Finding the Real Odds:

Attrition and Time-to-Degree in the FSU College of Criminology and Criminal Justice

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Dissertation.com
Boca Raton, Florida
USA • 2009

ISBN-10: 1-59942-716-8
ISBN-13: 978-1-59942-716-4

This dissertation is dedicated to my father, Sergeant Major Billy Wendell Lightfoot, U.S. Army.

THANKS AND ACKNOWLEGEMENTS

Without the effort and guidance of the following, this project would remain uncompleted. To these go the praise, to me the blame.

Thanks to:

Dr. William Doerner, Dr. Cecil Greek, Dr. Walter Wager.

Judy Waters, Undergraduate Coordinator (upper division students)

Leslee Boldman, Administrative Assistant, Dean's Office

Brenda McCarthy, Administrative Assistant, Undergraduate Studies

Margarita Frankeberger, Graduate Student Coordinator

Shannon Gibson

Peter Guhl, Computer Technician

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ABSTRACT

Attrition and Time-To Degree issues remain poorly understood in academia, and almost completely unexplored in criminology and criminal justice. Loss rates of fifty percent or more are common in the social sciences, while the success rates for criminal justice are unknown for most schools. This study attempts to investigate completion levels at the FSU College of Criminology and Criminal Justice, using descriptive and inferential techniques, survival analysis, and questionnaires.

Problems with data collection impeded analysis of even basic statistical operations, resulting in the exclusion of some independent variables due to unavailability of readily obtainable information. Both the Master's and Ph.D. programs had similar attrition rates, nearly two-thirds of students completing the programs. The M.A. program was around two years, and the terminal level was a little over six years. Recommendations concerning data handling and retention for the College and for FSU follow, along with suggestions for national initiatives to address some of the problematic situations concerning lack of national recognition for criminology and criminal justice.

CHAPTER ONE

Introduction

Many matriculants who aspire to the Doctor of Philosophy degree never actually achieve this goal, with between 50─60% in the social sciences failing to complete (Gemeroth, 1991). The loss of candidates during graduate education is an area of concern to both potential students and to the sponsoring schools. Identifying risk factors and developing remedial aid programs could improve departmental efficiency in the creation of future scholars.

This chapter introduces the discussion of graduate student attrition and several related topics. The time one takes to complete the degree is another area of concern. Several correlates may have predictive abilities, beginning with Graduate Record Examination scores, as well as undergraduate grade point averages and other background factors. In closing, the state of graduate issues in criminology and criminal justice is surveyed, along with examination of the predictive ability of standardized tests.

Attrition

The highest point of educational attainment is the Doctor of Philosophy (Ph.D.) degree. This status indicates a level of mastery and expertise with which no other certification or résumé item can compare. Considering the prestige and investment involved in creating a new recipient, questions of efficiency and risk in graduate programs

would seem to be subjects worthy of extensive research and documentation. However, the exact opposite is true. There are glaring gaps in the body of knowledge concerning completion rates, risk factors, and successful strategies. Numerous statistics exist about undergraduate entry-level enrollments, student demographics, and attrition. Yet, so little is known about the highest level of achievement where the very nature of disciplines and their future directions are molded (Tinto, 1993). The loss of promising candidates is costly to both the student and the department that invests in potential Ph.D. recipients.

Attrition refers to the proportion of entering graduate students who do not complete their academic studies and matriculate within a specific period (Council of Graduate Schools, 2004; Ferrer de Valero, 2001). Completion is the attainment of that degree by a certain date (Ferrer de Valero, 2001). Many studies and books on the subject use the two terms interchangeably even though they represent two very distinct pheomena.

Success or degree completion rates vary widely according to the field of study (Bowen & Rudenstine, 1992). Business and law programs usually average just 10% attrition (Johnson, Green, & Kluever, 2000). Dropout rates of 50% or more would be scandalous in most professional schools, but are accepted as routine in the social sciences (Breneman, 1977; Johnson et al., 2000). Doctoral completion rates vary by departments, as well as by disciplines, with 40−50% attrition being common (Decker, 1973). The social sciences seem to have attrition rates ranging from 46% to 67%, as measured over ten-year periods (Ad Hoc Panel, 1996). This loss is a long-term phenomenon. Evaluations of the social sciences, education, and humanities indicate a 50−60% non-completion rate, even with decades separating the estimates (Gemeroth, 1991).

A certain amount of attrition is unavoidable. However, any loss involves the expenditure of resources in a non-productive fashion. An unsuccessful student prevents another potential achiever from having the opportunity to gain the Ph.D. during that period (Langolis, 1972; Lovitts, 2001; Lunneborg & Lunneborg, 1972). In spite of these losses, program administrators tend to assume that the majority of attrition occurs among the bottom half of students (Lovitts, 2001). Deans and department officials believe they are losing the poorer performers, but there is no empirical backing for this assumption.

In most countries, the higher the level of education achieved, the higher the completion rate for students. The reverse is true in the United States as attrition rates actually rise as students progress (Tinto, 1993). Estimates and studies repeatedly show fully half the doctoral hopefuls will not finish their degree attempts (Bowen & Rudenstine, 1992; Lovitts, 2001). As the graduate student numbers decrease, workloads and responsibilities increase, as do the numbers of candidates who fall by the wayside.

The simple question of what is the average completion rate of specific doctoral programs is one that many departments and universities cannot answer (Lovitts, 2001). The lack of a benchmark means that students cannot estimate their odds of success when comparing graduate programs and faculty cannot gauge their own pedagogical productivity. The doctoral degree represents an enormous investment in time, money, resources, and prestige. Departments cannot plan confidently for the longer term without knowing the chances of losing researchers and teaching assistants. Regrettably, the majority of graduate departments cannot even estimate the waste of resources that student attrition represents.

Time-To-Degree

The amount of time it takes to accomplish Ph.D. studies is an allied area of interest. This time-to-degree (TTD) component has received some attention in studying attrition, as low completion rates seem to correlate with extended time-to-degree programs (Nerad & Miller, 1996). There are two alternative ways to measure TTD. The length between program admission and receipt of the degree defines the span in one approach, such as from the beginning of the Master's program to Ph.D. completion in combined programs. The other method is counting the number of years spent in the doctoral program alone (Stack & Kelley, 2002).

Students exit graduate programs in at least three stages before completing the Ph.D. Loss occurs during the very first year of classes, in the later years prior to fulfilling departmental requirements, and finally after completing all requirements except the dissertation itself (ABD status). Bowen and Rudenstine (1992) found attrition rates of 13% for the first year, 30% before achieving ABD status, and nearly 20% of the remaining candidates were lost later in a large multiple university study. This loss represented an overall mortality of 43% from beginning to end.

Fifty percent of enrolled graduate students failed to complete the doctoral program in a later study at a major western university and 20% gave up at the ABD level (Johnson et al., 2000). More matriculants left programs in the University of California-Berkeley before advancing to candidacy than at the ABD phase (Nerad & Miller, 1996). Tucker, Gottlieb, and Pease (1964) also indicated that 20% gave up at the dissertation stage, after

completing all classes and other requirements. Decades earlier, attrition by "extended duration" was identified as a common problem, whereby candidates completed all the requirements but failed to finish their doctoral studies in a timely manner (Tucker, Gottlieb, & Pease, 1964). Losses this close to the finish are discouraging to the faculty and damages the institution's reputation (Johnson et al., 2000).

Correlates of Attrition

Graduate programs usually have a series of set minimum entry requirements and rarely waive them. Prospective students must meet those qualifications to be eligible for admission. Two common criteria are Graduate Record Examination scores (GRE) and undergraduate grade point average (GPA). The hope is that these filters, particularly when applied together, will increase the chances that a chosen person will succeed in the program.

Like the police hiring process, academic programs approach selection issues in either a "weeding out" or a "screening in" manner. "Weeding out" means the choosers evaluate each application looking for grounds to disqualify the candidate, thus thinning the herd to a more survivable bunch. "Screening in" accepts those prospective students who match what the program considers to be exemplary standards. A high score on an entry test does not guarantee success or completion and screening tools change over time from exclusionary to inclusionary (Hogue, Black, & Sigler, 1994).

With this screening, students have the opportunity to fail later, not immediately. This strategy shifts the burden of selection to processes and forces hidden deep within a

program. The drawback is the impossibility of discerning between only fair or much better candidates in the "screening in" model (Doerner, 2004). In spite of what prospective graduate students believe, acceptance is not necessarily an endorsement of their capabilities. This admissions approach provides a convenient backdrop for studying graduate selection processes and explains the heavy reliance on GRE and undergraduate GPA in the admissions decision.

Graduate Record Examination

Belief in the predictive ability of GRE scores gives confidence to selection committees that use this criterion for candidate selection. Standardized test scores are convenient, easy-to-access indicators to apply. Academic departments commonly assume the desirability of candidates is proportional to their GRE scores and that these numbers somehow predict success (Morrison & Morrison, 1995).

The methods in use flowed from the changing post-war situation. The demand for graduate students dropped to less than the supply after the Second World War and there were few rigid selection procedures in place. Virtually all applicants were accepted and careful evaluation did not begin until after entry. This method resulted in considerable mortality and standardized tests supplemented admission procedures in an attempt to improve student selection (Traxler, 1952).

The College Entrance Examination Board, the precursor of the Educational Testing Service (ETS), began to examine candidates for college admissions in 1900. The Scholastic Aptitude Test (SAT) was created from a test developed by the U.S. Army for officer candidate selection and then used in wider contexts, such as undergraduate admission decisions. The SAT is now a primary determinant of baccalaureate

admissions. A cooperative program between the Ivy League colleges bankrolled the operation, which became a moneymaker in 1937, the first year of testing. The Board became the ETS in 1948 (Calvin, 2000) and has administered the GRE since that year (Traxler, 1952). ETS is now the largest private testing and measurement service in the world and administers over 12 million tests worldwide every year (ETS, 2003).

The ETS has a major influence on departments and careers as students planning to attend graduate school must take the GRE or other similar tests. If a department requires a given test score for admission, students have no real choice to opt out. Should they not reach the set score, applicants must test and test again until attaining minimum levels (Goslin, 1963). It is a closed market and participants must pay the stated price of entry.

The effectiveness of the GRE as a predictor of graduate success is taken for granted by some, but empirical inquiry results in disputes. The two most commonly used measures of success are attrition and graduate GPA. Researchers have tested both the validity and reliability of the GRE as an indicator of success, but the results conflict. Validity (actually measuring what is intended) and reliability (constancy in exhibiting variable error) are two methodological areas of concern (Frankfort-Nachmias & Nachmias, 2000). Differential performance of indicators in these two areas confuses the discussion even more.

Kuncel, Hezlett, and Ones (2001) conducted a comprehensive meta-analysis focused on quasi-predictive studies. The authors combined results from over 1,500 studies with information dating back to 1952. They not only tested multiple disciplines, but also used a number of criterion measures to improve their study. The sections of the GRE that were examined included the GRE-A (analytical), GRE-V (verbal), GRE-Q

(quantitative), and GRE-S (subject area). The authors found evidence for the overall validity of the GRE. In other words, GRE scores correlated with program completion while the GRE-S tests tended to be better predictors than the Verbal, Quantitative, and Analytical components.

Some studies indicate only selected parts of the GRE are useful for foreshadowing attrition. The GRE-Q predicts success in one study, measured as graduate GPA and degree completion. Completion correlates more strongly with the GRE than earlier grades (Williams, Harlow, & Gab, 1970). A slightly different combination of GRE scores and undergraduate GPA turned out to be the single best predictor of success, defined as a combination of graduation, time to degree, and publication activity after attainment (Hirschberg & Itkin, 1978).

Other investigators have found the GRE to be a poor predictor for student loss. A massive study sponsored by ETS itself covered nearly 5,000 students in 11 academic departments at three major universities. GRE scores were almost entirely unrelated to completion of graduate degrees. Non-academic measures such as financial aid, perseverance, and faculty support determined student success in graduate programs rather than the GRE (Zwick, 1991).

House (1998) found the GRE predicts success differently for age, under-estimating for older students and over-estimating for younger persons. According to Sternberg and Williams (1997) the GRE-A worked only for males and the authors were unable to explain the gender difference. Range restriction of range is another problem for the screening application (Kuncel et al., 2001).

Neither the GRE nor the Miller Analogies Test (MAT) predicted program