

Supporting Humanities Doctoral Student Success: A Collaborative Project between Cornell University Library and Columbia University Libraries

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I. Introduction

It is well documented that doctoral students in the humanities take longer to complete their programs and drop out at a higher rate than those in the sciences and social sciences. In recent years, a number of large-scale projects have studied the issue, including the Council of Graduate Schools Ph.D. Completion Project (Council of Graduate Schools 2008), the Graduate Education Initiative funded by the Andrew Mellon Foundation (Ehrenberg et al. 2009), and the National Research Council Assessment of Research Doctoral Programs (National Research Council 2010). In addition, the National Science Foundation tracks the number of degrees awarded in its annual Survey of Earned Doctorates (National Science Foundation 2008) and produces other reports such as *Time to Degree of U.S. Research Doctorate Recipients Report* (Hoffer and Welch 2006).

The published results from these projects, as well as numerous small-scale empirical studies confirm that:

- the number of doctorates awarded in the humanities has declined by 12% between 1998 and 2008, while those in science and engineering have increased by 20.4% (National Science Foundation 2008);
- while the mean registered time to degree in all disciplines has increased since 1978, it is still the longest in the humanities, increasing to 9 years in 2003 as compared to 6.9 in engineering, 6.9 in the life sciences, and 6.8 in the physical sciences (National Science Foundation 2006);
- not only do those who enroll in doctoral programs in the humanities take longer to complete their degrees than other disciplines, their completion rates within a ten-year period are the lowest (49%), compared to 55% for mathematics and physical sciences, 56% for the social sciences, 63% for the life sciences, and 64% for engineering (Council of Graduate Schools 2008);
- the cumulative attrition rates at year ten in the humanities are 32% compared to 27% in engineering and 26% in the life sciences (Council of Graduate Schools 2008); and
- the factors that influence time to completion and retention rates vary according to discipline, institutional characteristics, availability of financial aid, quality of advising, clarity of program requirements, quality of family life, job prospects, lack of community, etc. (Ehrenberg et al. 2009).

In order to investigate the local needs of doctoral students in the humanities and whether the library can positively impact student success, the Cornell University Library and Columbia University Libraries conducted a collaborative ethnographic user needs study. The study was supported by grants from the Gladys Krieble Delmas Foundation, the Council on Library and Information Resources, and funding from the respective Graduate Schools at Cornell and Columbia.

Joining two principal investigators on the project team were twelve library staff members from various libraries at Columbia and Cornell, seven students, and one administrative assistant. Graduate students

were hired at Columbia to assist with the interview process and coding of transcripts and numerous students were hired at Cornell to transcribe audio recordings of interviews. Eleven core members from both institutions participated in the study from its beginning with ethnographic training, protocol and questionnaire development, interview facilitation, transcript coding, data analysis, and the writing of preliminary reports detailing the findings of the study (Appendix 1).

II. Methods

The study focused on doctoral students in the humanities at any stage of their program. Students were considered as belonging to one of two groups: those at the stage before their qualifying exams (pre-exam) and those advanced to candidacy (post-exam). Two recent graduates from Cornell were also included in the interviews. Students were recruited via department email lists with consent from the targeted departments (Table 1) and via posters located in areas heavily trafficked by graduate students. Students participated either in one of five focus groups (n=27) conducted between both institutions or in individual interviews (n=45), totaling seventy-two participants for the study. All students were compensated for their participation.

Data gathered from the focus groups were used to refine the two interview protocols (pre- and post-exam) used in the study (Appendix 2). Written questionnaires were developed and administered at the end of each focus group or interview session (Appendix 3). The results presented include an analysis of the interviews, including written questionnaire results. The results of the focus groups are not considered here.

Forty-five individual interviews were conducted and audio recorded. Interviews lasted between 60 and 90 minutes and were conducted in person by teams of two library staff members, except for two interviews which were conducted over the telephone.

The initial focus was on students enrolled in English, religion, history and classics doctoral programs, but participation was expanded to include other humanities disciplines at both institutions. History and English were the only two disciplines to overlap and also contributed the highest number of participants. Participating disciplines unique to Columbia included art history and religion; disciplines unique to Cornell included Asian studies and Asian religions, classics, comparative literature, and medieval studies (Table 1).

Table 1. Number of students participating in interviews by discipline, age, gender, status, and advanced degrees

	Columbia		Columbia TOTAL	Cornell		Cornell TOTAL	Combined TOTAL
	Male	Female		Male	Female		
	9	15	24	6	15	21	45
Disciplines							
Art History	3	4	7	0	0	0	7

Asian Studies			0	1	1	2	2
Classics			0	2		2	2
Comparative Literature			0	2		2	2
English	2	4	6	2	2	4	10
History	1	4	5	1	6	7	12
Medieval Studies					4	4	4
Religion	3	3	6			0	6
Stage							
Pre-exam	5	3	8	3	6	9	17
Post-exam	4	12	16	3	9	12	28
Advanced Degrees							
Yes MA	4	9	13	5	6	11	24
No MA	5	6	11	1	9	10	21

Interview transcription was conducted by students with the aid of the *Start-Stop Universal* software. Each transcript was reviewed by a member of the project team. Four team members coordinated the creation of a code book (Appendix 4), code term definitions, and coding guidelines for the coding teams. Each transcript was coded independently by two team members using the indexing function of Microsoft Word. The results were then compared, discussed, and reconciled to an acceptable common coding framework. Teams from both institutions participated in multiple video and phone conferences to discuss the analysis process, preliminary findings, and to ascertain the most important dimensions emerging from the initial analysis.

III. Demographic Data and Written Questionnaire Analysis

The following analysis is derived from self-reported data collected from written questionnaires distributed after the one-on-one interviews. The analysis includes demographic, satisfaction, and library use data covering library resources, services, and space.

Forty-five doctoral students participated in the interview portion of the project, and it became clear early on that there is no such thing as a typical humanities doctoral student. Not only did the subjects vary widely in age - from 21 to 75 years old (Figure 1) - their academic backgrounds and experience with libraries, archives, and academic writing ranged dramatically. Almost two-thirds of participants had advanced to doctoral candidacy (Table 1). Some were recent doctoral candidates, while others were actively writing their dissertations. Over half of the interviewees had earned advanced degrees (typically a master's degree) prior to starting their doctoral program (Table 1). Some of these degrees were earned from international institutions. Some participants reported that the coursework and thesis completed for their previous degree did not necessarily provide a rigorous research experience,

while others reported completing a lengthy, research-intensive thesis process, which they perceived as good preparation for completing their dissertation. Understanding the range of academic preparation these students bring to their programs is invaluable for improving library support. Libraries cannot simply assume doctoral students have equal skills, training, and experience necessary for success when starting their programs.

AGE AND GENDER

The age range of participants in this study contained surprising outliers on both ends. A wide range of ages was represented, including a 75-year-old student and a 21-year-old student (Figure 1). The average age for study participants was 30.6 years, but without the oldest student, it drops to 29.5 years. Two-thirds of participants in this study were female (Table 1).

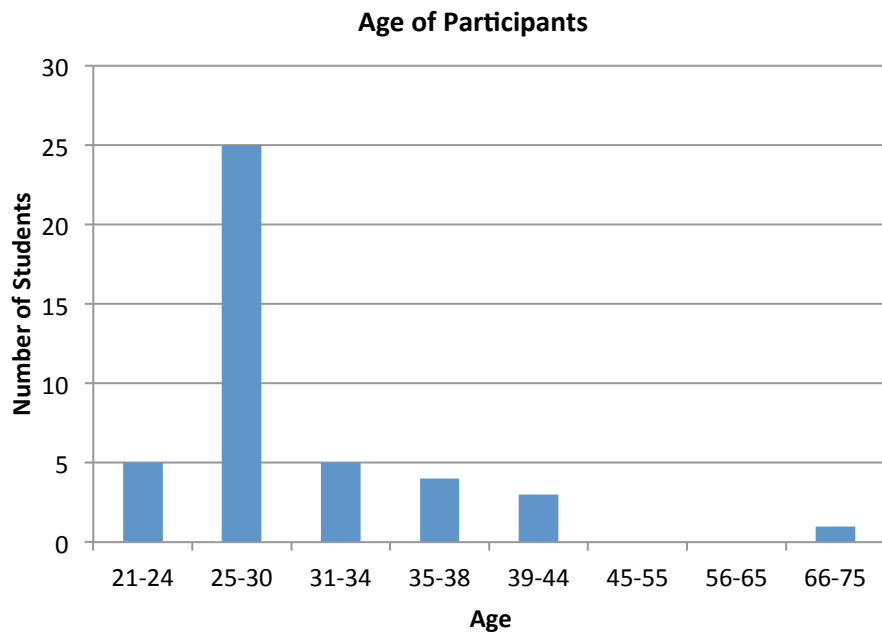


Figure 1. Distribution of participants by age

TIME IN DOCTORAL PROGRAM

On average, students participating in the study took or expect to take about three years to achieve candidacy (passing oral and written exams) and expect to take an average of 6.4 years to graduate. In Figure 2, the bars represent the number of students who started the program that year and the red and green lines represent the average number of years students took/expect to take to achieve candidacy and their expected number of years to graduation. Since 2007, the average number of years to achieve candidacy has decreased from 3 to 2.4 years (red line). As might be expected, newer students in doctoral programs are more optimistic regarding the years to degree completion than those who have been enrolled for a longer time.

On average, participants had been enrolled in their programs for three years. Many began their programs in 2008 (n=9), followed by those who began in 2006 (n=7), 2004 (n=6), and 2005, 2007, 2010 (n=5 each) (Figure 2).

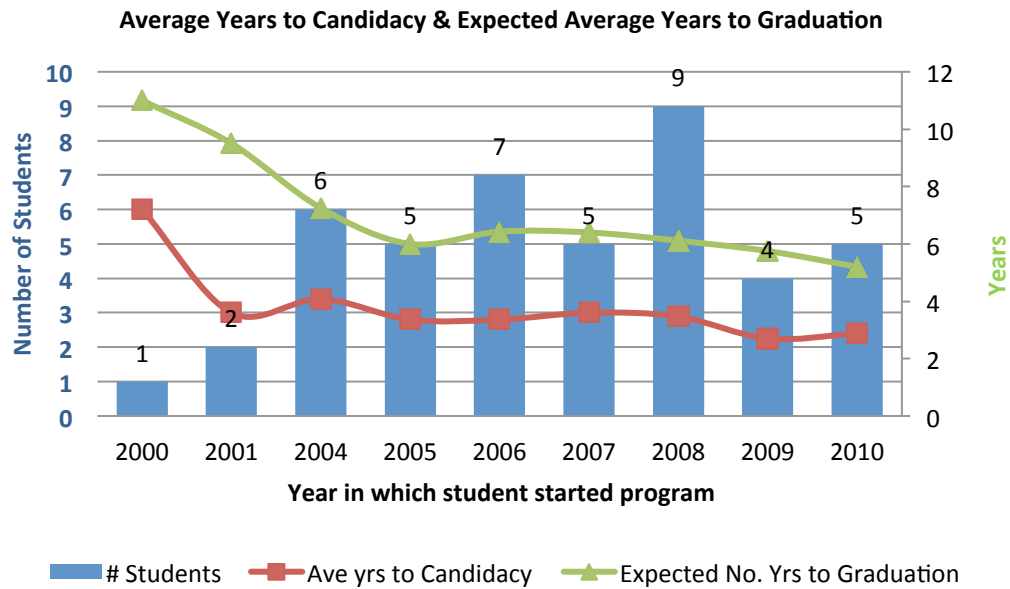


Figure 2. Average number (or expected average) of years to achieve candidacy and average number (or expected average) of years to graduation

Figure 3 illustrates the trajectory of the academic training for 34 of the participants for whom we collected sufficient data. This chart displays the period of time between their completion of the bachelor degree to the beginning of their current graduate program (blue portion of the bar). The average length of this time period is 3.2 years. Note that many completed an additional master’s degree in the interim. The orange portion illustrates the duration or expected duration of the first phase of their current degree program: coursework and time to candidacy. The average length of this time period is 2.9 years. The green portion represents the expected duration from the time of candidacy to completion of their doctorate. The average length of this time period is projected to be 3.4 years. Of course, the reality of the estimated length of the writing period could vary dramatically from the students’ expectations.

Time from BA graduation Through Expected PhD Completion

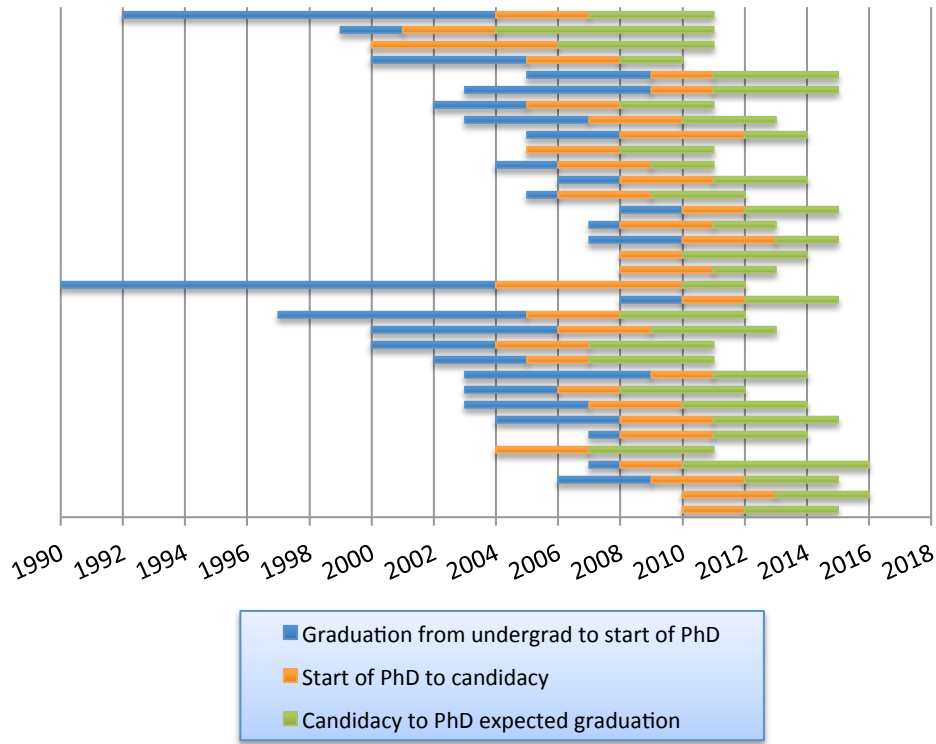


Figure 3. Duration of education from receiving a Bachelor’s degree through expected completion of doctorate

SATISFACTION

Overall, the humanities doctoral students at both Cornell and Columbia Universities, who participated in the study, are *satisfied* or *very satisfied* with their academic program, the level of funding they’ve received, library collections, and library services (Figure 4). Approximately 84% of participants reported satisfaction with their academic programs. Surprisingly, 4 out of 5 (80%) of participants reported being *satisfied* or *very satisfied* with the level of funding they’ve received thus far. It should be noted, however, that funding received the highest number of non-responses, with five students opting not to report data on this item. Six of the forty-five participants did report that they have an “outside job” that provides income. As far as satisfaction with the libraries, 88% of participants reported being *satisfied* or *very satisfied* with library services, and 88% are *satisfied* or *very satisfied* with library collections.

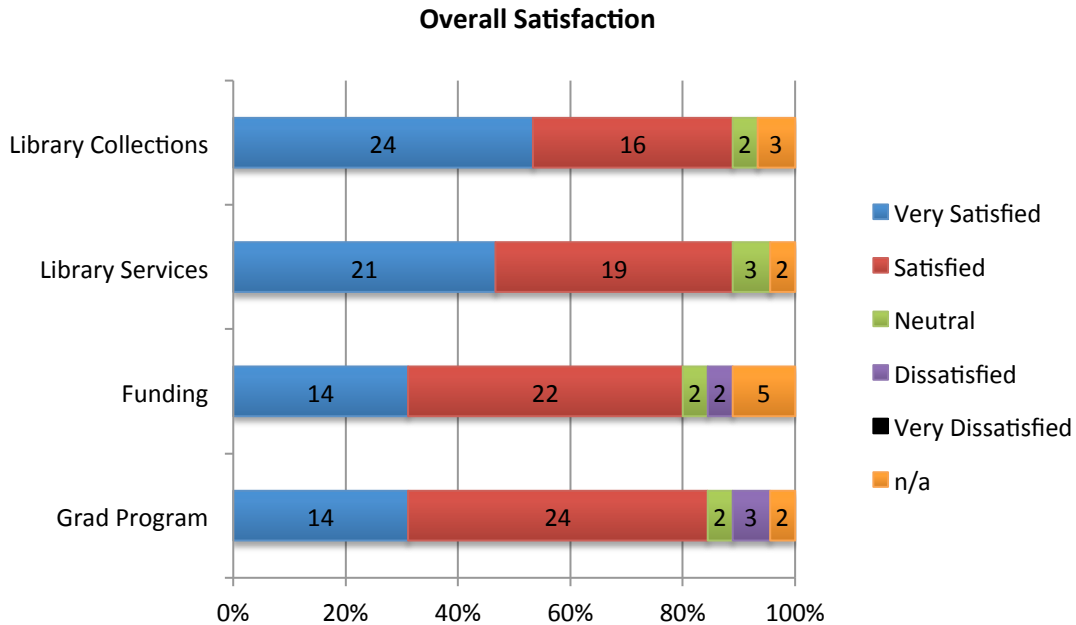


Figure 4. Degree of satisfaction with program, funding, library collections, and library services

LIBRARY USE

All of the interview participants reported using the physical libraries at least on a monthly basis. Daily visits are more common than weekly or monthly visits, with twenty-six participants reporting daily library use and fourteen reporting weekly library use (Figure 5). Only one participant reported coming less frequently than every week. As expected, doctoral students are heavy users of library physical spaces. Figure 5 shows the number of hours spent in the library, against the frequency of those visits. In those daily visits, students typically spend between two and six hours in the library. A large number of weekly users spend less than an hour in the library when they visit; the rest of the weekly users tend to spend up to four hours. A minority of participants (about 9%) reported spending six or more hours per visit to the library as a typical duration.

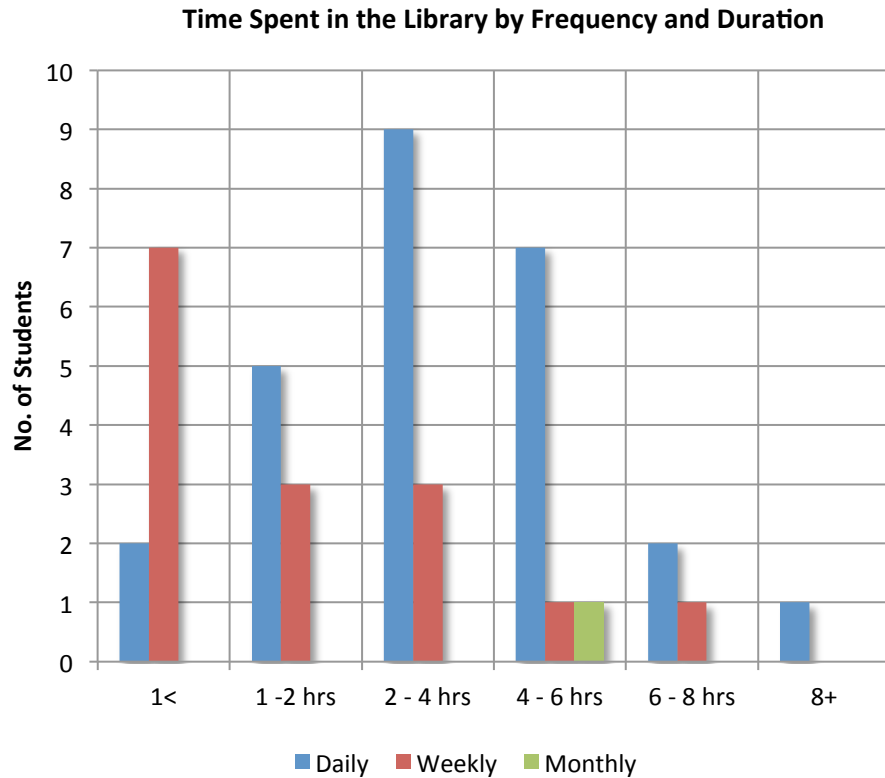


Figure 5. Time spent in the library by duration (number of hours) and frequency of visits

Students reported engaging in diverse activities in the library; the top three reported are reading, doing research using library resources, and browsing collections (Figure 6). Both pre- and post-exam students identified browsing collections as one of their most frequent activities (Figure 7). For both pre- and post-exam students, reading is the second most frequent activity conducting at the library. One notable finding is that writing is *not* the top reported activity of students at the post-exam stage, nor is it in the top three activities they perform at the library. Notably, a higher percentage of post-exam students (20% more) reported conducting research using library resources at the library (Figure 7). Approximately 5% more pre-exam students reported consulting with a librarian while at the library (Figure 7).

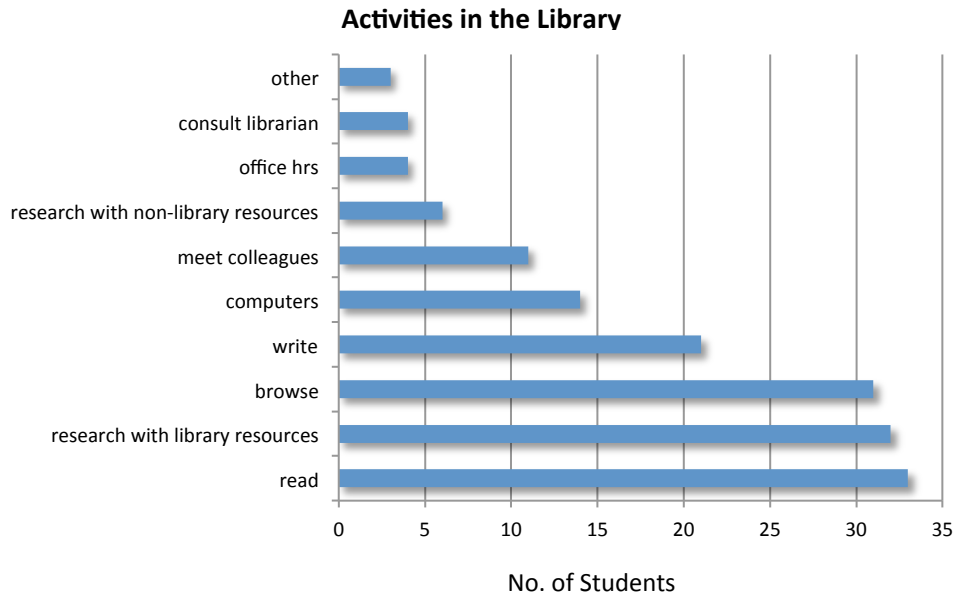


Figure 6. Activities on library visits

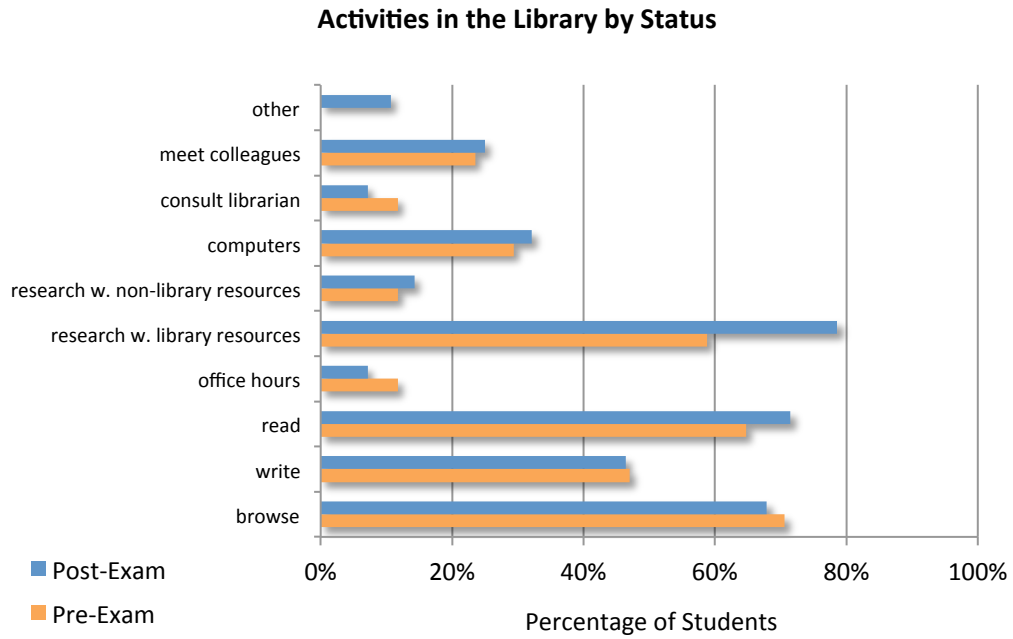


Figure 7. Activities in the library by status

IV. Discussion

Interviews revealed that even though there is no typical humanities doctoral student, there are institutional and library-related concerns that these students share and consider important in their pursuit of advanced degrees. While interviewees confirmed the importance of the availability of funding, jobs after graduation, and the quality of their relationship with their faculty advisor as vital prerequisites for completing their degrees in a timely fashion, their comments on what the library does and might do to contribute to their success were of particular interest. The opportunities for libraries that emerged from the interviews include providing space, fostering community, providing access to deep research collections, providing research assistance and nurturing the development of scholars. These themes are discussed below with each theme followed by a short list of the major opportunities for libraries to positively affect attrition and completion rates of doctoral students in the humanities. The order in which the themes are presented does not reflect relative importance assigned to each.

A. Provide space

"The thing that has been the best for me is having a space to work. I got more done last year when I had my locked carrel than I had gotten done in years before or since because it was a dedicated space in which I could keep all of my sources, it was close enough to my office but far enough away from all the people and stuff and teaching. It was like you go in there and you know what you are doing is writing your dissertation."

The doctoral students interviewed tended to spend a great deal of time in libraries throughout their program. For them, the library is an important support structure and some described it as a refuge. They identify closely with library facilities as important campus environments where they research, study, read, write, and socialize. The availability and quality of space in which they can work were major factors in their productivity and academic success.

The interviewees exhibited a range of attitudes towards library space. However, there were two issues upon which the students interviewed agreed: (1) the need for more available, comfortable study/research space, and (2) the need to minimize distractions within study spaces. All requested more comfortable study spaces to support a variety of study habits. Some appreciated library spaces with large tables on which they could spread their work, while others preferred the seclusion of a carrel. They also pointed to challenges they face using library spaces. Chief among these was the lack of dedicated carrels available as early as the first year of doctoral study. Students also complained about openly accessible carrels monopolized by undergraduate students, small, physically uninviting carrels located in poorly lit areas, and carrels located near high-traffic areas, such as circulation desks or corridors.

Apart from prioritizing quiet, accessible, and clean space, the interviewees also mentioned that they appreciated seeing other doctoral students working in the library. One student remarked, "... so if I have a particular question, especially when I am writing a paper that is not in my field, then I know there is somebody else who is around whose field it is [and I can] go and tap on their shoulders and ask what they are looking at." The benefits of working among other doctoral students was reported as especially significant at the beginning of their tenure, as students rely on one another for insight and advice.

The opportunities identified focus on the dedication of a variety of library spaces to the scholarly pursuits of doctoral students, available from the start of their programs. These include individual workspaces and communal spaces, which would promote an increased sense of belonging - clearly one of the largest stumbling blocks interviewees faced.

Major opportunities for libraries related to space include:

- Provide dedicated spaces for doctoral students that promote academic and social community building.
- Provide spaces that could be reserved by doctoral students for writing groups, dissertation discussion groups, etc.
- Increase the number of quiet individual study areas with appropriate lighting, power, and security.
- Consider 24/7 access to study/research spaces used by graduate students.

B. Foster community

“It’s having community. Belonging to your community, having friends that are doing this and feeling that you have something worthwhile to say that other people are recognizing it. That is obviously a very particular perspective because I was isolated. But I think that even before I left, if I had had stronger community ties here to other students I think I would have been less likely to have stayed [away]. And I would’ve felt more of a duty and responsibility to my peers and to my community that I finish this thing, that I do this thing and want to be a part of it.”

The students we interviewed expressed a strong need for communities of support. References to relationships with colleagues and the characteristics of those relationships that fostered a sense of community as an influential component of the departmental or institutional culture were frequent. Two types of community with overlapping elements – the intellectual/academic and the social/emotional – were identified.

The intellectual/academic sphere refers to the rich scholarly environment fostered in a department by activities that promote an intellectual atmosphere based on active participation by both faculty and students. Community activities take the form of workshops, colloquia, speaker series, museum visits, and discussion groups that meet outside of the classroom and are often unrelated to specific courses. Peer communities also play an important role, and students underscored the importance of having a community of peers to “bounce off ideas,” support dissertation-writing, and offer informal peer advising.

The social/emotional community refers to the network of support that students rely on to counterbalance the intensity of their academic programs. The desire to build and participate in academic and social communities was highlighted by the sense of personal and intellectual isolation experienced by many students, in particular once they completed their coursework. Sometimes the need for community manifested itself when students felt they were unworthy of membership in their academic cohort, requiring peer validation to provide a sense of belonging. Advantages to such community membership included the prestige of belonging to a highly regarded department, the widening circle of their academic world, and the practical advice received from peers about navigating

graduate school. The relationships fostered in these communities support, validate, and enable the growth of a student pursuing post-graduate work.

Many students expressed confusion because they felt they lacked the requisite information to meet departmental and institutional requirements. They reported often relying on their peers to navigate the intricacies of administrative details. Underlying these perceived obstacles was the strong desire to appear competent in front of peers and advisors by not asking “dumb” questions. Similarly, students expressed concern regarding their unfamiliarity with producing the documents that signaled advancement, such as a preparing a reading list for their qualifying exams or putting together a prospectus (for a dissertation, publication, conference paper, etc.).

Here there are obvious opportunities for collaboration between libraries, academic departments, schools and colleges, and other campus agencies. The library already offers a number of workshops geared directly to graduate student needs (e.g., managing citations, finding funding sources, etc.). These offerings could be expanded in partnership with other campus units interested in doctoral student success.

Major opportunities for libraries related to the fostering of community include:

- Working with appropriate campus partners, position the library as a central referral hub, or single point of entry, offering guidance and direction in a wide range of areas important to graduate student success.
- Serve as a central repository of sample collections of academic documentation and offer guidelines or best practices for preparing reading lists, prospectuses, etc.
- Offer hands-on training on developing, understanding, and mastering the documentation of doctoral projects.

C. Provide access to deep research collections

“I have to say that I have had every resource that I have needed from the library. I really can’t say, ‘Here I am in the sixth year because you didn’t buy that set of resources for me and I don’t have the materials to work with, so how can you expect me produce work?’ That’s really not the case for me. I have had access to everything that I have needed and been able to find everything that I have needed.”

Use of library collections varied widely among students, their disciplines, and their research topics. Many students entered their programs with extensive experience researching in libraries around the country and abroad, while others reported more limited experience, gained primarily from their undergraduate programs. The vast majority of interviewees from both institutions were extremely happy with the collections available to them for their research. Many cited the strength of library collections as one of the reasons, or even “the reason,” they chose their doctoral program. Many also cited examples of how they were able to find anything they needed, either locally or via one of the available resource sharing options. The Borrow Direct interlibrary loan service was cited as an important asset many times over.

Attitudes towards e-books varied. Only one interviewee reported owning an e-reader. Many were vehemently opposed to the thought of using an e-reader or e-books; however, others embraced them. Most preferred to read print content, but many preferred the convenience of having books available

digitally anywhere, anytime, especially when faced with limited space, or the need to travel extensively for research.

As access to the full scholarly record in multiple formats tends to be perceived as an important prerequisite for a successful academic career - and in the face of strained or diminishing resources for collections building - the opportunities for libraries in this area clearly lie in expanding collaborative resource sharing partnerships and borrowing arrangements to make a wider range of content available to scholars. Expanding the types of materials allowed for borrowing and lending, such as audio and video formats and primary source materials could reduce the need for expensive and inconvenient research travel. Improving the discoverability and accessibility of physical and electronic collections would also increase their utility for graduate students.

Major opportunities for libraries related to providing access to deep research collections include:

- Make channels for graduate students purchase suggestions more visible and ensure that specific resources mentioned as missing are purchased.
- Work actively with vendors and publishers to increase the usability of e-books (PDFs, downloadable, no restrictions, and a standard format).
- Improve search and discovery interfaces, including library catalogs, web sites, database platforms, and the interconnections between them.
- Expand the types of materials allowed for borrowing and lending, such as audio and video formats and primary source materials.

D. Provide research, information management, and teaching expertise assistance

“I think that accessing resources and knowing how to find the resources and knowing how to for instance access every single thing that has ever been written on the Cities of Refuge and the Book of Chronicles, figuring out how to do that is going to be essential and I don't know if I necessarily know how to do that at this point but maybe sitting down with an advanced research reference librarian . . . might be in my best interest as I go into the writing stage of my paper, just so that I can make sure I am not saying something that has already been said or duplicating research, or that I am not missing something that is cutting-edge and that's really important to my argument.”

The doctoral students interviewed made reference to various individuals who provide them with research advice: faculty advisors, other faculty members, librarians, and student peers. Their beliefs about the value of librarians and the assistance they provide were wide-ranging. Some envisioned a holistic and complementary relationship between themselves and library services: that the resources provided are expansive and librarian expertise is needed to take full advantage of all that is available. But, some questioned the continued utility of librarians, asking why a librarian's assistance is still needed, given the convenience of online research tools and availability of faculty expertise. Interestingly, those who valued interactions with librarians cited subject librarians' deep knowledge of disciplinary literatures as of particular importance. Less important were general and “ready” reference services. Students discussed the need to grasp how the literature within their discipline is organized – an understanding that subject librarians seem uniquely positioned to impart. Professionally obligated to maintain an in-depth knowledge of available information resources in a discipline, subject librarians seem well situated to provide sustained support to the graduate research process. There is clearly an opportunity for targeted outreach providing doctoral students with grounding in the organization of

scholarly literature at the discipline level, including researching archival and other primary source materials.

Most discussions of information management needs focused on the importance of citation management techniques and tools. Although almost all students discussed their awareness of citation management tools such as RefWorks, EndNote and Zotero, many spoke about wanting to use the tools, rather than actually using them. Indeed, many had developed their own idiosyncratic approaches to citation management often because of frustration with online citation management tools. Also of note was the range of responses to questions relating to the use of e-books and e-book readers. The majority expressed frustration in having to navigate the large variety of e-book formats. Although most respondents clearly stated their preference for print over electronic media, many discussed their growing need for tools to manage their expanding, personal electronic libraries. Questions posed to students about their file management habits elicited a wide range of responses. They noted highly idiosyncratic approaches to managing their research information using a wide range of software products. Many students also reported either frustration with or ignorance of effective note taking strategies. For some, this frustration sprung from difficulties related to bridging the physical/virtual divide (i.e., "How do I annotate my PDF without printing it out?"), but many simply wanted help in taking bibliographic notes and in finding a way to link their notes to bibliographies built within citation management tools. In most cases students described talking to their peers and advisors and using "trial and error" while seeking options, but none discussed consulting with librarians or technologists for guidance.

When asked to evaluate the library as a resource for their own teaching needs, many doctoral students cited the importance of reserve readings as a service and hoped that they might use library space for holding office hours. Many praised librarians for offering library instruction sessions and creating customized online research guides for their classes. Many had also arranged for their students to receive an introduction to working with primary source materials and rare book collections. A number discussed the important connections made with specific librarians through the process of arranging library instruction for their classes - connections that had sometimes evolved into important research partnerships. Surprisingly, institutional writing programs seemed to have less than systematic approaches to recommending library instruction as part of teaching curricula, suggesting that stronger partnerships with these programs could move graduate students to integrate library instruction into their curricula more regularly. A need identified by several students was an accessible online repository of teaching materials and learning objects, including library and research instruction materials. They saw such a repository as having the potential to save them time and effort when preparing their classes. Some suggested that this repository could be expanded beyond learning objects to include other types of content, such as sample dissertations, proposals, syllabi, etc.

Funding was identified as the single greatest factor in doctoral student attrition rates, as well as a source of significant stress or peace of mind. However, interviews revealed that many doctoral students did not know how to effectively search for grant or fellowship funding opportunities outside of their own institution. Many also reported frustration in identifying outside funding to support travel for research and language acquisition, opportunities for non-US citizens, and writing fellowships.

Major opportunities for libraries related to providing research, information management, and teaching expertise assistance include:

- Work with academic departments to promote graduate student awareness of subject librarian services.
- Take advantage of events sponsored by academic departments and by the libraries as an occasion for librarians to interact with graduate students and promote library services.
- Offer consultation services, workshops and/or online instruction in
 - citation management options and training in citation management tools
 - note-taking techniques and applications
 - file management best practices
 - archival and primary source research and working in foreign libraries and archives
 - e-book options, including maintaining an e-book library, PDF management, and e-book hardware and software options
- Work with writing programs to ensure that all graduate instructors are aware that librarians are available to provide research support for their classes.
- Work with writing centers to create and maintain learning objects repository for writing program instructors.
- Work with appropriate campus units to offer consultation on researching external opportunities for grants & fellowships.

E. Developing scholarly identity

"Yes, [there is] definitely an expectation to publish [...] it appears sort of standard knowledge that you need to have at least one article on its way by the time you leave or if you want to go in the market and actually have any success."

"I had to tell my committee in an email, I plan on having a draft of the first chapter to you by June. If I don't, please get on my case... So, I actually found that I needed to make deadlines for myself and then tell them so that they knew, and even though they wouldn't care, my pride was at stake at that point."

The student's academic backgrounds, approaches to research and writing, and experiences using libraries and archives were highly varied. Despite such heterogeneity, the interviews identified a number of recurrent themes central to these students' self-conceptions as developing scholars. First, students often discussed the nature of their largely self-determined schedules and approaches to time management. Second, they described the expectations placed on them, often tacitly, to publish and participate in professional activities such as conferences. Third, they also focused at length on their own levels of personal academic assurance, which ranged from deep-seated confidence to apprehension

Regarding time management, students imparted macro-level concerns about planning their paths to degree completion, which were intertwined with micro-level concerns about organizing the hours of their workdays. Some students felt that the autonomy they have in determining their schedules is critical to their successful progress. Many, however, found this freedom challenging, and sought structure. Of those who saw scheduling as a challenge, many turned to deadline setting as a solution.

For many students the transition from qualifying exams to candidacy marked a major shift in terms of time management and proved a critical benchmark in their progress. They consistently emphasized that the post-exam period, characterized by a departure from the structure of coursework, required ongoing discipline and motivation. While some work irregular hours or live in a perpetual state of scholarly

engagement, it was more common for students to attempt to regulate their work according to a fixed schedule. Exemplifying attitudes about the criticality of structure, one student described her system: "I actually log hours because I think it's important that I try to make it like a 9 to 5 job, so that I log hours each day... And there are days that I work over that, but I always just try to log a certain number of hours per week."

Professionalization was also identified as a key component of scholarly development. For many students, publication and conference participation were perceived as valuable intellectual experiences. Even more than the intellectual benefits, most viewed publishing as a prerequisite to entering the academic job market. Despite the near consensus among interviewees that publishing and conferences were a critical component of the profession, there was also discussion of ambiguity in terms of the expectations for publishing. Some students reported feeling ambivalent about publishing due to the possibility that they may publish subpar work or lose momentum on their dissertations; while others recounted receiving strong encouragement and guidance from faculty.

Descriptions of various levels of academic self-assurance were common during the interviews. Some students expressed high levels of self-confidence in their work, while others were more apprehensive about quality and their progress. Those with high levels of self-assurance drew on personal feelings of certainty about their career paths or previous academic successes. Participants who demonstrated less assurance often emphasized concern that their previous academic training may not have prepared them for the task of completing their dissertations. One student's apprehensions were typical of the less self-assured: "I came from a state university [...] so I felt very early on sort of an inferiority that other people knew better what was going on better than I did. You know, the undergrads who had gone to Brown or whatever, that they just knew the answers to question that I didn't, so I was really hesitant to ask for help." Other students reported feeling confident about their research and careers, passionate about their academic interests, and motivated on a personal level to pursue their doctorates.

Recognizing the variety of perspectives, experience, and motivation that humanities doctoral students bring to their work will enable libraries to provide the most thoughtful support possible. The interviews revealed that each student is working within a complex web of personal circumstances, which have an immense impact on individual success. One cannot make assumptions about the levels of academic or professional experience that doctoral students bring to their programs. Nonetheless, this analysis suggests a number of recommendations that may improve the doctoral student experience. Many of these recommendations would be best pursued in collaboration with academic departments and other campus agencies that support or have an interest in doctoral student success.

Major opportunities for libraries related to supporting professional scholarly identity include:

- Host writing or discussion groups to inspire increased productivity during the dissertation writing process.
- Offer time management workshops for students approaching or just completing exams.
- Work with academic departments to help establish best practices for students who wish to publish before graduation.
- Assign librarians to doctoral students as library mentors or "personal librarians," available to consult on research, writing, publication, discipline-specific literatures, etc. and connect them to other appropriate support services on campus as appropriate.

- Enable mentorship experiences where more seasoned students can give advice about how they managed time, approached publication, managed their transition to research and writing, and gained professional confidence.

V. Conclusion

The study surfaced five broad areas of interest to doctoral students in the humanities concerning the challenges they face in successfully completing their academic programs – valuable information offering several opportunities for the libraries at Columbia and Cornell to promote student success. Among the many insights offered, students emphasized the importance of accessible space for both quiet, individual study and group activities supporting dissertation writing and discussion groups. They stressed the significance of communities of support for promoting both their academic success and emotional well-being. Though research experience varied widely across the participants, the majority voiced satisfaction with the information resources available to them, but their attitudes about e-books, e-readers, and the transition to e-content were mixed. Students expressed varied opinions about the continued utility of librarians, while also communicating their needs for assistance with information management strategies and frustration with citation management applications. Funding was clearly identified as the single greatest factor affecting degree completion, but many students were unaware of how to effectively search for funding opportunities outside of their home institution. Lastly, students conveyed their concerns about project and time management, publishing and professional engagement, and their varying degrees of self-assurance as developing scholars.

The major opportunities identified in each of these thematic areas will be discussed with library management and other appropriate staff groups to determine the feasibility of implementation on both campuses. At Columbia, the implementation of recommendations from this study will coincide with the further development of the Digital Humanities Center within the Humanities & History Libraries division. The data gathered from the interviews and the opportunities outlined above will directly impact program and facilities planning for the renovated facility. At Cornell, the recommendations will inform the feasibility of planning an immersion program for graduate students in the humanities who have completed at least one semester of their programs. The program is envisioned as an active collaboration between the library and other campus units. There is also interest from libraries serving the sciences, social sciences, and professional schools at both Columbia and Cornell in understanding if the opportunities identified in this study are transferable to improving support for doctoral student success more broadly.

This study provided a wealth of data – over 1,000 pages of interview transcripts – so further data analysis is likely. Rich data were gathered from the demographic questionnaire that could be used to better understand the demographic characteristics of library space and service usage by doctoral students in the humanities at Columbia and Cornell. If the findings and recommendations prove useful for service improvement, there might also be value in extending the study to other disciplines, such as the sciences and social sciences. An additional benefit of conducting the study has been the training received in qualitative assessment methodologies for a large number of library staff. Several library staff members from both Columbia and Cornell were trained in ethnographic interview techniques and actively participated in the analysis and initial documentation of findings. This broad participation substantially increased the number of library staff skilled in and comfortable with qualitative research methodologies, thus significantly advancing the cultures of service quality assessment and improvement within both organizations.

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**Appendix 1
Core Research Team**

Columbia	Cornell
Amanda Bielskas, Team Member	Kaila Bussert, Team Member
Yogesh Chandrani, Research Assistant	Kathy Chiang, Team Member
Jim Crocamo, Team Member	Gabriela Castro Gessner, Project Coordinator
Fadi Dagher, Team Member	Michelle Hubbell, Team Member
Victoria Gross, Research Assistant	Tanjina Islam, Transcription
Damon Jaggars, Co-PI	Antonio James , Transcription
Alysse Jordan, Team Member	Tiwonge Kayenda, Transcription
Jennifer Rutner, Project Coordinator	Rob Kotaska, Transcription
John Tofanelli, Team Member	Deb Muscato, Revision
Jeremiah Trinidad-Christensen, Team Member	Susette Newberry, Team Member
	Dilara Ozbek , Transcription
	Deborah Schmidle, Team Member
	Sana Siddiqui, Transcription
	Kornelia Tancheva, Co-PI
	Jill Ulbricht, Administrative Support
	Wendy Wilcox, Team Member

Appendix 2
Post Exam Interview Protocol Example

I. Introduction

1. You are a X year graduate student in the field of Can you tell me a little bit about your dissertation topic?
2. What expectations did you have about the graduate program when you started?

II. Dissertation preparation & process

3. What year did you stop taking courses?
4. What expectations did you have for your progress after finishing coursework? Have you had to adjust those expectations?
5. What expectations were articulated for you by your department or advisor when you became ABD/passed exams/defended your prospectus?
6. How do you organize your academic work, and your time, since you've completed your coursework/exams or defended your prospectus?
7. Did you have to submit a proposal/prospectus? Can you tell us about the proposal preparation?
8. You submitted your prospectus/proposal, and what happened afterwards? What would you change or do over?
9. Have you started working on your dissertation? How do you expect to proceed? Have you changed dissertation topics? How did that impact your timeline?
10. In an ideal world, how long would the dissertation take you to complete? What do you think will be/is the most challenging?

III. Research & Writing for prospectus/dissertation

11. In your research you mentioned you used[books, articles, microfilm].... Did you find most of these in our collections or visit other ones? Which primary or secondary resources have you used? How did you find out about them? Have you used collections in other countries?
12. What was of greatest assistance to you in this research process?
13. Have you written an MA thesis? How is that experience influencing your approach to your dissertation?
14. Is there an expectation to publish before you graduate? Have you published material based on your dissertation research? Congratulations! What did you publish? Can you tell us about this process?

IV. The Library, Writing, Research

15. When was the last time you were working on your dissertation? What did you do? Where were you? And, the time before that?
16. That last time that you were writing portions of your dissertation, how many hours in a day did you spend writing? And, the time before that?
17. When was the last time you went to the library?
18. What is it about the library that is conducive to accomplishing your work?

19. Where do you do most of your writing? Do you use the same place for studying? Where else do you like to write and/or study?
20. When was the last time you used the library What did you do?
21. When was the last time you used the library website/databases? And, the time before that? Where were you when you used the library website? (remote access?)
22. In the course of doing your research, have you had librarians assist you in this process? Can you tell us what it was for?
23. In the last year, which top three services of the library have been particularly helpful to you?

V. Technology Use

24. How do you feel about e-books? Do you own a reader? Do you use it for your research?
25. Do you use the computers on campus (library or elsewhere) to write your dissertation/do research? If not, what do you use?
What hardware or software do you wish you had access to, to help you with your research and writing?

VI. Teaching

26. In what way has the library helped you in your teaching responsibilities? Can you give us specific example(s)?
27. When you are teaching (TAing or serving as primary instructor), how do you organized your time to fit with your dissertation demands?
28. Are there any other significant demands on your time outside of your academic/research commitments?

VII. Overall Outlook

29. You have probably heard that some students have left the program without finishing. Why do you think that is? Have you ever considered not finishing?
30. If you had to articulate for someone else, say a prospective student, the strengths of your program, what would you say? What about the challenges?
31. In your estimate, what are the most important factors that will guarantee that you complete your program, and do so in a timely manner?
32. If the library gave you a magic wand to help you finish and graduate, what would you ask it to do for you?

Appendix 3

Post Interview Written Questionnaire

Note: Full questionnaire available upon request. Choices for each question are significantly pared down.

1. Your name: _____
2. Age: _____
3. Gender: Female Male Other _____

About Your Program

4. Date of graduation with a BA/BS or equivalent undergraduate degree:
5. What department are you in at CU (circle one)?
History Medieval Studies Religion
English Classics other
6. What year did you begin graduate studies at CU? _____
Did you earn a Master's Degree prior to beginning graduates studies at CU? Yes No
What semester did you achieve candidacy by passing your qualifying exams?
Year: _____ ; Semester: Fall Spring Summer Winter.

Or if you have not taken your qualifying exams yet, when do you expect to?
Year: _____ ; Semester: Fall Spring Summer Winter.
7. When do you expect to complete your Phd studies, and graduate?
8. Are you seeking an academic position? Yes No Don't know
9. Do you receive financial support from CU for the academic year?
 - a. I do not receive financial support
 - b. I do receive financial support for the academic year in the amount of (choose one):
 - i. Less than \$5,000 per academic year
 - ii. \$5,000 - \$10,000 per academic year, etc..
 - c. I do receive financial support (circled above) toward the following (choose one)?:
 - i. Tuition & fees; etc..
10. Have you received any Summer funding during your program?
 - a. If so, from where and for how long? _____
 - b. This funding supports your _____ (e.g., tuition & fees, living stipend)
11. Have you received any external funding (non-CU) during your program?
 - a. If so, from where and for how long? _____
 - b. This funding supports your _____ (e. .g., tuition & fees, living stipend)
12. Do you have an outside job that provides income? Yes No
13. Do you now, or have you in the past, had teaching responsibilities as part of your program?
 - a. Research Assistantship (RA)
 - b. Teaching Assistantship (TA), etc

14. If you have had a teaching responsibility, how many semesters did you do this work?
- a. 1 semester
 - b. 2 semesters, etc..
15. For each semester that you have had teaching responsibilities, how many sections have you taught or TA'd? (A section is defined here as one class of a course.)
- a. Semester 1: 0, 1, 2, 3, 4, 5 or more
 - g. Semester 7: 0, 1, 2, 3, 4, 5 or more, etc.

Electronic & Mobile Devices

16. Please tell us about your mobile devices (check the corresponding boxes)

	I own one	I use it every day	I use it for my research & writing
Mac Laptop			
Windows Laptop			
Linux Laptop			

Library Use

17. How often do you visit the physical libraries at CU?
- a. Daily
 - d. Semesterly, etc...
18. When you visit a library at CU, how long do you usually stay there?
- a. Less than an hour
 - b. 1-2 hours
 - c. 2-4 hours, etc..
19. When you visit a CU library, what do you usually do? (please circle all that apply)
- a. Browse the stacks or journal collections
 - b. Write
 - c. Read, etc...
20. Have you visited (or intend to visit) any non-CU libraries to use their collections for your dissertation research? Yes No If so, which library? _____

General Satisfaction – Library & Beyond –

Very satisfied Satisfied Neutral Dissatisfied Very dissatisfied

- 21. Please rate your overall satisfaction with library *services* at CU:
- 22. Please rate your overall satisfaction with library *collections* at CU:
- 23. Please rate your overall satisfaction with the *funding support* you've received at CU:
- 24. Please rate your overall satisfaction with your *graduate program* at CU:

Appendix 4

Code Book

