



Annotated Bibliography

Four conditions for Optimal Doctoral Completion were developed based on a literature review on the topic. These conditions provided a framework through which the Strategic Intervention for Doctoral Completion was conceptualized. In particular, these four theoretical conditions guided our instrument development, conference planning, and publications.

<i>Four Conditions for Optimal Doctoral Completion</i>	<i>Condition Description</i>
Condition #1: The right people apply for doctoral study.	Applicants must be realistic about the demands and expectations of doctoral study.
Condition #2: The right applicants are admitted as doctoral students.	Admissions committees must properly screen applicants and, upon enrollment, orient them to the program.
Condition #3: Students and faculty form productive working relationships.	Faculty members and students must interact in a mutually respectful and task oriented manner.
Condition #4: Students experience social support from fellow students.	Students must recognize themselves as members of a community of learners facing common challenges and opportunities.

Condition #1:

Coleman, J. (1970). *The principle of symmetry in college choice*, Report on the commission of tests. New York: College Entrance Examination Board.

Coleman described the incongruence of more information about the student being available to the university than information about the university for the student. He believed graduate students could make more informed decisions and have lower attrition rates if the information flow followed the symmetry principle. James argued this asymmetry can be corrected with published results from campus climate surveys, up to date catalogues and other guides for prospective students.

Golde, C. & Dore, T. (2001). At Cross Purposes: What the experiences of doctoral students reveal about doctoral education. *Science*, 291, 408-409.

Golde & Dore examined the unforeseen results of doctoral attrition, and suggest solutions to this problem. For example, the authors found graduate students suffer as attrition, combined with relocation and financial obligations, occurs. They suggest degree completion rates and employment placements for recent graduates should be available to students such that students are more informed when selecting a program.

Condition #2:

Smallwood, S. (2004). Doctor dropout. *The Chronicle of Higher Education*. Retrieved August 14, 2004, from <http://chronicle.com>.

In this article, Smallwood suggests the selection process and cohort size influence degree completion. For instance, he argues students should be selected based on best "fit" rather than standardized test scores as there is no difference between the scores of degree completers and non-degree completers. Additionally, the article communicates cohort size should be determined by amount of available funding.

Condition #3:

Baird, L. (1974). The practical utility of measures of college environments. *Review of Educational Research*, 44, 307-330.

The author's research focuses on mentoring to increase doctoral completion. More specifically, women students were more positively influenced than men by faculty support.

Gilbert, L.A. (1985). Dimensions of same-gender student-faculty role-model relationships. *Sex Roles*, 12, 111-123.

Gilbert studies the influence faculty has on degree completion. Given that female students were more positively influenced than men by faculty support, the author concludes it is important for graduate program to provide opportunities for interactions for female students.

Lawson, L. (1985). Doctoral student attrition: A role theory approach. *Dissertation Abstracts International*, 46, 1532A.

The author found degree completers were different than noncompleters based on their ability to determine faculty expectations. Lawson justifies interventions to communicate the realities of graduate school would close this gap between completers and noncompleters.

Preston, A. (2003). Leaving science: Occupational exit of scientists and engineers. Presented at the Joint Society Conference on Increasing Diversity in the Earth and Space Sciences. Received on August 15, 2004, from http://www.agu.org/sci_soc/education/jsc/preston.ppt.

In a research study, the author found 100 percent of women who had a mentor completed their degree whereas 60 percent of women who did not have a mentor completed their degree.

Condition #4:

Adkins-Hutchinson, C. (1996). Social support and adjustment among black psychology graduate students. *Dissertation Abstracts International*, 57, 1956A.

The author's research focused on degree completion for minority students. Academic and social integration were found to improve the academic success of black doctoral students.

Baird, C. & Haworth, J. (1999). Doctoral student attrition and persistence: A meta-synthesis of research. Association for the Study of Higher Education. San Antonio, TX, University of Northern Iowa.

Bair & Haworth researched possible influences of doctoral attrition. The authors found attrition rates are dependent on field of study, peer interaction, and department culture, but not from academic predictors.

Rocha-Singh, I. (1992). Doctoral students' perceptions of stress and social support: Implications for the retention of targeted students of color. *Dissertation Abstracts International*, 52, 3200A. Received August 13, 2004, from <http://weber.ucsd.edu/~eparent/>.

The authors compared minority doctoral students and other doctoral students on several aspects important to doctoral completion. They found minority students reported higher levels of academic and social stress and lower levels of support and program information. Peer support was suggested to ameliorate the social stress and increase the levels of support and program information.

Sources that apply to multiple conditions:

Hudgings, J., Humphreys, S., & Hernan, P. (1999). A six-year picture of women graduate students in EECS.

The authors conducted a six year longitudinal study and intervention of women graduate students in a computer-based program. Their findings suggest the importance of orientation, advising, mentoring, and annual reviews for decreasing attrition. At the end of the study and after intervention had already been carried out, 89% of the students were satisfied with their program.

Lovitts, B. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Lanham, MD: Rowman and Littlefield, 2001.

Lovitts's book offers a comprehensive discussion and examination of the doctoral degree completion. From graduate student and faculty interviews at two universities, the author draws conclusions regarding influences on doctoral degree completion. She concludes a wellstructured cognitive map, type of funding, field of study, social support, gender, and race all influence doctoral degree completion.

Nelson, C. & Lovitts, B. (2001). Ten ways to keep graduate students from quitting. Received August 12, 2004, from <http://chronicle.com>.

The authors concluded student selection, faculty support, and exit interviews were important for improving doctoral completion. More specifically, potential students' personal statements should include parallels between faculty research interests and their own ambitions to ensure proper selection. Additionally, faculty social support in the form of time, professional development help, and interaction led to higher completion rates. Lastly, exit interviews, when conducted by someone who is "neutral" can uncover causes of dissatisfaction.

The CGS Ph.D. Completion Workshop (2003). Washington, D.C.

This workshop focused on generating a consensus regarding factors influencing doctoral completion. Importantly, information from this conference was provided by researchers, directors, graduate students, and graduate deans. CGS, who hosted the conference, facilitated plans for awarding doctoral completion research.

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: The University of Chicago Press.

Tinto, V. (1993). *Leaving college – Rethinking the causes and cures of student attrition*. Chicago: The University of Chicago Press

Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education*, 21, 167-177.

Tinto, a leading researcher in this topic, explains attrition develops when a low level of social support exists in the early stages of a graduate program. Although many theories exist that try to explain this phenomenon, he suggest all of the models focus on the importance of social support from faculty and peers. Tinto's model of attrition differs from others due to his emphasis on academic and social integration.

Workshop on graduate student attrition. (1997). Washington: National Science Foundation, Division of Science Resources Studies. Received on August 15, 2004, from <http://www.nsf.gov/statistics/nsf98322/>.

At this workshop, prominent figures in the field of degree completion, including Vincent Tinto, discussed how to ameliorate the problem of doctoral attrition. Of main concern, was the issue of increasing the proportion of minorities who pursue doctoral education. Additionally, funding and university accountability were seen as methods to decrease attrition.