What Doctoral Student Motivation Tells Us about the Future of LIS Education

Africa S. Hands, *San Jose State University*
asheri@rocketmail.com

This study aimed to identify factors motivating individuals to earn a doctoral degree in library and information science. Data about doctoral student motivation was collected from first-year students through a survey, semi-structured interviews, and personal admission statements. Findings suggest five motivating factors: research-related interests, previous experience in academia, preparation for the future, appeal of the scholarly environment, and encouragement from others. Investigating student motivation informs program administrators, faculty, and prospective doctoral students of the future of graduate-level education. This study also addresses concerns about faculty supply, offering recommendations for improving the pipeline from graduate study to doctoral study to the academy.

Keywords: doctoral education, LIS curriculum, LIS education, student motivation

In the field of library and information science (LIS), the usefulness and general nature of the doctoral degree has been in question for decades. Some of the literature expresses concern about the future of graduate LIS education because employment outcomes for doctoral recipients have not lived up to expectations as graduates pursue opportunities outside the academy (Futas & Zipkowitz, 1991; Seavey, 2005; White & Momenee, 1978). A review of the LIS doctoral education landscape from 1930 to 2007 revealed that 78% of doctoral graduates were not in faculty positions (Sugimoto, Russell, & Grant, 2009). Despite concerns, research has focused mostly on program characteristics, student demographics, publication activity of doctoral degree recipients, and dissertation topics and trends. Few studies have captured the perspective of current LIS doctoral students.

KEY POINTS

- A number of factors motivate individuals to earn a PhD: research-related interests, previous educational experiences, preparation for the future, appeal of the scholarly environment, and encouragement from respected others.
- Student perspectives regarding LIS doctoral education highlight the importance of faculty support at the graduate level.
- Participants report little interest in teaching, perhaps affirming concerns of an LIS graduate faculty shortage as noted in the literature.

Recent literature calls for more research on the LIS doctorate (Sugimoto, Li, Russell, Finlay, & Ding, 2011). An obvious gap in the literature exists as it relates to the student point of view, and a bigger gap in LIS doctoral education research exists regarding students' interest in obtaining the doctoral degree. I concur with Moreno and Kollanus (2013, p. 7), who state that identifying initial motivational influences "constitutes the groundwork for a further investigation [of] doctoral students' pathways and performance." In addition, such information may address some of the concerns mentioned above.

This study contributes to existing literature in several ways. It advances anecdotal discussions begun by Achterman, Kasman Valenza, and Woolls (2007) and Bruce (2009) on why individuals pursue the LIS doctoral degree. This work contributes to the literature on doctoral student motivation with the introduction of a new academic discipline under study. As few studies take a theory-driven approach to analyze doctoral student motivation (Baytiyeh & Naja, 2011; Moreno & Kollanus, 2013; Peters & Daly, 2013), this research adds to the body of literature on self-determination theory (SDT) and the use of the Academic Motivation Scale (AMS-C 28) with doctoral students. SDT (Deci & Ryan, 1985) is a motivation theory that assesses and classifies motivation along a continuum rather than simply as intrinsic versus extrinsic. It has been used to examine motivation in health and wellness, human resources, and education research.

On a practical level, it is hoped that data from this study will help set reasonable expectations for the future of LIS education, based on an awareness of entering students' motivational influences. Results are expected to affect student recruitment and assist program administrators in developing doctoral programs that meet the professional and personal interests of students and designing services that support student retention and matriculation.

Research method

This investigation used a sequential convergent mixed method design whereby data were first collected in a quantitative phase and then in a second, qualitative phase to produce a more comprehensive account of doctoral student motivation than possible using one methodological approach. First-year LIS doctoral students enrolled at institutions included in the 2015 ALISE statistical report were targeted for recruitment. Participants were recruited through email solicitations to deans, doctoral program directors and academic advisors, and doctoral program chairs. Administrators were asked to forward a recruitment flyer to applicable students. Follow-up reminder emails were sent two to three weeks after the initial email. An attempt was also made to contact potential first-year students directly using department websites and the Wayback Machine to ascertain which students were in their first year of study. The Wayback Machine is a digital archive of the Internet that captures pictures of web

pages and makes the images available online. The current student directory was compared with that of the previous year to ascertain students' year in the doctoral program. This approach was somewhat fruitful, with a few more students completing the survey; however, this approach also resulted in students being contacted who were beyond their first year of study.

Self-determination theory was the theoretical framework guiding this study. As a contemporary motivation theory, SDT expands the traditional intrinsic/extrinsic dichotomy of motivation by positing a motivation continuum from amotivation to intrinsic motivation, with four types of extrinsic motivation between the two: external regulation, introjected regulation, identified regulation, and integrated regulation (Deci & Ryan, 1985; Ryan & Deci, 2017). SDT also acknowledges the role of one's social-cultural environment in behavior regulation, thus making it an attractive theoretical framework through which to examine doctoral student motivation. Basic psychological needs theory, a mini-theory of SDT, posits that individuals have a basic need to experience competence, autonomy, and relatedness, the support or hindrance of which affects one's behavior. These three basic psychological needs have been shown to be instrumental to positive doctoral education outcomes (Mason, 2012). Finally, SDT is thought to apply universally across cultures and developmental stages (Ryan & Deci, 2017).

In the quantitative phase, students completed the Academic Motivation Scale (AMS-C 28) online. The AMS-C 28, a self-report survey developed by Vallerand et al. (1992), was designed to assess and classify motivation types according to SDT. The 28-item instrument focuses on seven subscales representing seven motivation subtypes: intrinsic motivation to know, intrinsic motivation to accomplish, intrinsic motivation to experience stimulation, extrinsic external regulation, extrinsic introjected regulation, extrinsic identified regulation, and amotivation. The alpha values for each motivation subscale ranged from 0.76 to 0.93. A sample of items on the AMS-C 28 is shown in Table 1.

Twenty-three students in the United States and Canada completed the online survey. Five of the 23 students did not meet the main criteria for inclusion in the study: enrollment status as a first-year doctoral student. As a result, the following demographics apply to the remaining 18 students, who were in their first year of doctoral study.

Of the participants meeting the inclusion criteria, nine identified as female, eight as male, and one as gender queer. This distribution was similar to that in the 2017 ALISE statistical report, which reported 52% female students and 48% male students; students identifying as gender non-binary were not reflected in ALISE data. At the time of the survey, nine students were enrolled at institutions holding membership in the iSchool Caucus. Eleven participants were enrolled in doctoral programs located in the United States; the rest were completing doctoral study at Canadian institutions. Participant ages ranged between 25 and 64 years old; 67% of

Table 1: Sample items on the AMS-C 28

AMS-C 28 Subscale	Sample item
Intrinsic to Know (IMK)	Because my studies allow me to continue to learn about many things that interest me.
Intrinsic to Accomplishment (IMA)	For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments
Intrinsic to Experience Stimulation (IMS)	For the "high" feeling that I experience while reading about various interesting subjects.
External Regulation (ER)	To have a better salary later on.
Introjected Regulation (IR)	To prove to myself that I am capable of completing my doctoral degree.
Identified Regulation (IDR)	Because this will help me make a better choice regarding my career orientation.
Amotivation (AMOV)	Honestly, I don't know; I really feel that I am wasting my time in school.

Table 2: Educational background of participants

Graduate degree discipline	n = 17*	%
Library science/library and information science	9	53
Information studies	2	12
Education	2	12
Other Master's degree**	8	47

*One student did not report any graduate-level education.
**Disciplines included engineering, art history, linguistics, and English.

students were aged 25 to 34. In fall 2016, 52% of enrolled LIS doctoral students (including entering and continuing students) were aged 25 to 34 (ALISE, 2017). Most participants identified as white (n = 13; 72%) followed by Asian (n = 3; 17%); only two African American students completed the online survey. The time between entrance into a doctoral program and completion of the most recent degree was between one and 18 years, with most students entering doctoral study immediately following completion of a master's degree. One student was concurrently enrolled, finishing studies in an MLIS program while beginning doctoral work. Participants entered doctoral study with a range of educational experiences. Table 2 shows the graduate-level educational backgrounds of participants; several students had earned more than one master's degree.

Data for the qualitative phase were generated from interviews and participants' personal admission statements, which were obtained directly from them. The convenience sample for the second phase was nested—a sub-group of the first sample (Creswell & Plano Clark, 2011). Interviews with seven participants were audio-recorded and transcribed by the researcher for data analysis, which involved coding and categorization to inductively produce motivational factors.

Findings

The question prompt on the AMS-C 28 was "Why do you want to earn a doctoral degree?" Participants were instructed to choose a level of correspondence for each reason or item given for earning a doctoral degree. The available responses were the following: *does not correspond at all* (1), *corresponds a little* (2 or 3), *corresponds moderately* (4), *corresponds a lot* (5 or 6), and *corresponds exactly* (7). The mean correspondences on the subscales ranged from 1.37 to 6.23. On average students reported definite correspondence with scale items related to intrinsic motivation to know ($M = 6.23$, $SD = 0.88$) and intrinsic motivation to accomplish ($M = 5.10$, $SD = 1.61$); moderate correspondence with identified regulation ($M = 4.83$, $SD = 1.61$), intrinsic motivation to stimulation ($M = 4.71$, $SD = 1.50$), and introjected regulation ($M = 4.04$, $SD = 1.71$); and little correspondence with items reflecting external regulation ($M = 3.67$, $SD = 1.75$). The mean score for items related to amotivation was 1.37 ($SD = 0.65$), indicating that, on average, the participants reported no correspondence with those items; however, for two students amotivation-related items corresponded a little.

Participant interviews were more conducive to eliciting less filtered responses than what was written in the personal admission statements. Both data sets show that students apply to doctoral programs having a range of experiences that, based on the data, have contributed to participants' decision to earn a Ph.D. Emerging motivational factors from the two qualitative data sets were integrated to produce a unified set of factors (Farmer, Robinson, Elliott, & Eyles, 2006). Five motivating factors emerged: research-related experiences, previous experiences in academia, preparation for the future, appeal of the scholarly environment, and encouragement from others. Many of the reported motivating factors occurred in combination. Table 3 presents each motivating factor along with a sample quotation from the qualitative data.

The qualitative data were also analyzed deductively based on basic psychological needs theory, described above. For participants in the present study, the basic psychological needs were energizing factors when participants were weighing the decision to earn a doctoral degree. Fulfillment of the need for autonomy was experienced among the participants through the encouragement they received from others concerning their decision to earn a doctoral degree and their choice of research topic. Relatedness

Table 3: Emerging motivating factors, with quotations

Motivating factor	Sample quotation from the qualitative data
Research-related interests	"I have a research—a very specific research question that I want to investigate, so why would I not do it? . . . I knew I had to apply"
Previous experience in academia	"My undergraduate coursework and then the master's level, definitely was important in terms of the factors of pursuing a PhD."
Preparation for future	"I would like to continue into either a professorial or private contractor track. If I pursue the former, I intend to follow the road my research during doctoral pursuits sets forth. . . . If I pursue the latter, I intend to apply theories and methodologies gained through research to real-world conditions."
Appeal of scholarly environment	"There was a guy . . . who was giving a presentation . . . and that was the very precise moment that I felt like all of these thoughts in my head . . . you know, 'do I want to do a PhD?' I am home now, I feel like I fit here."
Encouragement from others	"Having that support of key faculty and key people on campus that [I'd] worked with or talked with from day to day . . . definitely was important in terms of factors of pursuing a PhD."

manifested in participants as being cared for both before entering the doctoral program, which seemed to positively affect the decision to enroll, and during doctoral study, which has played a role in student satisfaction thus far with their doctoral experience. The need for competence is satisfied, in part, through positive feedback. Participants experienced positive, other-mediated feedback before applying to doctoral programs during discussions with former faculty and academic advisors who encouraged them to apply for the Ph.D. Participants' previous graduate-school experiences also energized them to pursue the doctorate.

Conclusion

Results of the AMS-C 28 show that first-year LIS doctoral students corresponded primarily with motivation subtypes intrinsic motivation to know, intrinsic motivation to accomplish, identified regulation, and intrinsic motivation to stimulation, in that order. Participants reported being motivated by the perceived pleasure and satisfaction that would come during doctoral study, especially when learning something new, concentrating on and continuing to study in an area of personal interest, and achieving one's personal goal on a challenging task. That the doctoral degree would prepare participants for their career of choice was another highly motivating factor for participants. Items related to social and economic standing

or self-perception were moderately motivating for participants. Amotivation was the subtype that least corresponded with participants in this study.

Students apply to doctoral programs having a range of experiences that have been shown to guide their choice of research topic and decision to earn the degree. Findings from this study tell us that previous educational experiences are important to individuals' decision to earn a doctoral degree. Experiences such as progressively earning high marks during undergraduate to graduate education, active participation in campus activities, and experience on research teams positively motivated individuals to earn the Ph.D. Participation and acceptance in scholarly environments and experiencing mentorship helped solidify students' interest in and enhanced their feelings of relatedness and competence in research environments, further contributing to their decision to earn a Ph.D.

The future of LIS education will continue to be interdisciplinary and have a strong research focus, especially if doctoral students with a primary interest in research enter the academy. Participants reported post-Ph.D. plans that were inclusive of but not limited to tenure-track positions, which may support reports in the literature that fewer graduates are entering academia. Because of the importance of previous academic experiences and encouragement from faculty mentors, current faculty would do well to more intentionally spur students' interest in teaching in addition to research. It is evident that participants share an interest in research-related activities, but they may need additional encouragement regarding the other side of the faculty coin—teaching. One suggestion is to be more transparent about research topics that are generated from teaching experiences, if applicable. Another is to build into the graduate curriculum more teaching opportunities and discussions of pedagogy, showing students the bridge between teaching and research, which may improve the pipeline to the academy.

The findings of this study also highlight how the future of doctoral LIS education will be shaped by individuals' experience of support of the basic psychological needs. When students perceive support for their competence, autonomy, and relatedness—whether or not they value those basic needs—the result is a more positive doctoral student experience. Participants described aspects pertaining to autonomy-, competence-, and relatedness-support that energized them to earn a doctoral degree, and specifically in library and information science. How to affirm one's basic psychological needs at the start of the doctoral process and throughout the educational experience deserves further examination by faculty and program administrators.

Limitations relate to the sample size and recruitment of participants. First-year doctoral students face many challenges—acclimation to the doctoral experience and culture, navigating relationships with cohort members and faculty, and juggling school, family, and possibly work obligations. It is understandable that students did not find time to complete the short

online survey or chose not to participate in the subsequent interviews due to time constraints. Several attempts were made to contact potentially eligible students for participation in this study; still, recruitment was further affected by the lack of current student information available on doctoral program websites. Information, specifically contact information for students, is inconsistent from program to program, making it especially challenging to recruit students directly, hence the reliance on program administrators to forward recruitment information to applicable students. Future research may employ the snowball sampling technique.

The intent of this exploratory mixed methods study with a qualitative priority was not to generalize but rather to begin a conversation about doctoral student motivation within the LIS community and to serve as a baseline investigation. Limitations notwithstanding, the current research presents new insights on the LIS doctoral student perspective that is of value to academic deans, prospective students, and professional associations specializing in LIS education.

Africa S. Hands is a doctoral candidate at Queensland University of Technology in partnership with the San Jose State University School of Information. Her research focuses on doctoral student motivation and experience in the LIS discipline.

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References

Achterman, D., Kasman Valenza, J., & Woolls, B. (2007). Why enter a doctoral program in library and information science? *School Library Media Activities Monthly*, *23*(6), 56–58.

Association for Library and Information Science Education [ALISE]. (2017). Library and information science education 2017 statistical report. Retrieved from http://www.alise.org/index.php?option=com_content&view=article&id=415

Baytiyeh, H., & Naja, M.H. (2011). Contributing factors in pursuit of a Ph.D. in engineering: The case of Lebanon. *International Journal of Engineering Education*, *27*(2), 422–430.

Bruce, C. (2009). Why consider a Ph.D.? *Incite*, *30*(8), 33.

Creswell, J.W., & Plano Clark, V.L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: SAGE Publications.

Deci, E.L., & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum Press. https://doi.org/10.1007/978-1-4899-2271-7

Farmer, T., Robinson, K., Elliott, S.J., & Eyles, J. (2006). Developing and implementing a triangulation protocol for qualitative health research. *Qualitative Health Research*, *16*(3), 377–394. https://doi.org/10.1177/1049732305285708

Futas, E., & Zipkowitz, F. (1991). The faculty vanishes. *Library Journal*, *116*(14), 148–152.

Mason, M.M. (2012). Motivation, satisfaction, and innate psychological needs. *International Journal of Doctoral Studies*, *7*, 259–277. https://doi.org/10.28945/1596

Moreno, M.d.C.C. & Kollanus, S. (2013). *On the motivations to enroll in doctoral studies in computer science: A comparison of Ph.D. program models*. Paper presented at Information Technology Based Higher Education and Training (ITHET) 2013 International Conference, Antalya, Turkey.

Peters, D.L., & Daly, S.R. (2013). Returning to graduate school: Expectations of success, values of the degree, and managing the costs. *Journal of Engineering Education*, *102*(2), 244–268. https://doi.org/10.1002/jee.20012

Ryan, R., & Deci, E. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford Press.

Seavey, C.A. (2005). The coming crisis in education for librarianship. *American Libraries*, *36*(9), 54–56.

Sugimoto, C.R., Li, D., Russell, T.G., Finlay, S.C., & Ding, Y. (2011). The shifting sands of disciplinary development: Analyzing North American library and information science dissertations using latent Dirichlet allocation. *Journal of the American Society for Information Science and Technology*, *62*(1), 185–204. https://doi.org/10.1002/asi.21435

Sugimoto, C.R., Russell, T.G., & Grant, S. (2009). Library and information science doctoral education: The landscape from 1930–2007. *Journal of Education for Library and Information Science*, *50*(3), 190–202.

Vallerand, R.J., Pelletier, L.G., Blais, M.R., Briere, N.M., Senecal, C., & Vallieres, E.F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, *52*(4), 1003–1017. https://doi.org/10.1177/0013164492052004025

White, H.S., & Momenee, K. (1978). Impact of the increase in library doctorates. *College & Research Libraries*, *39*(3), 207–214. https://doi.org/10.5860/crl_39_03_207