generally used to describe the negative feelings experienced by many college students towards using the academic library. Mellon (1986) found that 75 to 85 percent of college students experienced library anxiety. Bostick (1992) tested Mellon’s theory empirically and developed a Likert Library Anxiety Scale (LAS) consisting of 43 items. Bostick’s research identified five major factors affecting library anxiety: Barriers with Staff; Affective Barriers; Comfort with the Library; Knowledge of the Library; and Mechanical Barriers.

More recent study suggests international students come to the U.S. with more experience of technologies and better library skills (Jackson, 2005; Martin, Maxey-Harris, Graybill, & Rodacker-Borgens, 2009). This might result in changes to the major sources of library anxiety among international graduate students. A study to assess current sources of library anxiety among this group is crucial to the successful implementation of specialized library services; however, the existing instruments for measuring library anxiety do not fully provide for assessing the needs of international graduate students.

This pilot study was conducted to test which sub-scale had most significant influence on international graduate students’ level of library anxiety and to see if an additional subscale assisted in identifying international graduate students’ sources of library anxiety. Findings can help librarians understand the barriers to library use with this specific population, which may also provide suggestions for helping these users cope with and reduce their library anxiety levels.

METHOD

Instrument
A 5-item Likert scale survey with 49 questions was used. It was developed based on Bostick’s Library Anxiety Scale.
(LAS). Bostick’s LAS includes five categories of library barriers. For the purposes of this pilot study, one more category was added: Language & culture barriers. Most international students are non-native English speakers, and may encounter difficulty due to their lack of familiarity with English. This addition specifically isolates language fluency rather than library jargon as a barrier. Language barrier items included “I don’t understand what the reference librarians say in English,” “The librarian has a strong foreign accent which is hard to understand,” “I don’t know how to phrase my questions in English,” and “The reference librarian does not understand my question.” Items focusing on cultural differences are also included in this section. International students may be uncomfortable in the library for reasons specifically to do with their culture or background. Items in this section include “The way librarians talk to me makes me feel not respected” and “I don’t feel comfortable asking help in the library.” The last item was put under this category because some cultures such as Asian cultures usually do not encourage asking questions or seeking help.

Data were collected from November 2011 to March 2012 through Qualtrics, an online survey service. After gathering survey responses, each of the six sub-scales was then submitted to a test of internal reliability estimate using Cronbach’s alpha reliability coefficient. Cronbach’s alpha is a measure of reliability - in this case, measuring whether the items in each of the subscales were measuring the same general concept and whether the instrument as a whole was measuring the same general concept. Alpha scores were as follows: barriers with staff, 0.928; affective barriers, 0.824; comfort with the library, 0.711; knowledge of the library, 0.509; mechanical barriers, 0.576; language & cultural barriers, 0.818. This indicated that the new sub-scale of language & cultural barriers was reliable. The overall instrument demonstrated good internal consistency with Cronbach’s alpha of 0.928.

Sample
This pilot test used a sample of convenience. The survey was disseminated through the International Office at the University of Missouri to MU international graduate students. In all, 15 international graduate students participated in the survey. Eight completed all questions in the survey. After removing cases with missing data in the 49 items, ten valid cases remained. Eight respondents (53%) were between 30-34 years old, four (27%) were between 25-29 years old, two (13%) were 35-39, and one (7%) was 40-49. Eight (53%) were male, while seven (47%) were female. All respondents were doctoral students, representing a variety of areas including communication, business, physics, philosophy, and psychology. Five out of fifteen were native speakers of Chinese, while two were native speakers of English. Other participants’ native languages were Korean, Nepali, Marathi, Arabic, Hindi, Tamil or Norwegian. Almost half of them had been in the U.S. for more than 5 years (47%), 27% for 4 years, and 20% for 2 years. Only one had been in the U.S. for less than one year. Fourteen of the 15 rated their computer and Internet skills as 4 or 5 on a Likert scale (1 as weak and 5 as strong), and 63% of them visited the library every week.

RESULTS
Once reliability of the instrument was established, t-tests were used to determine whether there were significant differences between the sub-scales. Because multiple t-tests were performed, the Bonferroni adjustment was used to account for spurious significance in test results, to ensure that measures of significance are, in fact, significant. A series of dependent sample t-tests with Bonferroni adjustment was conducted and revealed that affective barriers and barriers with staff were the greatest sources of library anxiety. No significant difference was found between barriers with staff and affective barriers in terms of their influence on library anxiety level of international graduate students ($t=0.551, p>0.5$). Affective barriers induced much higher levels of library anxiety than did comfort with the library ($t=4.876, p=0.001$; Effect size=0.85), knowledge of the library ($t=7.678, p<0.001$; Effect size=0.93), language & cultural barriers ($t=10.29, p<0.001$; Effect size=0.96), and mechanical barriers ($t=8.577, p<0.001$; Effect size=0.94). Comfort barriers were found to induce significantly higher levels of library anxiety than knowledge of the library ($t=7.066, p<0.001$; Effect size=0.91), language & cultural barriers ($t=3.844, p<0.005$; Effect size=0.77) and mechanical barriers ($t=6.948, p<0.001$; Effect size=0.91). No significant difference was found between knowledge of the library and language barriers was found in their influence on library anxiety ($t=1.527, p>0.1$). Knowledge of the library and language barriers induced significantly higher level of library anxiety than mechanical barriers ($t=4.346, p=0.001$; Effect size=0.81). Table 1 shows the results of the dependent sample t-test with Bonferroni adjustment.

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removing redundant items, each of the survey respondents had been in the U.S. for more than four years, and thus, language and culture barriers might not be as significant for these students as for new international students. Language and cultural barriers are expected to be more significant among those international students who have been in the U.S. for a shorter time.

Most participants of this pilot study were from the science field. Future research with a larger and more varied sample is needed to enable comparisons of international students from different disciplines and determine whether there is a disciplinary component to international students’ levels of library anxiety. For this pilot study, all participants were doctoral students. Further research should be conducted with different levels of graduate students. Master’s students and doctoral students may have different levels of library anxiety, as doctoral students are more involved in research and extensive use of library and library resources.

Limitations and Instrument Revision
This pilot study demonstrated that the proposed Language & Culture subscale was reliable and can be included in future studies of international students’ library anxiety. However, the convenience sample used for this study was limited by geography, and as such, the results of the study are not generalizable.

Pilot study results suggest several options for the refinement of the survey instrument. Some open-ended demographic questions need to be revised to multiple choice questions. For example, question 5 from the demographic survey, “What’s your year at the graduate school,” caused confusion and need to be rephrased. Some participants put “4th” or “6th”, but some put “2008” or “2010,” which was assumed to be the beginning year of their study. However, answers like “2013” or “2012” had to be explained differently. The question about students’ native language also needs to be changed to a multiple choice question, as some participants entered nonsense text information, e.g., “tg g” as native language.

Some participants (5 out of 15) left the survey unfinished. One reason might be the length. As some items from LAS are redundant, we can remove those items. For example, “I feel safe in the library” and “I don’t feel physically safe in the library” are redundant. We can remove either. “The librarians don’t have time to help me because they’re always on the phone,” “The reference librarians don’t have time to help me because they’re always busy doing something else,” and “The library clerks don’t have time to help me” are very similar items as well. We may consider combing them into one item, e.g., “The librarians/library staff don’t have time to help me because they are busy with something else”. After removing redundant items, each of the remaining 45 items will contribute unique and helpful information.

In order to ensure the validity of responses, validity check can be employed in the future study on library anxiety. Sometimes it is hard to know whether the participant read the questions carefully and their responses to the questions really reflect their opinions or if they just randomly pick an answer without carefully reading the questions. A validity check includes two to three non-meaningful items in the

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Table 1. Dependent sample t-test with Bonferroni adjustment.
CONCLUSION
In this pilot study, Bostick’s Library Anxiety Scale was revised and a new sub-scale measuring international students’ library anxiety was created. This new sub-scale and the overall instrument were tested using Cronbach’s alpha and proved to be internally reliable. Based on the results of the pilot study, the instrument will be revised and a short form will be created. The results of the pilot study revealed that affective barriers and with barriers with staff were the greatest sources of library anxiety while mechanical barriers had less influence on the level of library anxiety among international graduate students. Female and male international graduate students experienced the same level of library anxiety. In future studies, data from a larger sample will be collected and gender differences as well as disciplinary differences will be examined among international graduate students. Factor analysis will be conducted to further test the reliability of the instrument.

REFERENCES