University of Louisville

ThinkIR: The University of Louisville's Institutional Repository

Electronic Theses and Dissertations

12-2009

Determinants of alumni membership in a dues-based alumni association.

Melissa Dawn Newman 1979-
University of Louisville

Follow this and additional works at: <https://ir.library.louisville.edu/etd>

Recommended Citation

Newman, Melissa Dawn 1979-, "Determinants of alumni membership in a dues-based alumni association." (2009). *Electronic Theses and Dissertations*. Paper 1052.
<https://doi.org/10.18297/etd/1052>

This Doctoral Dissertation is brought to you for free and open access by ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. This title appears here courtesy of the author, who has retained all other copyrights. For more information, please contact thinkir@louisville.edu.

DETERMINANTS OF ALUMNI
MEMBERSHIP IN A DUES-BASED ALUMNI ASSOCIATION

By

Melissa Dawn Newman
B.B.A., University of Kentucky, 2002
M.B.A., Morehead State University, 2003
M.A., University of Louisville, 2009

A Dissertation
Submitted to the Faculty of the
Graduate School of the University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy

Department of Leadership, Foundations
and Human Resource Education
University of Louisville
Louisville, Kentucky

December 2009

Copyright 2009 by Melissa D. Newman

All rights reserved

DETERMINANTS OF ALUMNI
MEMBERSHIP IN A DUES-BASED ALUMNI ASSOCIATION

By

Melissa Dawn Newman
B.B.A., University of Kentucky, 2002
M.B.A., Morehead State University, 2003
M.A., University of Louisville, 2009

A Dissertation Approved on

July 8, 2009

by the following Dissertation Committee:

Dissertation Chair

ACKNOWLEDGMENTS

I would like to first thank my wonderful family for their unyielding support as I progressed through my doctoral program, culminating in the many months of work required to complete this dissertation. To my husband Kevin, thank you for picking up the slack in the household and to my four-year-old daughter Hannah, thank you for being patient with mommy. I appreciate you both more than you will ever know.

I would also like to thank my dissertation committee and in particular, my dissertation chair, Dr. Joseph Petrosko, who in spite of an impressive list of commitments was still always readily available to meet with me or respond to an e-mail or telephone call. In addition, I thank Stan Key for his support, which included funding for the alumni survey, and I thank my wonderful staff for their patience with me during the days in which I had to leave work early to take vacation time to travel to meet with my dissertation chair.

To my grandparents, James and Elizabeth Herald, I thank you for instilling within me an appreciation of education. At an early age, you provided me with a strong foundation that has led me to where I am today. And to my late father, David Herald, I dedicate this to you. Although you passed away last year and were unable to see me finish my doctoral program, I will never forget the final words you spoke to me, in which you reminded me, as always, that you love me and am proud of me. I wish you were here with me today to celebrate this accomplishment.

ABSTRACT

DETERMINANTS OF ALUMNI MEMBERSHIP IN A DUES-BASED ALUMNI ASSOCIATION

Melissa D. Newman

July 8, 2009

Public higher education institutions are presently faced with a perfect storm of financial crises. State appropriations are on the decline, endowments have been substantially reduced as a result of the declining stock market, generally poor economic conditions across the board, and recent, historically high tuition increases make additional tuition hikes an unattractive option for a non-tax based revenue source. As a result of the economic climate within public higher education finance, institutions must increasingly rely on alternative revenue sources, which are largely made up of alumni support.

According to Taylor and Massey (1996), "Alumni are a unique, select, and continuing source of support that is one of the most valuable resources any institution has" (pp. 72). The need for institutional alumni associations is great, as public colleges and universities depend upon these organizations to cultivate relationships with their alumni, which in turn translates into alumni giving and support.

One of the ways in which alumni associations cultivate relationships and maintain alumni involvement is through dues-based membership. Dues-based alumni associations utilize their membership program as a means to build relationships, introduce nondonor

alumni to institutional philanthropy, and to provide the funding necessary for the association to operate with minimal university funding.

The purpose of this study was to determine what factors were related to alumni membership in dues-based alumni associations and to examine the relationships between alumni association membership and alumni giving to the alma mater. Data were collected through a survey questionnaire mailed to a sample of alumni at a large, doctoral-granting, public research university in the south. Data from the university's alumni database were also used in this study.

The results of this study revealed that the best alumni association member prospects were university graduates who were older, donors, aware of other alumni association members, and satisfied with the alumni association. The best prospects for life membership were university graduates who had been involved in many extracurricular activities as a student at the university and who were donors, frequently involved with the association and university, and satisfied with the alumni association.

The results indicated that a relationship between alumni giving and alumni association membership existed, with current association members being 4.8 times more likely than nonmembers to be current donors to the university (35.1% versus 7.3%) and 11.5 times more likely than nonmembers to be donors of at least \$10,000 (6.9% versus 0.6%). The findings revealed that life members were the best prospects for alumni giving, with life members being 5.7 times more likely than nonmembers to be current donors to the university (41.1% versus 7.3%) and 19.8 times more likely than nonmembers to be donors of at least \$10,000 (11.9% versus 0.6%).

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGMENTS	iii
ABSTRACT.....	iv
LIST OF TABLES	xii
LIST OF FIGURES.....	xiv
CHAPTER	
I. INTRODUCTION.....	1
Study Background.....	1
Purpose of the Study.....	2
Research Questions.....	4
Significance of the Study.....	4
Limitations.....	5
General Hypotheses.....	5
Definitions of Terms.....	6
Advancement.....	6
Alma Mater.....	6
Alumni.....	6
Alumni Giving.....	7

Alumni Relations.....	7
Annual Membership.....	7
Cultivation.....	8
Dependent Alumni Association.....	8
Development.....	8
Graduate.....	8
Independent Alumni Association.....	9
Interdependent Alumni Association.....	9
Legacy.....	9
Life Membership.....	9
Life Member Sustaining Program.....	10
Phonathon.....	10
Solicitation.....	10
II. REVIEW OF THE LITERATURE.....	11
Context for Alumni Giving.....	11
History of Alumni Giving.....	11
Need for Alumni Giving.....	13
Declining State Appropriations.....	14
Declining Endowment Revenues.....	17
Replacing Revenues.....	19
Current State of Alumni Giving.....	22
The University Alumni Association.....	23
History of Alumni Associations.....	23

Alumni Association Governance.....	25
Role of Alumni Associations.....	26
Alumni Association Membership.....	29
About the Subject.....	33
Determinants of Alumni Giving.....	37
Athletic Success.....	37
Alumni Involvement.....	41
Student Experiences.....	43
Institutional Characteristics.....	46
Alumni Characteristics.....	47
Summary.....	49
III. METHODOLOGY.....	51
Type of Research.....	52
Population and Sample.....	52
Survey Scales.....	54
Frequency of Involvement Scale	54
Positive Alumni Feelings Scale	55
Positive Student Feelings Scale	55
University Perceptions Scale	55
Alumni Association Perceptions Scale.....	55
Content Validity.....	56
Pilot Test.....	57
Reliability.....	58

Construct Validity.....	58
Data Collection Procedures.....	58
Variables.....	60
Research Question 1.....	61
Research Question 2.....	66
Research Question 3.....	66
Research Question 4.....	66
Statistical Analysis Procedures.....	67
IV. RESULTS.....	70
Characteristics of Graduates.....	70
Survey Instrumentation.....	74
Pilot Test.....	74
Electronic Survey	76
Paper Survey.....	77
Characteristics of the Survey Respondents.....	78
Internal Reliability	85
Results for Research Question 1	87
Comparison of Models	98
Empirical Testing	101
Summary of the Results for Research Question 1	104
Results for Research Question 2	105
Comparison of Models	115
Summary of the Results for Research Question 2	117

Results for Research Question 3	118
Members by Donors Analysis	119
Members by Donors Summary	129
Donors by Members Analysis	131
Time Order of Membership and Giving	133
Summary of the Results for Research Question 3	135
Results for Research Question 4	135
Current Donor by Membership Type	136
Current or Previous Donor ($\geq$ \$25) by Membership Type	138
Fellows Donor by Membership Type	140
Summary of the Results for Research Question 4	142
Overall Summary of the Results	144
V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS	147
Conclusions and Summary of Research Question 1	147
Conclusions and Summary of Research Question 2	153
Conclusions and Summary of Research Question 3	157
Conclusions and Summary of Research Question 4	159
Implications	159
Recommendations for Future Research	162
REFERENCES	163
APPENDIX	
A. ELECTRONIC SURVEY INVITATION E-MAIL SCREENSHOT	171

B.	ELECTRONIC SURVEY REMINDER E-MAIL SCREENSHOT	173
C.	HARD COPY SURVEY COVER LETTER	175
D.	SURVEY FOLLOW-UP POSTCARD.....	177
E.	SURVEY INSTRUMENT	179
F.	CHI-SQUARE ANALYSIS OF MEMBERSHIP BY COLLEGE	188
G.	EMPIRICAL TESTING MEMBERSHIP SOLICIATION COPY	193
	CURRICULUM VITAE.....	195

LIST OF TABLES

TABLE	PAGE
1. Descriptive Statistics for Interval Level Variables	71
2. Percentages for Dichotomous Nominal Level Variables.....	72
3. Percentages for Categorical Nominal Level Variables	73
4. Internal Reliability for Scaled Variables in the Pilot Test	75
5. Descriptive Statistics for Interval Level Variables for Survey Respondents	80
6. Percentages for Dichotomous Nominal Level Variables for Survey Respondents	81
7. Percentages for Categorical Nominal Level Variables for Survey Respondents	83
8. Internal Reliability for the Scaled Variables for Survey Respondents	86
9. Summary of Descriptive Statistics for Survey Response Data by Member Status	91
10. Logistic Regression Estimates for Member Status (<i>Nonmember</i> = 0, <i>Member</i> = 1)	95
11. Member Status Logistic Regression Model Comparison	99
12. Empirical Test Results	103
13. Summary Descriptive Statistics for Survey Response Data by Membership Type	108
14. Logistic Regression Estimates for Membership Type (0 = <i>Annual Member</i> , 1 = <i>Life Member</i>)	112
15. Membership Type Logistic Regression Model Comparison	116

16. Description of Member and Donor Variables.....	120
17. Crosstabulation of Current or Previous Member by Current or Previous Donor ($> \$0$)	122
18. Crosstabulation of Current or Previous Member by Current or Previous Donor ($\geq \$25$)	124
19. Crosstabulation of Current Member by Current Donor.....	126
20. Crosstabulation of Current Member by Fellows Donor	128
21. Comparison of Member by Donor Results	130
22. Comparison of Donor by Member Results	132
23. Sequencing of Alumni Association Membership and Giving	134
24. Crosstabulation of Current Donor by Membership Type	137
25. Crosstabulation of Current or Previous Donor ($\geq \$25$) by Membership Type	139
26. Crosstabulation of Fellows Donor by Membership Type.....	141
27. Comparison of Donor by Membership Type Results	143
28. Summary of Key Results for Research Questions 1 and 2	145
29. Summary of Key Results for Research Questions 3 and 4	146
30. Crosstabulation of Current Member by University College.....	190

LIST OF FIGURES

FIGURE	PAGE
1. Chart of alumni relations programs and activities.....	27
2. Alumni association members by geographic region	35
3. Alumni association members by graduation year	36
4. Alumni association membership decision model	61
5. Studied variables of alumni association membership	65

CHAPTER I

INTRODUCTION

Study Background

Alumni have historically provided a number of services to their alma mater, such as student recruitment and mentoring, legislative advocacy, word-of-mouth institutional promotion, volunteerism, and financial gifts. Although reliance upon alumni as a funding source is nothing new, rising costs coupled with declining state appropriations as a share of public institutions' budgets have resulted in changes in the landscape of higher education funding, forcing institutions to depend increasingly on alternative revenue streams.

Alumni are either the direct or indirect source of many of these alternative revenue streams and, as such, higher education institutions must rely upon their alumni association. Alumni associations assist their institutions in garnering financial and nonfinancial support in many ways, but they do so most commonly through their primary function, which is to cultivate relationships with alumni and provide an ongoing connection between alumni and the alma mater. To this end, alumni associations serve an important role in providing institutions with an alternative revenue stream. In addition to financial contributions, alumni aid in other ways, such as by advocating for and speaking positively to others about their alma mater and by serving as honest and loving critics (Gill, 1998).

Alumni associations not only build crucial relationships between alumni and the institution, which translates into potential revenues, but they often do so cost effectively. Unlike other university departments, alumni associations often operate interdependently with or independently from the institution and generate the majority of their operating revenues themselves. As a result, alumni associations are an attractive prospect for universities—they cost the institution very little but their work results in invaluable alumni support.

Alumni associations utilize dues-based membership to generate the revenues needed to operate, but membership is also used as a means to strengthen the relationships between alumni and their alma mater. Often, alumni association membership serves as the gateway for an alum to make his or her very first financial contribution to the alma mater.

Because membership is so important to dues-based alumni associations, practitioners must look to maximize membership recruitment strategies. Doing so results in a greater number of alumni relationships, which ideally translates into alternative revenue sources for the institution. In addition, increasing membership allows alumni associations to provide more of their own funding, lessening even further the amount of financial support needed from the institution.

Purpose of the Study

This is a challenging time for public institutions of higher education and its administrators. Institutions face declining state and federal funding, and the former is particularly damaging when considering the significant portion of overall operating

revenues provided by state appropriations. As institutions continue to turn to alternative revenue sources, they are realizing that economic conditions are impacting these income streams as well. Endowment income has been declining in recent years due to poor stock market performance and recent, historically high tuition increases has made the prospect of additional increases unviable.

The one bright spot in higher education revenues is private giving, with 2007 totals reaching a record high of almost \$30 billion, representing a 6.3% increase over the previous year (Council for Aid to Education [CAE], 2008). As public higher education institutions face increasing economic challenges, they will likely turn to private giving sources to replace lost funding from state appropriations and other declining income sources, particularly because this is the one revenue sector that has shown growth and promise in recent years. Alumni play a major role within private giving, and institutions will need to increasingly rely on alumni now and in the future.

As institutions turn to alumni to fill the funding gap, relationships with alumni will become increasingly important. This is where alumni associations play an integral function. The relationship cultivation and communication strategies employed by alumni associations will now prove more essential than ever. Alumni association membership is the primary means in which independent and interdependent alumni associations build these relationships. Increasing membership revenues also allows associations to operate with less university funding. As such, alumni associations need to maximize their membership programs by identifying the best alumni nonmember prospects to solicit for membership.

Research Questions

This study examines the following research questions.

1. What variables predict a university graduate's membership in a dues-based alumni association at his or her alma mater?
2. What variables predict whether a member of a dues-based alumni association is an annual member or life member?
3. What is the relationship between alumni association membership and alumni giving?
4. Does the relationship between alumni association membership and alumni giving differ between those who are annual members and those who are life members?

Significance of the Study

Declining state appropriations have forced public higher education institutions to pursue alternate revenue streams, most of which rely upon financial support of alumni. Institutional alumni associations serve an important role in cultivating relationships, which translates into alumni giving. Although research studying determinants of alumni giving exists, the researcher was unable to locate any research or literature that examines the variables that predict alumni association membership. This study attempts to shed light on ways that alumni association professionals can maximize membership solicitations to increase membership revenues. This study also examines the relationships between alumni giving and alumni association membership. In evaluating these topics, the study fills a research void and will hopefully motivate additional studies pertaining to alumni association membership.

Limitations

This study is limited by the accuracy of self-reported measures and the generalizability of the findings beyond the university studied to other alumni populations across the country. Specifically, the survey data rely upon the experiences reported by alumni of the alumni association studied, which is a public, doctoral awarding land-grant research institution located in the south.

General Hypotheses

The following general hypotheses were proposed for the analyses.

1. Previous membership, past alumni giving, and multiple degrees from the university will each have a positive relationship with membership in the alumni association; and being a member of the faculty, being a member of the staff, and having only a graduate degree from the university will each have a negative relationship with membership.
2. Age and history of giving will predict life membership in the alumni association: Life members will be more likely to be older and have a greater history of alumni giving to the university than annual members.
3. There will be a positive correlation between alumni giving and alumni association membership.
4. The correlation between alumni giving and alumni association life membership will be greater than the correlation between alumni giving and alumni association annual membership.

Definitions of Terms

The following definitions of terms are provided to assist the reader in better understanding this study.

Advancement

According to the Council for Advancement and Support of Education (CASE), advancement is a “systematic, integrated method of managing relationships in order to increase an educational institution's support from its key outside constituents, including alumni and friends, government policy makers, the media, members of the community, and philanthropic entities of all types. ("About advancement," n.d.)” Educational advancement is comprised of three core disciplines including alumni relations; communications and marketing; and development.

Alma Mater

According to Merriam-Webster (2009), an alma mater is “a school, college, or university which one has attended or from which one has graduated.”

Alumni

According to the Council for Marketing and Membership Professionals (CAMMP, n.d.), alumni are typically defined as former students who have attended a university, completing some minimum requirement (number of semesters or credit hours), but doesn't necessarily hold a degree. This includes graduates as well as

nongraduates. For purposes of this study “alumni” is used to indicate former students in the plural form and “alum” is used as the gender-neutral pronoun to describe an individual, except for cases in which the gender of the individual is known.

Alumni Giving

Alumni giving relates to financial contributions made to an alma mater by alumni of the institution.

Alumni Relations

According to CASE (n.d.), alumni relations programs

build and strengthen relationships with students and former students, faculty, and friends. They keep alumni informed about the institution and in contact with each other by providing opportunities such as homecomings, reunions, and alumni club events. They provide educational opportunities to alumni through continuing education programs, weekend seminars, and travel programs.

Most institutions of higher education have university alumni associations that are charged with carrying out the institution’s alumni relations functions.

Annual Membership

Annual membership is a dues category for alumni associations whereby alumni or friends of the university join the association as annual members and pay dues on a yearly basis. Each year, payment of membership dues is necessary to renew membership.

Cultivation

Cultivation is “the act of motivating an individual or group to want to give, developing an interest in the institution by involving the prospect in special events, activities and programs, making friends aware of needs as well as progress being made” (Gill, 1998, pp. 466).

Dependent Alumni Association

A dependent alumni association is usually a department of the institution. Its budget and staff are provided by the institution and it does not have a policy-making board (Gill, 1998).

Development

Development is the total program of institutional fundraising, which is commonly known as fundraising (Gill, 1998).

Graduate

Unlike alumni who have completed a minimum required number of credit hours or semesters of study at the institution, a graduate is a person who obtained a baccalaureate, graduate, doctorate or professional degree from the university.

Independent Alumni Association

An independent alumni association is typically financially self-sufficient, has a self-governing, policy-making board, is incorporated with 501(c)(3) status, and hires and determines the salary of its staff (Gill, 1998).

Interdependent Alumni Association

An interdependent alumni association is often a combination of the characteristics of independent and dependent alumni associations. An interdependent association is usually incorporated and has a policymaking board, but a significant portion of its operations budget is provided by the institution and, often, at least some of the staff are employees of the institution (Gill, 1998).

Legacy

A legacy is any child whose mother, father or step-parent has earned a baccalaureate, graduate, doctorate or professional degree from the university.

Life Membership

Life membership is a dues category for alumni associations whereby alumni and friends join the alumni association on a lifetime basis by paying a dues amount that is substantially higher than the annual dues rates. Life membership is typically made available for a single payment or a slightly more costly installment payment plan option with the length of payment typically ranging from 3 to 6 years. Once life dues are paid in full, the individual is a member of the alumni association for life, with no further

financial or other obligation required for membership. The purpose of life membership programs is typically to create a permanent endowment that will generate earnings income in perpetuity to help subsidize the costs of serving life members for the duration of the membership (Gill, 1998).

Life Member Sustaining Program

A life member sustaining program is available at some dues-based alumni associations to generate additional revenues from existing life members. Membership in a life member sustaining program usually requires that existing life members make a required minimum annual contribution to the alumni association above and beyond the cost of life member dues.

Phonathon

A phonathon is a program of solicitation by telephone (Gill, 1998). Development offices use phonathons for purposes of fundraising, and dues-based alumni associations typically use phonathons for purposes of soliciting or renewing association memberships.

Solicitation

A solicitation is the act of asking for a gift (Gill, 1998). Alumni associations typically solicit membership through direct mail and phonathons.

CHAPTER II

LITERATURE REVIEW

Context for Alumni Giving

History of Alumni Giving

The first effort toward organized fundraising originated with an institution of higher education, Harvard College, when the Massachusetts Bay Colony in 1641 directed three clergymen to travel to England to solicit money (Cutlip, 1965). One of the pioneer fundraisers was an evangelist named George Whitefield, who solicited books and financial donations for colonial colleges including Harvard, Dartmouth, Princeton, and the University of Pennsylvania. In the 1830s, a teacher by the name of Mary Lyon singlehandedly led the effort to launch a college for women and was successful in her individual fund drive, often going door to door in pursuit of donations, raising the money necessary to found Mount Holyoke Seminary. These are early examples of educational institutions using “financial agents” to raise funds through coordinated efforts (Cutlip, 1965). Philanthropy played an indispensable role in the upsurge of the modern American university realized after the Civil War, as the traditional college emphases on religious and moral values evolved into a focus upon knowledge, training and public service, transforming established private institutions and giving rise to new centers of higher learning (Curti & Nash, 1965).

Early donors often had few ties with the institutions that were recipients of their gifts, and many university donor founders had no formal higher education schooling. Prior to World War I, alumni giving was on a relatively small scale, and organized efforts of institutions to raise funds from alumni realized mixed results. For example, prior to 1895 only 10 alumni of Dartmouth had contributed \$5,000 or more, with giving from these individuals totaling only \$363,367, compared with contributions from 17 non-alumni friends totaling \$1,375,000 during that same period (Curti & Nash, 1965).

One of the first organized efforts to institutionalize philanthropic support began in 1890, when Yale graduates established an Alumni Fund and solicited 385 alumni for gifts. This initiative resulted in a financial return of only \$11,000 (Curti & Nash, 1965). By 1910, however, the Alumni Fund was receiving close to \$500,000 annually in alumni gifts for operating expenses. Despite Yale's pioneering attempts and ultimate success, it wasn't until around 1915 that other institutions, such as Brown, Illinois, Cornell, and Dartmouth, were operating similar funds and the concept of organized alumni support gained momentum.

The University of Michigan launched the first highly organized alumni giving campaign in 1914-15 in an ambitious effort to raise \$1 million for a student union, soliciting almost every Michigan graduate with a donor appeal. Successful results motivated similar campaigns at other higher education institutions (Curti & Nash, 1965).

The first use of a professional fundraiser at an academic institution occurred in 1919 with the Harvard Endowment Fund campaign led by a Harvard graduate named John Price Jones (Curti & Nash, 1965). The success of the campaign resulted in the creation of John Price Jones Incorporated, a professional fundraising organization that

used careful planning, needs analyses, and economic evaluation of potential donors as techniques to secure donations. Between 1918 and 1925, John Price Jones Incorporated managed 14 fundraising campaigns for colleges and universities, raising nearly \$68 million. A new era of fundraising in higher education evolved, giving rise to other professional higher education fundraising organizations and fully entrenching alumni giving as a focus of higher education institutions.

In the twentieth century, the vast size of fortunes from benefactors such as Rockefeller and Carnegie led to the creation of university foundations as an institutional response to the requirements of large-scale philanthropy (Curti & Nash, 1965). Higher education institutions today rely significantly upon alumni giving as a revenue stream. Rather than using professional fundraising organizations, however, institutions now have entire institutional advancement departments comprised of development and alumni professionals, which are charged with the purpose of raising funds and cultivating alumni support.

Need for Alumni Giving

The present need for alumni support is great, as public higher education institutions are faced with declining revenues and have little opportunity to increase revenues through primary sources. Therefore, they must seek out alternative revenue sources, many of which are directly or indirectly supported by alumni of the institution.

Declining State Appropriations

Although public higher education institutions rely upon state governments for a large portion of their funding, the institutions provide an invaluable service in return by playing an important role in creating an educated population of state citizens and improving state and local economies. Despite this reciprocal relationship, however, state appropriations for higher education have seen drastic cuts in recent years (Weerts & Ronca, 2006), with aggregate state contributions having fallen by 30% since the late 1970s (Archibald & Feldman, 2006). According to a 2008 report from the State Higher Education Executive Officers (SHEEO), from 1995 to 2005 the proportion of state and local tax revenue allocated to higher education nationwide declined from 6.9% to 6.5%.

State and local funding per student fell to a 25-year low (when adjusted for inflation) of \$6,204 in 2005, due to enrollment and inflation outpacing public funding. State and local funding per student had increased to \$6,773 by 2007 (SHEEO, 2008), but while per-student funding has increased in recent years, the proportion of funds allocated by state governments toward higher education as a portion of expenditures has declined, especially in comparison to previous decades. For example, had the share of state general funds going toward higher education remained constant at 1977 levels, public higher education institutions in 2001 would have received, on average, more than \$3,900 in additional revenues for each full-time equivalent student (Rizzo, 2003).

Even in years when state spending on higher education has increased, the portion spent on higher education has decreased as a percentage of state allocations, resulting in a smaller share of state spending toward higher education. In these instances, overall state

funding increased at a faster rate than state appropriations to higher education (Altbach, Berdahl, & Gumport, 2005).

The decline in government support is especially evident when reviewing public higher education appropriations as a percentage of institutional revenues. In 2000-2001, the most recent year in which data are available, public degree-granting institutions received 36.9% of revenues from state, federal and local government appropriations, a marked decline from the 50.4% that government provided 20 years earlier (National Center for Education Statistics [NCES], 2007). Of this percentage, 31.9% came from state government appropriations. Given that the bulk of appropriations come from the state government and this amount provides almost one third of the operating revenue for public degree-granting institutions, the decline in state support is most alarming.

Some of the blame for eroding state support in the last 25 years can be attributed to economic factors. According to Weerts and Ronca (2006), recessions from 1980-83 and from 1990-94 contributed heavily to the decline in public support for higher education. Budget cuts made in fiscal year 1990-91 were particularly damaging to higher education, as they marked first time in 33 years that state budgets allotted less money to higher education than the previous year (Schuch, 1993).

Other researchers agree that economic recessions and general downturns have contributed to reduced state appropriations toward higher education financing. Some, however, have provided additional reasons as to why this shift has occurred. Johnstone (2004) reported that it is a combination of economic factors coupled with a perceived lack of higher education accountability that has contributed to the concept of cost sharing, which refers to a shift of the higher educational cost burden from exclusive or near

exclusive reliance on taxpayers to students and parents. Birnbaum (1988) concurred with the idea of a shift toward institutional accountability from state government as a cause of conflict.

Rizzo (2003) and Altbach, et al. (2005) reported competing priorities as a major contributing factor for declining state support for higher education, arguing that political pressure to fund elementary and secondary education has also accounted for the decline. Several researchers (Cheslock, 2006; Hovey, 1999; Kane, Orszag, & Gunter, 2003) also have found that competing priorities have resulted in a decline in higher education dollars, positing that future increases in state Medicaid expenditures will further reduce the purchasing power of state appropriations to higher education.

Legislative involvement as a contributing factor for the shift in state funding extends beyond just competing priorities, however. Archibald and Feldman (2006) asserted that there is a connection between declining state support and the tax revolt that began in the 1970s. This revolt led to a set of laws and constitutional provisions, such as the Tax and Expenditure Limitation, which have significantly altered the taxing and spending policies in many states. As another example of legislative provisions contributing to declining state funding, Rizzo (2003) reported that judicial mandates enacted between 1977 and 2001 have required 22 states to equalize K-12 spending across school districts, which has resulted in increases toward K-12 spending at the expense of higher education.

Another contributing factor to declining state funding for higher education has been increasing demand, indicated by substantial increases in public higher education enrollment. Full-time enrollment at the national level has grown 10.6% in just the past 5

years, and trends toward increasing enrollments have significantly impacted the per student revenues available for public higher education institutions (State Higher Education Executive Officers [SHEEO], 2008).

Altbach et al. (2005) identified four broad trends that will continue to strain the relationship between state government and higher education: escalating demands by states upon higher education institutions, severe economic constraints, higher education institutions' resistance to change, and instability of state political leadership. These conditions are likely to exacerbate the already strained state-higher education relationship and are expected to serve as barriers in reversing the trend toward declining state revenues for higher education.

Further, as the current economic conditions worsen as a result of the housing and credit crises that began in 2008, state revenues are declining and states are reporting substantial deficits for fiscal year 2008-09 (Center on Budget and Policy Priorities, 2008). The present and imminent economic situation will likely reinforce the trend toward declining state funding for higher education. Data indicate that higher education funding from the state suffers most during periods of major economic recessions (SHEEO, 2008; Weerts & Ronca, 2006). The United States entered into a recession as of December 2007 (Isidore, 2008) and as a result, state appropriations to public higher education will almost assuredly continue to erode.

Declining Endowment Revenues

Revenues from endowments produce a consistent revenue stream that can subsidize a variety of institutional activities and are often an indicator of strong financial

footing (Cheslock, 2006). Few institutions have sizable endowments, however, and the majority of the largest endowments belong to private higher education institutions. Among public higher education institutions in the United States, as of 2007, 10 had endowments above \$2 billion, 14 had endowments between \$1 and \$2 billion, and 15 had endowments between \$0.5 and \$1 billion (National Association of College and University Business Officers [NACUBO], 2007). Most institutions have endowments below \$100 million. Endowment income accounted for 0.8% of revenues among public degree-granting institutions as of 2001, the latest year for which data are available (NCES, 2007).

Economic woes not only take a toll on higher education institutions in the form of declining state appropriations, but it is during the very times when institutions must turn to their endowment revenues to fill the funding gap that endowment revenue also declines. Through the robust years of the late 1990s when the stock market produced double-digit returns for endowment funds, many school treasurers departed from the traditional strategy of purchasing conservative bonds and blue-chip stocks and instead started overloading their funds with stock from technology companies and venture capital investments (McGraw, 2003).

This strategy may have paid off in the short term, but it is now damaging to university endowments. Continuous negative weekly stock market performance throughout October 2008 culminated in one of the biggest monthly declines in history. As the stock market declines, so do university endowments, particularly those with a high proportion of riskier investments. Among public institutions of higher education, a notable loss is that which recently was reported by the University of Texas at Austin. The

university's endowment funds and holdings were valued at \$7 billion at the start of 2008. At the end of September that same year, the value had declined to \$6.1 billion (Haurwitz, 2008). Significant losses in the millions of dollars have been reported from other public higher education institutions, including Michigan State University, the University of Virginia, and others.

Replacing Revenues

Eroding state appropriations to higher education have presented numerous challenges to public higher education institutions. To replace the dollars lost as a result of declining state support, institutions must either reduce costs or increase revenues. Increasing revenues through tuition and research grants have been common methods employed by cash-strapped institutions, but many are finding that the tipping point has been reached when it comes to what the market will bear in terms of additional tuition increases.

For the past 25 years, undergraduate tuition and fees have increased by an average of 2.5 to 3.5 percentage points above inflation each year (Ehrenberg & Rizzo, 2004). From 1987 to 2007, the share of total educational revenue derived from tuition has increased from 22% to 36.2% (SHEEO, 2008). Rising tuition rates are attributable to a variety of factors, including rising costs of technology, student services, and financial aid, but the primary driver is the fact that reductions in state appropriations have required institutions to raise tuition in order to make up the financial difference.

Altbach et al. (2005) have posited that state legislatures recognize that unlike other government services, higher education has a revenue source in the form of tuition

and fees. As a result, higher education tends to be used by government officials as a source of money to balance budgets. Hovey (1999) concurred with the assertion that state legislators often point to the unique ability of public higher education institutions to raise revenues from alternative sources as justification for allocating state funds toward other priorities. Consequently, tuition and fees have substantially increased during each period of economic downturn.

The well of money generated through tuition increases, however, is drying up as students and parents are becoming increasingly intolerant of additional increases. In addition, there is growing public pressure in some states to cap tuition increases through state-level mandates (Keller, 2007).

As public institutions of higher education can no longer continue increasing tuition at the historic rate seen in the most recent decade, they must turn to other forms of nontax-based revenue sources. One of these sources is research grants. In 2001, public degree-granting higher education institutions received 14.3% of revenues from the state, federal, and local governments through grants and contracts (NCES, 2007). The percentage distribution of government issued grants and contracts as a source of funds for public degree-granting institutions has grown annually for a total increase of 3.8 percentage points from 1980-1981 to 2000-2001.

Public higher education institutions also receive some revenues through private grants and contracts, although the number is significantly smaller than those received from the government. In 2000, public higher education institutions received around \$1.9 billion in private grants (Pulley, 2002) and this number is likely to decline. Pulley noted that the relationship between private foundations and higher education institutions is

changing and private grants are trending toward a decline as foundations now have a wider array of potential grant recipients from which to choose.

With predicted future declines in private grants and contracts and the inability to continue to utilize additional tuition increases as a “budget balancer,” some public higher education institutions have begun to explore creative avenues to generate revenue. Many schools are developing in-demand graduate programs that have proven profitable. Others are generating revenues through real estate ventures, royalties from patents, and aggressive recruitment of foreign students (Meglio, 2008).

Even with institutions striving to replace revenues lost through state appropriations, however, the financial gap as a ratio of spending per full-time student between public and private universities has continued to widen due to declining state support. In 1980, public institutions spent 70 cents for every \$1 spent at private colleges and universities. By the late 1990s, the ratio of spending per full-time student had widened even further, with public institutions spending just 55 cents for every \$1 spent at private institutions (Archibald & Feldman, 2006). It is becoming increasingly difficult for public institutions to compete with private institutions when such a financial disparity exists. The growing inequality in resources between public and private institutions has led to a substantial gap in faculty salaries (Alexander, 2001; Cheslock, 2006; Ehrenberg & Rizzo, 2004), presenting an additional challenge to public higher education institutions already burdened by the many implications of declining revenues.

As public higher education institutions fight to fill the ever widening funding gap generated through declining state appropriations and endowment revenues, the most

attractive and potentially lucrative method for replacing revenues is through alumni giving.

Current State of Alumni Giving

A 2007 report from the National Center for Education Statistics (NCES) indicated that in 2001, the most current year in which data are available, private gifts accounted for 5.1% of revenue of public degree-granting institutions. While the number might seem small compared to other revenue sources, the percentage of income derived from private gifts has more than doubled in the last 20 years (NCES).

According to the most recent Voluntary Support of Education survey by the Council for Aid to Education (CAE), donations to higher education institutions totaled nearly \$30 billion, an increase of nearly 6.3% from 2006. Of the funding raised from private sources in 2007, alumni giving represented 27.8% (\$8.3 billion), which is the second-highest funding source next to foundations at 28.6% (\$8.5 billion). The other voluntary contributions are derived from the following categories: non-alumni individuals (19%), corporations (16.1%), other organizations (7.2%), and religious organizations (1.3%) (Council for Aid to Education [CAE], 2008).

Whereas overall private giving increased in 2007, the alumni giving category declined by 1.5% and alumni participation fell from 11.9% to 11.7%. Even with the most recent decline, however, alumni giving in 2007 represented a 16.5% increase from 2005 due to a record-high giving total in 2006. Over the past 5 years, alumni giving has increased by 25.3% (CAE, 2008).

Alumni giving is crucial for public higher education institutions. While the alumni giving category fell to second place behind foundations as the single biggest source of voluntary contributions in 2007, alumni also typically play an important role within foundations and the other categories of private giving. Alumni are increasingly managing their philanthropic contributions with family foundations, donor-advised funds, and other arrangements, and gifts from these entities are not credited within the alumni giving category (CAE, 2008). Private gifts from alumni are an especially attractive revenue source because they are lucrative. Substantial net revenue from alumni giving can be generated given that an average of 16 cents is spent for every dollar raised (Ehrenberg & Rizzo, 2004).

Although the majority of private gifts are somewhat limited due to restrictions, some are unrestricted and can be used for almost any purpose. Among restricted gifts, many are “effectively unrestricted” in that they are limited to institutional activities that would have been performed anyway (Cheslock, 2006).

As higher education institutions come to increasingly rely on alumni support, university alumni associations will become more important.

The University Alumni Association

History of Alumni Associations

Organized alumni groups in the United States trace their history to 1792 when Yale University graduates came together as an organized group (Gill, 1998). The first official alumni association organization was established in 1821 at Williams College, a

small liberal arts college located in Williamstown, Massachusetts. This group was originally called the “society of alumni” and came into existence 28 years after the college was chartered. The group was founded to save the college after its president and several faculty and students left to launch another college, which ultimately became Amherst College (Dolbert, 2002). The purpose of the alumni association was stated by the committee of alumni who organized the group: “The meeting is notified at the request of a number of gentlemen, educated at the institution, who are desirous that the true state of the college be known to the alumni” (Shaw, Embree, Upham, & Johnson, 1917, pp. 11).

Early alumni associations that followed the organization of the Williams College alumni group include groups at Brown in 1823, Princeton in 1826, Miami College in 1832, and Amherst in 1842. The primary function of newly formed alumni associations of the 1800s was to communicate with alumni through publications, and these organizations were led by “alumni secretaries,” or executive directors as they are most commonly known today. The leaders of the early alumni associations gathered together in 1913 to create the Association of Alumni Secretaries professional organization (Curti & Nash, 1965), and 4 years after its inception, the association leaders produced a *Hand Book of the Alumni Work* to provide direction and guiding principles for alumni associations.

The *Hand Book of the Alumni Work* (Shaw, Embree, Upham, & Johnson, 1917) provided an early framework for membership dues programs that still exists today. The book proposed that alumni associations implement a dues-paying membership structure in order to finance operations, recommending both annual and life membership dues

options as well as proposing that alumni associations offer a variety of benefits to members to encourage membership. In 1917, dues for life membership at the Michigan Alumni Association were \$35, payable \$5 per year over the course of seven years (Shaw, et al., 1917).

In 1927, the Association of Alumni Associations merged with two more recently established professional, national alumni organizations, the Alumni Magazines Association and the Association of Alumni Organizations, to form the American Alumni Council, with 249 participating institutions (Curti & Nash, 1965).

By 1875, alumni associations as official institutional organizations were well established across the country (Shaw, et al., 1917). In 1974, the American Alumni Council merged with the American College Public Relations Association to create CASE (CASE, n.d.), which to this day is still the acknowledged leader in the support of institutional advancement professionals (Gill, 1998).

Alumni Association Governance

There are three models of alumni association governance: independent, interdependent, and dependent (Dolbert, 2002). Dependent associations essentially function as university departments, receive all or most of their funding from the institution, and typically report to an institutional officer. Interdependent associations receive partial funding from the institution but self-generate most of their funding through membership dues, affinity partnerships, magazine advertising, and other sources. Interdependent associations typically report to a board of directors and an institutional officer. Independent alumni associations are self-governing, with the association

reporting exclusively to a board of directors. Independent associations usually receive no funding from the institution.

The proportion of associations under the varying models of governance can be estimated. Of the 198 respondents of a 2008 survey by CASE, almost half were from dependent alumni associations, just over one third were from interdependent alumni associations, and fewer than one in five were from an independent alumni association.

Role of Alumni Associations

According to CASE, alumni relations programs

build and strengthen relationships with students and former students, faculty, and friends. They keep alumni informed about the institution and in contact with each other by providing opportunities such as homecomings, reunions, and alumni club events. They provide educational opportunities to alumni through continuing education programs, weekend seminars, and travel programs (CASE, n.d.).

As the stewards of institutional alumni relations, the purpose of alumni associations is generally described as twofold: (a) to develop programs and activities intended to support the continued affiliation of alumni, and (b) to devise and manage alumni efforts in support of institutional goals, such as fundraising, government relations, and student recruitment (Arnold, 2003).

These functions relate to efforts toward alumni cultivation, and this is primarily accomplished by alumni associations through the creation and distribution of alumni publications that communicate information about the alma mater to alumni. Associations also lead university-wide activities such as reunions, homecoming, alumni weekend events, and other programs that provide alumni with a reason to return to campus. In addition, alumni associations create and maintain official organized alumni clubs and

groups across the country, and sometimes across the world, to provide out-of-state alumni with the ability to connect with fellow alumni in their home region. Most alumni associations serve as the official keeper of alumni records and manage institutional alumni databases. This role is both demanding and important, as it provides the university with the tools necessary to communicate with alumni.

Gill (1998) used data available from CASE to provide a comprehensive list of alumni relations programs and activities, which appeared in the book *Excellence in Advancement* and is reproduced below in Figure 1.

Affinity Credit Cards	Community Service
Alumni and Admissions	Dues
Alumni and Athletics	Homecoming
Alumni Boards	Legislative Advocacy
Alumni Directory	Merchandising
Alumni Education	Other Fundraising
Alumni Records	Other Special Events
Alumni Tours	Parent Programs
Awards	Phonathons
Campus Constituent Groups	Publications
Career Assistance	Reunions
Class Agents	Student Advancement
Clubs, Chapters, & Branches	Technology Applications

Figure 1. Chart of alumni relations programs and activities.

Because alumni associations serve the role of connecting alumni with their alma mater, they provide an invaluable service for their institution. Further, alumni associations provide not only that basic connection, but also they exist to build

relationships. Many associations distinguish themselves from institutional development offices by referring to themselves as “friend raisers” as opposed to “fund raisers,” as they see relationship building as a more important function of the association than raising money (Arnold, 2003; Gill, 1998). This is an important distinction, as development offices exist primarily to secure donations, and this sometimes comes at the expense of communicating with the majority of alumni who are not considered higher prospects. Alumni associations fill that void by striving to build relationships with all alumni, without consideration of income level.

Public higher education institutions put forth minimal financial resources to fund interdependent alumni associations, and in the case of independent associations institutions provide no financial resources for the operation of their alumni associations. As an example of the affordability of alumni associations as a university cost center, consider that the subject of this study, an interdependent alumni association, receives less than a quarter of its funding from the university (XX Alumni Association, 2008a).

As a result of declining state appropriations, many institutions have in recent years developed formal legislative advocacy groups with the purpose of calling upon alumni to advocate for the institution to state legislators. Alumni associations play a fundamental role in most institutions in this regard, in many cases serving as the official organizer of legislative groups and often providing the tools necessary for the institution to communicate with the alumni population. Alumni participate in group-related functions such as meetings and forums to discuss strategies for gaining additional alumni volunteers and to develop plans for contacting state legislators to advocate for improved state-level funding for the institution. Virginia Tech, the University of Michigan, the

University of Wisconsin, the University of Iowa, the University of Tennessee, and Norfolk State University are just a few of the many public higher education institutions with formal legislative advocacy groups.

Although most institutions typically do not spend much to fund their alumni associations, they receive substantial returns, both directly and indirectly. The role and function of alumni associations is to cultivate relationships with alumni through communications, programs, and services, and it is this alumni cultivation that contributes to financial support from alumni. What motivates a donor to make a gift to an institution is rarely generated by fundraising efforts alone, but rather through cultivation that takes place over years and even decades (Gill, 1998).

Alumni Association Membership

Alumni associations cultivate alumni relationships through programs, services, and activities such as legislative advocacy; alumni publications and communications; legacy programming; alumni record management; alumni clubs and chapters; and alumni awards and events. Another tool used by interdependent and independent associations is alumni association membership.

Within dues-based alumni associations, alumni can “give back” financially to the alma mater through the association in an affordable manner by becoming a member of the alumni association on either an annual or lifetime basis. The median annual dues amount is \$45 for a single membership and \$55 for a joint membership for two individuals. For a life membership made through a single payment, the median rate is \$700 for single membership and \$850 for joint membership. The median value for life

memberships made through a payment plan are the same for single membership but slightly higher for joint membership, with a median of \$900. The median number of installments for payment of life membership through a payment plan is five (Council for Alumni Association Executives, 2007).

Alumni association members typically receive benefits, which usually include a subscription to the alumni magazine, discounts, and athletic ticket opportunities. It is important to note that while dues-based alumni associations typically reserve certain benefits to members, most still extend a large number of programs and services to all alumni in order to maintain a focus on “friend raising” and alumni relationship building.

Most alumni associations do not require that members be alumni or graduates of the institution to become a member. “Associate memberships” are available to non-alumni members. Many associations also offer a student membership category, often at a discounted rate, which affords most or all of the same benefits of regular alumni association membership to dues-paying student members. While non-alumni are permitted to join, the majority of most alumni association membership populations are comprised of graduates of the institution, and most associate members share a joint membership with an alum spouse.

Alumni association membership programs complement institutional fundraising, as the annual membership dues payment is often the first “gift” that alumni make to their alma mater and therefore is the first step in establishing a philanthropic relationship between alumni and the institution (Gill, 1998). Membership is one way that alumni can self-identify with the university and demonstrate a level of commitment to the institution that makes them more easily recognizable as potential donors (Logue, 2004). This

assertion is supported by results from a recent Alumni Attitude Survey conducted by Performance Enhancement, which surveyed 3,566 advancement professionals from the alumni relations, communications, and development fields to identify current perceptions about alumni association membership programs (Shoss, 2007). Between 70 and 80% of survey respondents agree that dues-paying alumni organizations are an important way to identify high-potential givers.

The perception that alumni association membership is a means to identify potential high-prospect donors is supported by research. According to a study of giving behavior of alumni association members versus nonmembers (Patouillet, 2000), members are approximately three times more likely to give than nonmembers (47% versus 16%). Alumni association members are not only more likely to give, but they also make larger contributions. For instance, Patouillet found that association members give 25% more than nonmembers.

Unfortunately, no research was found that examines the relationship between alumni association membership to determine whether alumni association membership leads to giving or if donors are more likely to join the alumni association. University alumni and development professionals are also unable to discern which comes first, as evidenced by results from a 2006 Alumni Attitude Survey. More than 70% of the professionals surveyed agreed that "alumni association membership leads to giving" and that "alumni giving leads to alumni association membership" (Shoss, 2007).

Although there is presently no scientific research to officially conclude at a statistically significant level that alumni association membership has a direct impact upon alumni charitable giving rather than the converse, it is likely that the relationships that

university alumni associations forge with alumni, coupled with communications that associations provide to constituents, play a role in the willingness of alumni to make a gift to their alma mater. This study examines the alumni association membership/alumni giving relationship in further detail by addressing a research question, which asks: "What is the relationship between alumni association membership and alumni giving?"

This research is timely because alumni associations are facing many of the same financial issues of their institutions. Association endowments have seen substantial declines due to poor performance of the stock market, interdependent associations are realizing decreased university funding as a result of declining state appropriations, and general economic conditions make recruitment and retention of alumni association members more difficult. In order to maintain and grow membership to realize the lucrative flow of membership dues that comes with a larger base of members and to increase the number of relationships with alumni, association professionals must turn to more sophisticated methods of membership marketing including statistical predictive modeling.

Identifying the best prospects for alumni association membership and using marketing dollars in an effort to recruit these ideal prospects could allow alumni association professionals to maximize their spending on marketing and increase the response they receive from it. This study seeks to identify the variables that predict alumni association membership as well as to determine and compare the determinants of annual and life membership, which will allow alumni association practitioners to more effectively manage membership programs.

Given the large number of dues-based alumni associations across the world, it is surprising that there was no existing literature or research on the topic of alumni association membership found. Fortunately, alumni giving is a well-covered topic that relates closely to the subject of alumni association membership. Therefore, the determinants of alumni giving are used as a basis to formulate the research on alumni association membership.

About the Subject

The subject of this study is the alumni association of a public university located in the south, as such, it is important to understand the association and its membership program. The university was founded in 1865 and its alumni association originated 24 years later when one of university's graduates returned to his alma mater as a professor and encouraged a few fellow faculty alumni to establish an alumni club (XX Alumni Association, n.d.). This became the first organized group of alumni dedicated to their university. The association that is the subject of this study first began collecting dues in 1971 and today, 38 years after the initiation of its dues program, the association stands at more than 37,000 dues-paying members (XX Alumni Association, 2008a).

Revenues from association members represent that largest income source for the association, with 38.4% of revenues derived from member dues (32.6%) and the association's life member sustaining program (5.8%). The university provides 23.9% of the association's funding, with the remainder of revenues coming from non-university sources as follows: 17.4% from affinity partner royalties, 15.6% income from programs, and 4.7% from advertising and event sponsorships (XX Alumni Association, 2008b).

The association is interdependent, incorporated with 501(c)(3) status, and governed by a board of directors that includes 110 volunteers (XX Alumni Association, n.d.). In addition to the board of directors, the executive director of the association reports to the university's vice president for institutional advancement. Twenty-one full-time employees comprise the staff of the association within five departments: administration and accounting, clubs and programs, communications, information systems and records, and membership.

As of 2009, the association's annual dues are \$45 single/\$55 joint, and current university students and recent graduates within 5 years of graduation receive discounted annual dues of \$25 single/\$35 joint. Life membership is available on a single payment basis of \$850 single/\$950 joint or through a 6-year payment plan for a total of \$1,000 single/\$1,100 joint (XX Alumni Association, 2008a). Discounted life membership dues rates are available to alumni who graduated from the university 50 or more years ago and these rates are tiered based upon age, with lower rates for older alumni. In September 2008, the association's board of directors voted to approve an increase in both annual and life membership dues, and the new rates took effect at the beginning of 2009.

Association members receive a variety of member only benefits, such as a complimentary subscription to the alumni magazine, a free 12-month university wall calendar each year, annual personalized mailing labels, access to exclusive discounts, career counseling services, and eligibility to enroll in the Legacy Initiative, which is a program where children of graduates who are association members receive annual communications and milestone birthday gifts from the association (XX Alumni Association, 2008a).

According to its 2007-08 Annual Report (2008b), the association's membership population is comprised of 37,084 dues-paying members. Approximately 60% are annual members and 40% are life members. Men represent 52% of association members and women make up the other 48% of the membership population. The median age of an association member is 61. The majority of members (83.8%) reside in Kentucky, with the remaining 16.2% of members living out of state. Figure 2 shows the geographic region of residence of members (XX Alumni Association, 2008a).

Figure 2. Alumni association members by geographic region. From University of XX Alumni Association. (2008b). 2007-2008 annual report. Lexington, KY: Linda Perry.

The university contains 19 individual colleges and professional schools, and the colleges with the largest percentage of association members are, not surprisingly, the largest schools in terms of size: Arts and Sciences and the College of Business and Economics.

The majority of association members graduated between 1970 and 1979.

Association membership by graduation year is indicated in Figure 3.

Figure 3. Alumni association members by graduation year. From University of XX Alumni Association. (2008b). *2007-2008 annual report*. Lexington, KY: Linda Perry.

Since 1963, the association has been housed in a central location on the university's campus. The association's mission is to "provide an on-going connection between the alumni and the university community while developing positive goodwill, support and loyalty to the university" (XX Alumni Association, n.d.).

Determinants of Alumni Giving

Athletic Success

A variable that is commonly researched in evaluations of alumni giving behavior is collegiate athletic success. One might intuit that athletic success, particularly in major sports such as basketball and football, will lead to happier alumni who are proud of their alma mater and that these feelings would translate into generosity. Empirical studies, however, are mixed in regard to the level of impact, if any, that athletic success has upon alumni giving. Indeed, the majority of research indicates that there is no statistically significant relationship between athletic success and alumni giving.

Studies that have found no statistically significant relationship between athletic success and alumni giving includes research from Budig (1976), which included a cross-sectional study of 79 state universities but excluded private universities, and a study from Sigelman and Carter (1979), that measured the relationship between athletic performance and change in alumni giving behavior. Even when evaluating change in behavior rather than at an absolute level, Sigelman and Carter reported a lack of significant findings, positing that success in athletics does not produce increased donations and neither does net improvement of the athletic record. Brooker and Klastorin (1981) examined homogenous groupings of schools within a longitudinal study to examine the relationship between athletic success and alumni giving, finding few significant relationships, and even for those relationships the magnitudes were weak.

Sigelman and Bookheimer (1983) improved upon the Brooker and Klastorin (1981) study by taking measures to control for institutional heterogeneity and by breaking alumni donations into two components: unrestricted annual fund gifts and restricted gifts made directly to the athletic department. The researchers reported that the two giving types are uncorrelated and only direct gifts made to the athletic department are linked in any way to athletic success. The researchers reported a positive relationship between football success and direct giving to the athletic department, but no relationship between giving and basketball success.

Gaski and Etzel (1984) studied the strength of the relationship between football or basketball success and measured alumni contributions from a sample of 99 universities involved in major college athletics. The researchers, like many of their predecessors, reported no significant relationship between athletic performance and alumni donations.

A study by Coughlin and Erikson (1985) sought to re-examine the earlier research from Sigelman and Bookheimer (1983). The researchers concurred with Sigelman and Bookheimer in finding that football success increased athletic contributions at a statistically significant level, but none of the other variables were statistically significant in relation to giving, including the impact of athletic success upon unrestricted annual fund gifts.

While most previous research examined various universities, Grimes and Chressanthins (1994) broke convention with a longitudinal study that focused upon a single institution, Mississippi State University. Also in straying from tradition, the researchers included evaluation of baseball success in addition to basketball and football. While some associations were found, both positive and negative, only one relationship

was statistically significant. Specifically, only baseball winning percentage was related to alumni giving, and the estimated effect was very small in magnitude. Grimes and Chressanthins found no statistical significance for the effect of alumni giving on postseason appearances for all three sports. The researchers also examined another factor not included within previous studies, the effect of NCAA rules violations sanctions upon alumni giving, reporting a negative and statistically significant relationship in this regard.

A more recent study from Baade and Sundberg (1996a) examined the impact of successful major sports programs in the context of a comprehensive model of alumni giving, evaluating other student and institutional characteristics that may impact giving totals in addition to sports success. The researchers found that winning athletic records in general did not translate into higher gifts, but they did find postseason appearances to be positively related to alumni giving. Football bowl game bids had a positive impact on alumni giving. Basketball team appearances in the NCAA tournament also positively impacted giving, but this varied by the type of institution, with public universities seeing higher gifts after athletic success than private universities. The researchers reported a statistically significant but very small correlation between alumni giving and regular season, winning sports percentage at liberal arts colleges that did not normally appear in postseason bowls or tournaments.

Rhoads and Gerking (2000) used a sample of Division I schools to examine the relationship between athletic success and giving for 87 universities in 1986-87 and 1995-96. Results showed no statistically significant relationships between regular season athletic success and alumni giving, but the researchers reported that football bowl wins and NCAA basketball tournament wins had positive and statistically significant effects

on alumni giving. These findings are consistent with those from Baade and Sundberg (1996a). Further, the Rhoads and Gerking study concurs with Grimes and Chressanthins (1994) in that NCAA sanctions have a strong and statistically significant negative relationship with total giving.

A study by Turner, Meserve, and Bowen (2001) examined how changes in an institution's football success affect giving behavior by using micro data from 15 academically selective private colleges and universities. The results indicated that general giving rates were unaffected by football winning records at Division IA and Ivy League schools, but winning percentages yielded modest positive increases, especially among former athletes at the Division III level. Interestingly, the researchers reported that improvements in Division IA football performance were associated with an average decline in general giving.

Litan, Orszag, and Orszag (2003) examined the relationship between alumni giving and football success while controlling for institutional heterogeneity. The researchers found no statistically significant relationships between football winning percentage and alumni giving, or between institutional spending on football and alumni giving. The year after, a report from the Knight Foundation Commission on Intercollegiate Athletics (Frank, 2004) supported these findings, reporting that overall alumni donations sometimes increased as a result of conspicuously successful athletic seasons for a small number of schools, but these increases tended to be both small and transitory.

A study by Tucker (2004) examined not only the impact of athletic success upon alumni giving, but also the relationship between athletic success and the institution's

overall graduation rate. Using a dataset comprised of 78 members of the major athletic conferences, the researcher found that having a highly successful football team had a positive impact on both graduation rate and alumni giving, but a successful basketball team had no impact upon either of these measures.

A recent study of alumni from a selective liberal arts college by Holmes (2008) examined the relationship between alumni giving and athletic success across other sports, in addition to basketball and football. Holmes found a positive relationship between athletic success and alumni giving, with giving amounts increasing by 4% for every 10% increase in the win-loss record of the men's hockey team.

Alumni Involvement

Previous research indicates that various characteristics pertaining to institutional involvement of the alum have an impact upon giving behavior. Alumni involvement includes family ties, past giving, volunteerism for the alma mater, attendance at events, participation in alumni clubs or chapters, and other activities that tie the donor to the institution in some capacity.

A commonly studied factor of alumni involvement is what are called legacy relationships. Okunade and Berl (1997) found that among business school alumni, those with family ties, particularly a spouse who is a fellow alum, led to a greater amount of alumni giving. Wunnava and Lauze (2001) studied alumni within a selective liberal arts institution and also found that alumni with relatives who had attended the alma mater were more likely to give than nonlegacies. Clotfelter (2003a) found similar results in a study of alumni from private colleges and universities. In a study of liberal arts alumni,

Holmes (2008) discovered that alumni with close alumni relatives were about 6% more likely to donate than alumni without any family ties to the institution.

Another way in which alumni are involved with their alma mater is through volunteerism, which is another involvement factor that predicts alumni giving. According to Wunnava and Lauze (2001), alumni volunteers who are consistent donors contribute 120% more than nonvolunteer alumni, and alumni volunteers who are occasional donors contribute 96% more than nonvolunteer alumni.

Attendance at university reunions, which are typically planned and implemented by alumni associations, is another factor that is positively related to alumni giving (Grant & Lindauer, 1986; Holmes, 2008; Olsen, Smith, & Wunnava, 1989; Wunnava & Lauze, 2001), particularly among major reunion years such as the 25th and 50th reunions (Willemain, Goyal, Van Deven, & Thukral, 1994). Hanson (2000) found that attendance at alumni events in general, as well as visits back to campus, led to giving to the alma mater. A study by Harrison (1995) reported that the single most significant factor in explaining fundraising success within the sampled schools was institutional expenditures on alumni activities. Alumni activities include not only reunions, but also alumni weekends, homecoming, efforts at communications, and other events and programs.

Other factors related to alumni involvement that have been found to have a positive impact upon giving include loyalty and emotional attachment to the alma mater (Beeler, 1982), willingness to recommend the alma mater to others (Okunade & Berl, 1997), reading alumni publications (Taylor & Martin, 1995), knowledge of other donors (Okunade & Berl), and seeking information about fellow alumni (Beeler).

Lindahl and Winship (1994) and Okunade and Berl (1997) found that a significant predictor of alumni giving was past giving, with the best prospects being alumni who had made more frequent and recent gifts.

Student Experiences

Extant research indicates that experiences as a student impact the giving behavior of alumni after graduation. These student life and college experiences include campus residence, overall undergraduate experience, receipt of financial aid and scholarships, involvement in extracurricular activities, academic success, and college major.

Several researchers (Belfield & Beney, 2000; Clotfelter, 2003b; Hanson, 2000; Mael & Ashforth, 1992; Monks, 2003) have found undergraduate experience to have a significant impact upon alumni giving behavior, with Monks reporting that satisfaction with one's undergraduate experience is the single biggest determinant of alumni giving. Bruggink and Siddiqui (1995) revealed that "fond memories" of the institution, which were likely a result of a positive undergraduate experience, resulted in a positive relationship with alumni giving. Beeler (1982) also found that alumni attitudes toward their own educational experiences were significant predictors of giving, a phenomenon explained by Stutler and Calvario as follows: "Alumni donors form impressions while they are students, which may influence their decision to make a financial donation later in life (pp.2)".

Financial aid is another well-studied factor related to alumni giving, with several researchers (Beeler, 1982; Marr, Mullin, & Siegfried, 2005) finding that receipt of scholarships or grant awards as an undergraduate translates into greater levels of giving

after graduation. The type of financial aid, however, has been found by some researchers to alter the direction of the relationship. Clotfelter (2003a), for example, discovered that among a cohort of graduates from 1976, those who received need-based aid tended to give less to their alma mater. Marr et al. posited that receipt of a need-based loan lowers the probability of giving by 13%, whereas receipt of a need-based grant increases the probability of giving by 12%. Similar findings by Monks (2003) indicated that individuals with undergraduate loans tend to give less to their alma mater than alumni without student loans. Contrary to other findings, Cunningham and Cochi-Ficano (2002) reported no relationship between non-need-based scholarships and alumni giving.

Student involvement as an undergraduate within nonacademic campus groups, such as Greek organizations, student government, intercollegiate athletics, religious groups, and resident hall life, have been found by multiple researchers to positively correlate with alumni giving (Bruggink & Siddiqui, 1995; Clotfelter, 2003b; Haddad, 1986; Harrison, Mitchell, & Peterson, 2006; Keller, 1982; Marr et al., 2005; Monks, 2003; Wunnava & Lauze, 2001). In addition to these extracurricular student groups, Holmes (2008) specifically examined involvement within student development organizations and found that students who had volunteered for university phonathons were 23% more likely to donate as alumni. Holmes also found that students involved with “affinity” groups are less likely to give, hypothesizing that these are typically minority groups that may feel less integrated into the campus community and therefore less attached to the alma mater.

In a study of Vanderbilt alumni, Marr et al. (2005) discovered that academic success as a student is a positive indicator of later alumni giving, with a one-standard-

deviation increase in GPA (about 0.44 on a 4.0 scale) being associated with a 3%-increase in the likelihood of giving. Cunningham and Cochi-Ficano (2002) used SAT scores and class rank as measures of academic success and found that alumni with higher levels of academic achievement donated more after graduation. Also using SAT scores as a measure of student academic success, Clotfelter (2003b) found results similar to Cunningham and Cochi-Ficano, reporting that alumni with higher-than-average SAT scores as students were more likely to donate to the alma mater.

College major is also a predictor of alumni giving (Haddad, 1986). For instance, Marr et al. (2005) found large, positive, significant effects on the likelihood of alumni giving for alumni who had majored in economics, mathematics, engineering, and science, with substantial differences across other majors. For example, performing arts majors exhibited a probability of giving that was 20% lower than humanities majors. Monks (2003) also found lower giving levels from alumni with fine arts degrees, reporting that graduates with degrees in business and management, engineering, history, mathematics, and the social sciences had higher average donations than those with humanities degrees when using humanities as a benchmark. In a study of alumni from a liberal arts institution, Holmes (2008) also discovered lower giving rates from arts majors, reporting that alumni with arts degrees were 4% less likely to donate than those who major in humanities, and natural science majors were 2% more likely to give than alumni who majored in humanities.

In a study of alumni of New Mexico State University, Hueston (1992) reported that roughly 16% of the high donor group graduated with degrees in business administration, which is similar to findings from Okunade and Berl (1997). Okunade and

Berl specifically examined business school alumni and found that finance, insurance, and real estate majors were the most promising business school alumni prospects for fundraising.

Institutional Characteristics

Previous research indicates that characteristics of particular institutions play a role in evaluating determinants of alumni giving. According to Harrison (1995), the type of university is a factor, with graduates of private institutions being more willing to make a donation than graduates of public institutions, and graduates of doctoral-granting institutions being more willing to make a donation than graduates of institutions which do not grant doctoral degrees. Cunningham and Cochi-Ficano (2002) reported that alumni of 4-year colleges or universities were more willing to make a donation than alumni of 2-year institutions. Research from Clotfelter (2003a) indicated that alumni of private liberal arts colleges are more likely to donate than alumni from other private universities, and alumni of more selective private institutions are more likely to give than alumni from less selective colleges or universities.

The perception of alumni of the academic quality and prestige of their alma mater is another factor of alumni giving found in research, with greater perceived quality and prestige leading to greater levels of alumni giving (Belfield & Beney, 2000; Clotfelter, 2003b; Hanson, 2000; Leslie & Ramey, 1988; Mael & Ashforth, 1992). In a study of alumni of a liberal arts institution, however, Holmes (2008) found that an increase in academic prestige actually had a negative impact on giving, reporting that when the institution studied falls one place in the *US News and World Report* rankings it realizes a

2% increase in giving. Holmes hypothesized that this relationship is likely due to alumni seeking to maintain the reputation of their alma mater and thereby the quality of their diploma, and declines in measures of academic success result in additional contributions made by these alumni in an effort to fund academic pursuits to prevent additional declines. Also related to alumni perception of the institution is the quality of incoming students. Research has shown that the better quality incoming students translates into greater alumni giving (Baade & Sundberg, 1996b).

Alumni Characteristics

Characteristics of alumni are determinants of alumni giving and include demographic information such as age, ethnicity, income, gender, residence and marital status, as well as other variables such as taxation and matching gift opportunities. Many researchers have found that age, or its related counterpart, years since graduation, is a predictor of alumni giving, with results typically indicating that older alumni are more likely to give than younger alumni (Beeler, 1982; Bruggink & Siddiqui, 1995; Haddad, 1986; Hanson, 2000; Keller, 1982; Okunade & Berl, 1997; Olsen et al., 1989; Yankelovich, 1987). Holmes (2008) asserted that for each year that passes after graduation, donation levels increase by about 1%. In a study of alumni of a liberal arts institution, Wunnava and Lauze (2001) calculated the drop-off in alumni giving growth rates based upon age and determined that for consistent donors, growth rates leveled off around age 82 and for occasional donors, the drop-off point was age 60.

Like age, income is a determinant of alumni giving commonly found in research, with higher rates of alumni giving for wealthier alumni (Bruggink & Siddiqui, 1995;

Clotfelter, 2003b; Hanson, 2000; Holmes, 2008; Lindahl & Winship, 1994; Okunade & Berl, 1997). Alumni employed in more affluent careers are also more likely to give, with alumni employed within the finance or banking sectors being the best fundraising prospects (Okunade & Berl, 1997; Holmes, 2008).

Evidence regarding the impact of marital status upon alumni giving has not been studied as frequently as other demographics such as age and income, and the results are inconsistent. Holmes (2008) and Okunade and Berl (1997) reported that married alumni are more likely to donate than nonmarried alumni, and Okunade and Berl have found that alumni who are married to a fellow alum are the most likely to donate. Other researchers, however, have found that unmarried alumni are better prospects than those who are married (Belfield & Beney, 2000; Bruggink and Siddiqui, 1995; Monks, 2003).

In regard to gender, results also are mixed. Most studies indicate no statistically significant difference in average contributions across gender (Clotfelter, 2003b; Okunade, 1996; Marr et al., 2005; Monks, 2003; Wunnava & Lauze, 2001), but a study of Northwestern University alumni found that men are more likely donors than women (Lindahl & Winship, 1994). Other research, however, indicates that women are more likely to donate than men (Bruggink & Siddiqui, 1995). In a study of alumni giving to private colleges and universities, Clotfelter reported that there is no statistically significant difference between frequency of gifts from men and women, but the average size of gifts from men is twice that from women. Belfield and Beney (2000) and Holmes (2008) found that women make more frequent gifts than men, but the size of donations from women are smaller than those from men.

Aside from limited research available from Monks (2003) and Okunade (1996), which suggested that Caucasians are more likely to make a contribution to their alma mater than minority alumni, very little research exists that examines the impact of ethnicity upon alumni giving.

Research indicates that location of residence is a factor in alumni giving, with alumni living in close proximity to the alma mater being more likely to make a contribution (Bruggink & Siddiqui, 1995; Hueston, 1992; Lindahl & Winship, 1994). Monks (2003) reported that alumni who are citizens of the United States are much more likely to make a contribution than noncitizens.

Some alumni are compelled to make a gift for purposes of reducing their rate of taxation (Clotfelter & Feldstein, 1986; Holmes, 2008), and yet others are more likely to give if an opportunity for gift matching is available through their place of employment (Marr et al., 2005; Okunade & Berl, 1997). It is important to note that unlike general institutional contributions, alumni association membership dues are not typically considered tax deductible, nor are they eligible for corporate gift matching and therefore are not included as a variable within this study.

Summary

This chapter presents an overview of the relevant literature pertaining to the history and evolution of alumni giving and presents data regarding the current landscape of the financial situation of higher education, which demonstrates the need for alumni giving. In addition, the chapter provides an overview of the history, role and function of university alumni associations and the importance that association membership programs

have upon alumni cultivation and university giving. While no existing literature was found that examines the determinants of alumni association membership, a comprehensive review of alumni giving literature indicates that factors related to athletic success, alumni involvement, the student experience, institutional characteristics, and alumni characteristics may have an impact upon alumni giving.

CHAPTER III

METHODOLOGY

This chapter details the research methodology used for this study. The researcher utilized quantitative research methods in this exploratory study, using two sources of data: survey response data and data available in the university's alumni database. The researcher analyzed the data by using chi-square tests and logistic regression modeling. The latter method was used for purposes of statistical prediction in addressing the first two research questions, and the former method was used to answer the last two research questions.

One of the many limitations of quantitative studies is inaccuracy of self-reported measures, particularly in sensitive areas pertaining to financial information such as past charitable contributions. The survey questionnaire used to gather data for the primary research question were supplemented with corresponding database information from the alumni association, which allowed the researcher to accurately and comprehensively append data including graduation year(s), degree type(s), alumni association membership history, and alumni giving history and amounts without relying on self-reported responses from the surveyed participants.

Type of Research

This is a survey study. The investigator used a questionnaire and existing variables in a large database to address questions about (a) predictors of membership of university graduates in a dues-paying alumni association, and (b) how membership is related to alumni giving. The researcher used correlational and predictive statistical procedures.

This study examined the following research questions.

1. What variables predict a university graduate's membership in a dues-based alumni association at his or her alma mater?
2. What variables predict whether a member of a dues-based alumni association is an annual member or life member?
3. What is the relationship between alumni association membership (*member* = 1, *nonmember* = 0) and alumni giving (*donor* = 1, *nondonor* = 0)?
4. Does the relationship between alumni association membership and alumni giving differ between those who are annual members and those who are life members?

Population and Sample

The population for this study was the alumni of a large public doctoral-granting research institution in the south.

At the time of the study, the university had 156,356 living and addressable graduates who had received a bachelor's, master's, or professional degree from the institution. The number of university alumni, which included all former students who have completed 12 or more credit hours, medical residents, and certificate recipients, was 225,207, but the researcher only included university graduates in the study. This decision

was based upon two factors: (a) When reporting membership penetration percentages, the industry standard in alumni relations is to include only the percentage of members as the number of *graduates*, and (b) alumni association membership practitioners have reported that alumni who are not graduates are not good prospects for alumni association membership, respond at significantly lower rates than alumni graduates, and therefore are typically not included in membership solicitation appeals. For example, only 5.6% of current association members at the time of the study were alumni with no degree. The majority of members, 67.4%, were university graduates and the remainder of the population was comprised of students and associate members.

In addition, only living graduates were included in the analyses, and the researcher only attempted to contact graduates with records marked “addressable” and forewent attempts to contact graduates with records designated “lost.” The alumni association reported that 95% of alumni records were complete and addressable and only approximately 5% were reported as lost.

It is also important to note that although the university under study, like many other schools, had a dues-based alumni association student membership category with more than 1,500 members in its overall population of 37,084 dues-paying members, current students were excluded from this study as the purpose was to attain information related to graduates and their propensity to become a member of the association. Associate members who were not graduates of the university were also excluded from the study for the same reason.

The amplex of the sample size for this study was verified using power analysis procedures such as observation-to-predictor ratios. Prior to implementing the survey

questionnaire, the researcher made an effort to ensure that the selected sample was representative of the alumni population in regard to important demographic variables such as gender, age, ethnicity, degree type, and geographic place of residence. To accomplish this, the researcher analyzed the descriptive statistics based upon the aforementioned demographic variables of the randomly selected sample and compared them to the entire population of university graduates.

Survey Scales

The measure contained five sets of items that were designed to form scales that measure specific variables. These scales pertained to the following factors included within the alumni association membership decision model (see section on the model below and in Figure 4): alumni involvement, alumni feelings, student feelings, university perceptions, and alumni association perceptions. The researcher used information gained from the literature review as well as input regarding professional experience derived from the panel of experts devise these scales.

Frequency of Involvement Scale

The frequency of involvement scale was developed to measure the variables of frequency of alumni involvement such as attendance at events, visits to university affiliated websites, interaction with fellow alumni, and seeking out information about the alma mater.

Positive Alumni Feelings Scale

In order to evaluate perceptions of the alumni experience, the positive alumni feelings scale included questions pertaining to the perceived value of education received from the institution, pride, and measures of goodwill toward the alma mater experience after graduation from the alma mater.

Positive Student Experiences Scale

To gauge perceptions of student experiences, the researcher devised a student experiences perception scale, which included scalar questions related to the experiences of the alum while a student at the institution such as positive memories, perception of student experiences, and satisfaction with student experiences.

University Perceptions Scale

The researcher devised a scale to measure variables applicable to alumni perception of the institution through variables related to institutional characteristics including value, quality, and prestige.

Alumni Association Perceptions Scale

Similar to the university perceptions scale, the alumni association perceptions scale was developed to examine perceptions of the alumni association of the alma mater, including factors related to awareness, perception, and quality.

Content Validity

Content validity is the ability of the items in a measuring instrument or test to adequately measure or represent the content of the property that the investigator wishes to measure (Winter, 2007). To establish content validity for this study, the researcher consulted a panel of experts.

The survey questionnaire used within this study is an instrument that was newly developed by the researcher and, as such, had not previously undergone assessment for validity and reliability. To develop the scales included within the survey questionnaire, the researcher consulted the panel of experts to assist with the specification of content domain, as well as to select representative items from that domain and to put the items into measurable form (Winter, 2007). The survey questions were generated through the professional experience of the panel, as well as through information revealed through the review of existing literature related to alumni giving.

The panel of experts included a methodologist who is faculty at a public state university and two alumni relations professionals, each with more than 30 years of experience in the field. Using their expertise, the panel helped guide the researcher in the construction of the survey instrument. After the researcher incorporated some modifications to the survey instrument based on the outcomes of the pilot study, the researcher presented the draft back to the panel of experts for additional review.

Pilot Test

This study was conducted in two stages: (a) a pilot test to ensure validity and reliability, followed by (b) a secondary analysis garnered through the results of a survey questionnaire.

In the first stage, the researcher tested the survey instrument through the administration of a pilot study with a test group consistent with the real population of the survey recipients. To identify participants, the researcher solicited randomly selected graduates from the university's alumni database and sent an e-mail with a link to the online survey using the alumni association's broadcast e-mail system. The pilot test was administered via Survey Monkey, an online survey tool. The researcher ensured that the population of alumni who participated in the pilot study included a diverse group of individuals who were representative of the general alumni population.

After the survey questions were completed by participants, the online survey included a series of questions pertaining to the experience of the participant completing the survey. These questions aided the researcher in identifying any potential deficiencies as well as to gauge the average time of survey completion. Based upon the self-reported survey completion time of respondents within the pilot group, the researcher was able to determine that the average time necessary to complete the instrument was approximately 10 minutes.

At the conclusion of the pilot test, the researcher computed measures of validity and reliability and made changes to the survey instrument accordingly.

Reliability

In this study, reliability was measured by Cronbach's alpha internal consistency reliability coefficient (Winter, 2007). Five alpha coefficients were calculated, one for each of the five sets of items used in the five possible scales that were expected to be used in the questionnaire. Using .70 as a minimal criterion of reliability, the researcher was able to determine that the instrument was reliable.

Construct Validity

Construct validity refers to whether a scale measures the unobservable social construct that it purports to measure (Winter, 2007). To assess construct validity, the researcher used data gathered from the study to conduct a factor analysis on each of the five scales in the instrument in order to determine if each scale could best be summarized with one factor or with several factors. The researcher determined that all five scales were reliable with one factor each. These scales all had a Cronbach alpha value of .70 or greater.

Data Collection Procedures

In order to quantitatively study and determine the propensity of graduates to become members of the dues-paying alumni association of their alma mater, the researcher developed and implemented a survey instrument to gather the data necessary to answer the research question, "What are the variables that predict a graduate's

membership in a dues-based alumni association?” This process included the development of a survey instrument using established methods and procedures.

In developing the response options for the scalar questions presented on a 5-point Likert-type scale, the researcher took care to use equal numbers of positive and negative categories, with a neutral point in the middle (Norusis, 1994). In constructing the sections of the survey, the researcher wrote specific instructions to direct respondents to answer each question appropriately and to avoid confusion and nonresponses. Further, the researcher divided the survey into sections to aid respondents in the ease of completing the survey and to hold interest among participants.

When writing the survey questions, the researcher prescribed to the methods of survey construction set forth by Dillman (2000), including the following: ensure only one question is asked at a time, avoid ambiguity, ask questions in complete sentences, provide interpretable answers, avoid bias from unequal comparisons, develop mutually exclusive response categories, among others.

The university’s alumni database included records for 156,356 university alumni who had completed a degree at the institution. Of these records, the association had the e-mail addresses for 56,859 alumni and did not have e-mail addresses for the remaining graduates within the database. In order to capitalize on the access that the researcher had to a large segment of the overall population, the survey was administered through both e-mail and direct mail. Because the costs of online survey administration are relatively low, the researcher administered the survey electronically via e-mail to all 56,859 university graduates with an e-mail address on record, using the alumni association’s broadcast e-mail system to deliver the message and Survey Monkey as a tool to collect responses.

In order to obtain responses from the population of university graduates for whom the association did not have e-mail addresses on record, the researcher administered a hard copy of the survey questionnaire via direct mail to a random sample drawn from this subset of the population. A random sampling method was used for this segment of the population as a result of the cost-prohibitive nature of direct mail. The sample included 1,250 randomly selected subjects drawn from the population of graduates within the university's alumni database who did not have an e-mail address associated with their record.

To facilitate a high response rate and to meet the required number of responses as determined by the power analysis, the researcher provided a back-end incentive, a university alumni license plate frame. Recipients of the e-mail survey invitation were notified that if they were one of the first 100 respondents to complete the questionnaire by a specified date, they would receive the license plate frame. The researcher offered the same nominal incentive to the first 50 respondents of the hard copy survey who returned the questionnaire via return mail by a specified date.

Variables

For Questions 1 and 2, the researcher used data obtained through the survey questionnaire as well as demographic data appended from the university's alumni database. For Questions 3 and 4, the researcher relied exclusively upon extant data in the alumni database.

Research Question 1

In addressing the primary research question, which examined the variables that predicted alumni association membership, the researcher used a dichotomous outcome variable. In this case, the dependant variable was alumni association membership, with 0 = *nonmember* and 1 = *member*. The predictor variables were both dichotomous and continuous and were related to four factors that the researcher hypothesized would drive the decision of graduates to join the alumni association: alumni characteristics, alumni involvement, institutional characteristics, and student experience. These factors were derived from a combination of the researcher's professional experience as well as information obtained from the review of literature and are represented as the alumni association membership decision model in Figure 4.

Figure 4. Alumni association membership decision model.

In determining the variables that would comprise the four factors included within the alumni association decision model, the researcher used a combination of variables

from a survey questionnaire as well as variables obtained through alumni association membership practitioners. These variables appear in Figure 5.

The variables included under the category of alumni involvement consisted of variables found by previous researchers to have had a positive relationship with alumni giving, such as family ties to the institution (Clotfelter, 2003a; Holmes, 2008; Okunade & Berl, 1997; Wunnava & Lauze, 2001); frequency of involvement at university and alumni association events (Grant & Lindauer, 1986; Holmes, 2008; Olsen, Smith, & Wunnava, 1989; Wunnava & Lauze, 2001); positive alumni feelings including loyalty and emotional attachment to the alma mater (Beeler, 1982); and alumni giving history (Lindahl & Winship, 1994; Okunade and Berl, 1997). The other variables, alumni association membership history and residence in an alumni club area, are specific to alumni association membership rather than alumni giving and were not included based on prior research findings, but rather were included based on the researcher's professional experience with alumni relations.

Figure 5 also includes a variety of variables that pertain to the experiences that a graduate underwent during their time as a student at the university. All of these variables were derived from existing research from studies of alumni giving and included recollections of positive student experiences (Beeler, 1982; Belfield & Beney, 2000; Bruggink and Siddiqui, 1995; Clotfelter, 2003b; Cunningham & Cochi-Ficano, 2002; Hanson, 2000; Mael & Ashforth, 1992; Monks, 2003); receipt of financial aid and scholarships (Beeler, 1982; Clotfelter, 2003b; Marr, Mullin, & Siegfried, 2005; Monks, 2003); involvement in extracurricular activities (Bruggink & Siddiqui, 1995; Clotfelter, 2003b; Haddad, 1986; Harrison, Mitchell, & Peterson, 2006; Keller, 1982; Marr et al.,

2005; Monks, 2003; Wunnava & Lauze, 2001); academic success as a student (Clotfelter, 2003b; Cunningham & Cochi-Ficano, 2002; Marr et al., 2005); and type(s) of degree(s) earned from the university (Haddad, 1986; Holmes, 2003; Hueston, 1992; Marr et al., 2005; Monks, 2003; Okunade & Berl, 1997).

Previously studied variables that were found to have a relationship with alumni giving were also the basis for inclusion of variables under the category of alumni characteristics, which included age (Beeler, 1982; Bruggink & Siddiqui, 1995; Haddad, 1986; Hanson, 2000; Keller, 1982; Okunade & Berl, 1997; Olsen et al., 1989; Yankelovich, 1987); gender (Belfield and Beney, 2000; Bruggink & Siddiqui, 1995; Clotfelter, 2003b; Holmes, 2008; Okunade, 1996; Lindahl & Winship, 1994; Marr et al., 2005; Monks, 2003; Wunnava & Lauze, 2001); marital status (Belfield & Beney, 2000; Bruggink and Siddiqui, 1995; Holmes, 2008; Monks, 2003; Okunade & Berl, 1997); ethnicity (Monks, 2003; Okunade, 1996); level of income (Bruggink & Siddiqui, 1995; Clotfelter, 2003b; Hanson, 2000; Holmes, 2008; Lindahl & Winship, 1994; Okunade & Berl, 1997); location of residence (Bruggink & Siddiqui, 1995; Hueston, 1992; Lindahl & Winship, 1994); and occupation (Okunade & Berl, 1997; Holmes, 2008). One of the included variables under the category of alumni characteristics that was studied not because of prior research but rather because of the researcher's own professional experience with alumni association membership was the graduate's employment as faculty or staff at the alma mater. The researcher's experience has consistently indicated that university employees who are graduates are significantly less likely to join the alumni association than graduates who are not employed at the alma mater.

Finally, the researcher studied the variables included under the category of institutional characteristics based upon a combination of professional experience and prior research of alumni giving. The university perceptions variable was based upon alumni giving research that studied variables related to a graduate's perception of the alma mater (Belfield & Beney, 2000; Clotfelter, 2003b; Hanson, 2000; Holmes, 2008; Leslie & Ramey, 1988; Mael & Ashforth, 1992). The alumni association perceptions variable was a scale drawn from the researcher's professional experience in alumni relations.

Alumni involvement	Student experiences
Family ties to the institution	Recollections of positive student experiences scale
Affinity to the alma mater, as measured by:	Receipt of financial aid and scholarships
Frequency of involvement scale	Involvement in extracurricular activities
Positive alumni feelings scale	Academic success as a student
Alumni giving history ^a	Type(s) of degree(s) ^a
Alumni association membership history ^a	
Residence in an alumni club area ^a	
Alumni characteristics	Institutional characteristics
Age ^a	Perceptions of quality and prestige, as measured by:
Gender	
Marital Status	University perceptions scale
Ethnicity	Alumni Association perceptions scale
Income	
Location of primary residence ^a	
Occupation	
Faculty/Staff ^a	

^aDenotes variables in which data from the university's alumni database were appended to survey response data.

Figure 5. Studied variables of alumni association membership.

Research Question 2

In addressing the second research question—“What variables predict whether a member of a dues-based alumni association is an annual or life member?”—the researcher analyzed variables that existed for the entire population of graduates who made up the membership of the alumni association. These included demographic data available within the university’s alumni database such as location of primary residence, income, alumni giving history, alumni association membership history, age, gender, degree(s), and graduation year(s), among other available variables. The dichotomous dependent variable was coded as follows: 0 = *annual member*, 1 = *life member*.

Research Question 3

To analyze the third research question—“What is the relationship between alumni association membership and alumni giving?”—the researcher again used data that were available at the time of the study through the alumni database for the independent variables. Dichotomous outcome variables included those pertaining to alumni association membership (*nonmember* = 0, *member* = 1) as well as alumni giving (*nondonor* = 0, *donor* = 1).

Research Question 4

The final research question asked, “Does the relationship between alumni association membership and alumni giving differ between those who are annual members and those who are life members?” The researcher again used independent variables culled from the

alumni database. The trichotomized outcome variable pertained to alumni association membership type (*annual member* = 1, *life member* = 2, *not a member* = 3).

Statistical Analysis Procedures

The first two research questions were addressed using logistic regression. A simultaneous method of variable entry was used, with all variables of interest entered into the regression equations at the same time. Logistic regression allows a researcher to predict a discrete outcome such as group membership from a set of independent variables that may be continuous, discrete, dichotomous, or some mix of the three (Tabachnick & Fidell, 2001). When using logistic regression to determine group membership, the researcher is typically interested in calculating the probability of success over the probability of failure, and thus the results of the analysis are in the form of an odds ratio. Another use of logistic regression is to provide researchers with knowledge about the relationships and strengths among the variables.

In this study, the researcher was interested in predicting group membership, either member or nonmember, and therefore used logistic regression as the statistical method. Logistic regression is the preferred method over other forms of predictive statistical methods because its assumptions are not as stringent and it is particularly flexible, allowing for a diverse set of independent variables (Tabachnick & Fidell, 2001).

The researcher first established whether a relationship existed between the dependent variable and the independent variables. Once a relationship was identified, the researcher then attempted to simplify the model by reducing independent variables while maintaining strong prediction. The researcher decided not to include interactions among

predictors within the model. Independent variables can be at any level of measurement, but the researcher must dummy code the categories (Miller, 2008b).

To determine fit measures within logistic regression, the researcher used the Hosmer-Lemeshow statistic, which is a test of goodness-of-fit based on a chi-square distribution (Tabachnick & Fidell, 2001), and the R^2 value, which within logistic regression can be loosely interpreted as the measure of strength of relationships between variables and categories (Miller, 2008a).

Assessing the success of a logistic regression model in its predictive ability was important because the purpose of this statistical technique is to predict an outcome. Further, goodness-of-fit measures are particularly important within logistic regression given this is a method that can be used to fit and compare models. The worst fitting model includes only the constant and none of the predictors, and the best fitting model includes not only the constant and all predictors but also interactions among predictors. Other important forms of analysis within logistic regression that the researcher used include not only significance tests for each predictor, but also parameter estimates and maximum likelihood criterion. In addition to odds ratios, the researcher analyzed classification and prediction success tables (Tabachnick & Fidell, 2001).

The researcher used the chi-square test of association in the analyses of the third and fourth research questions. Chi-square analysis is a nonparametric test that allows a researcher to examine the relationship between two discrete variables (Tabachnick & Fidell, 2001). A benefit of chi-square analysis is that it requires no assumptions about the distribution of variables in the population. Question 3 required the use of a 2 x 2

contingency table with the membership outcome variable, and Question 4 required a 2 x 3 contingency table with membership type as the outcome variable.

CHAPTER IV

RESULTS

Characteristics of Graduates

Prior to implementing the survey, the researcher first examined the descriptive statistics of the entire population of graduates of the university, who are the subject of this study. Interval level variables appear in Table 1 and nominal level variables appear in Tables 2 and 3. The researcher used SPSS version 17.0 for this and all analyses.

As can be seen in Table 1, the average amount of university giving was about \$1,192. However, the distribution of this variable was positively skewed because the very large amounts of some giving totals caused the mean to be relatively high. The median and mode donation amounts were both \$0 because a large number of graduates did not donate any amount. When cases were selected of persons who gave a certain amount (i.e., a donation greater than \$0), the average amount of university giving was \$3,122, the mode was \$25, and the median was \$185. Thus, even for individuals who donated some amount, there was a skewed distribution, with large giving totals drawing the mean upward. The average age of persons in the dataset was about 45 years.

Table 2 shows the dichotomous variables. The table reveals that about 17% of persons in the dataset were current alumni association members, and slightly more than half of the population was male. About 56% were residents of the state of Kentucky and about 23% graduated from the university with a graduate degree only (i.e., most persons

received a bachelor's degree or a bachelor's degree in combination with another degree at the university).

As seen in Table 3, most individuals (over 80%) were not alumni association members. Consistent with the information in Table 2, the highest degree of most individuals was a bachelor's degree.

Table 1

Descriptive Statistics for Interval Level Variables

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Range
Age	124,692	45.15	15.05	21-102
Total university giving	156,356	\$1,191.73	39214.00	\$0-\$9,283,952
Number of university degrees	156,356	1.15	0.39	1-5
Number of years since most Recent university graduation	156,309	22.52	15.45	0-80

Table 2

Percentages for Dichotomous Nominal Level Variables

Variable	0	1
Current alumni association member (0 = <i>no</i> , 1 = <i>yes</i>)	83.1	16.9
Lapsed alumni association member (0 = <i>no</i> , 1 = <i>yes</i>)	85.2	14.8
Current or previous alumni association member (0 = <i>no</i> , 1 = <i>yes</i>)	68.3	31.7
Gender (0 = <i>male</i> , 1 = <i>female</i>)	51.5	48.5
U.S. residence (0 = <i>no</i> , 1 = <i>yes</i>)	0.8	99.2
Kentucky residence (0 = <i>no</i> , 1 = <i>yes</i>)	43.9	56.1
Phone number on record (0 = <i>no</i> , 1 = <i>yes</i>)	31.4	68.6
Resides in alumni club area (0 = <i>no</i> , 1 = <i>yes</i>)	17.2	82.8
Current address on record (0 = <i>no</i> , 1 = <i>yes</i>)	99.3	0.7
Fellows donor over \$10,000 (0 = <i>no</i> , 1 = <i>yes</i>)	98.3	1.7
Current donor within prior year (0 = <i>no</i> , 1 = <i>yes</i>)	88.0	12.0
E-mail address on record (0 = <i>no</i> , 1 = <i>yes</i>)	43.1	56.9
University graduate degree only (0 = <i>no</i> , 1 = <i>yes</i>)	77.2	22.8
Employed as university faculty or staff (0 = <i>no</i> , 1 = <i>yes</i>)	96.6	3.4

Table 3

Percentages for Categorical Nominal Level Variables

Variable	1	2	3
Member pay type (1 = <i>not a member</i> , 2 = <i>annual member</i> , 3 = <i>life member</i>)	83.10	9.20	7.60
Sequence (1 = <i>member first</i> , 2 = <i>donor first</i> , 3 = <i>not a donor member or data not available</i>)	9.40	8.80	81.80
Membership classification (1 = <i>single member</i> , 2 = <i>joint member</i> , 3 = <i>not a member</i>)	6.10	10.80	83.10
Highest university degree (1 = <i>bachelor's</i> , 2 = <i>master's</i> , 3 = <i>doctoral/professional</i>)	66.80	20.80	12.4

Survey Instrumentation

Pilot Test

The survey instrument used in this study had not previously undergone analysis for validity and reliability so the researcher implemented a pilot test procedure. Using a random selection of university graduates with an e-mail address on record, the researcher sent an e-mail to 1,498 individuals with a survey invitation and link to the survey. The e-mail invitation described the purpose of the study and offered a complimentary university alumni license plate frame as an incentive to the first 35 respondents. Of the survey recipients, 337 opened the e-mail within the first 48 hours of receipt for an open rate of 22.5%. The researcher used the Survey Monkey service to house the survey and collect responses. Responses were received from 169 individuals. Reviewing preliminary response data and deleting cases in which there was a high degree of nonresponse from the respondent resulted in 155 usable responses, for a response rate of 10.3%.

The researcher first reviewed frequencies and descriptive statistics for purposes of data clean-up. No cases were eliminated. Next, the researcher completed a reliability analysis of the five survey scales: frequency of involvement, positive alumni feelings, positive student feelings, university perceptions, and alumni association perceptions. Table 4 shows the alpha coefficients for the scales. Using .70 as the minimally accepted criterion (Nunnally & Bernstein, 1994), the researcher concluded that the scales were reliable.

Table 4

Internal Reliability for Scaled Variables in the Pilot Test

Scale	Cronbach's alpha	Number of items
Frequency of involvement	0.81	12
Positive alumni feelings	0.95	6
Positive student feelings	0.85	6
University perceptions	0.87	8
Alumni association perceptions	0.84	4

The verification of internal reliability of the scales required no changes to the scale questions. The researcher, however, did modify a few questions in other parts of the questionnaire so that the results could be tabulated more easily, which was of particular importance due to the extremely large sample within this study. For instance, the question asking respondents to list degrees obtained from other universities was changed to a simple yes-or-no question in order to yield dichotomous data rather than a manual interpretation and manipulation of survey results for this particular question.

Electronic Survey

After modifying the survey instrument, the researcher implemented the survey, using both direct mail and e-mail methods. On April 2, 2009, the e-mail invitation (Appendix A) was distributed to 56,859 recipients, which represented the entire population of university graduates with an e-mail address on record. The e-mail included a link to the electronic version of the survey instrument, housed on SurveyMonkey.com, as well as an incentive for the first 100 respondents to receive a free university-branded alumni license-plate frame. Within the first 48 hours, 12,031 recipients opened the e-mail for an open rate of 21.2%, and 8,040 of those who opened the e-mail clicked on the survey link.

On April 8, 2009 a reminder e-mail (Appendix B) was distributed to the same population who received the original e-mail. The reminder e-mail thanked individuals who had already completed the survey and reminded nonrespondents to complete the survey. This e-mail generated an open rate of approximately 18%, with 10,261 recipients opening the e-mail within the first 48 hours. Of those who opened the e-mail, 2,250

individuals clicked on the survey link. After eliminating responses that were duplicate, incomplete, or did not include a valid respondent ID number, the researcher ended up with 7,298 responses from the electronic survey, for an overall response rate of 12.8%.

Paper Survey

On April 10, 2009, the hard copy paper version of the survey instrument was mailed to 1,250 recipients who represented a randomly selected sample drawn from the entire population of university graduates without an e-mail address on record. The mailing included the survey instrument along with a postage-paid response envelope and cover letter (Appendix C) explaining the purpose of the survey and promoting an incentive whereby the first 50 survey respondents would receive a complimentary university branded alumni license plate frame. On April 24, 2009 a reminder postcard (Appendix D) was mailed to recipients who had not yet returned a survey. After eliminating responses that were incomplete, the number of usable responses was 237 for an overall response rate of 19%. The survey instrument appears in Appendix E.

The researcher combined both electronic and hard-copy survey responses into one comprehensive data file with data from the university's alumni database appended to each response matched by each respondent's unique identification number. This comprehensive combined and appended data file ($N = 7,535$) was used for the analyses performed to address research questions one and two. Research questions three and four were addressed using existing data extracted solely from the university's alumni database ($N = 156,356$).

Characteristics of the Survey Respondents

The combined dataset of responses from the electronic and hard-copy surveys revealed that the majority of responses (96.9%) were derived from the electronic version due to the extremely large sampling of this population versus the sampling through direct mail, which was limited due to cost constraints.

When compared to the entire population of graduates, those who responded to either survey were typically older and had made larger university gifts. As can be seen in Table 5, the average total giving among survey respondents was about \$2,426, which was considerably higher than the average total giving (\$1,192) among the entire population. The average age of respondents was about 48 years, which was higher than the average age of all graduates in the database (45 years). Household income was positively skewed due to the wide range, which extended from \$0 to \$4,000,000.

Table 6 shows the dichotomous variables of survey respondents. The table reveals that about 52% of respondents were current alumni association members, which was substantially higher than the percentage of members (17%) within the entire database. This represents a potential self-selection bias among respondents. Close to 55% of respondents were male, over 99% were residents of the United States and 54.5% were residents of Kentucky. Sixty percent of respondents were current donors, which was substantially larger than the number of graduates within the entire population who were donors (12%) and again indicates potential self-selection bias.

Another survey variable that varied significantly from the population was employment as university faculty or staff. Within the entire population, 3.4% of graduates were employed as faculty or staff of the university, but among survey

respondents, 8.4% were university employees. Forty-one percent of respondents were graduates of other institutions in addition to the university that was the subject of this study. Among respondents, 17.6% received a degree other than a bachelor's degree from the university under study, compared to 23% of graduates within the entire population.

Percentages for respondent information for the categorical, nominal level variables appear in Table 7. The highest level of overall education for most respondents was a bachelor's degree. The majority of respondents were married, had children, were employed within a professional occupation, and resided within 299 miles of the main university campus.

Table 5

Descriptive Statistics for Interval Level Variables for Survey Respondents

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Range
Total university giving	7,535	\$2,426	\$34,105	\$0 - \$2,322,492
Number of university degrees	7,535	1.20	0.44	1 - 4
Number of years since receipt of first degree from the university	7,512	24.36	15.8	1 - 69
Number of legacy relationships	7,536	1.06	1.04	0 -7
Total number of extracurricular activities	7,536	1.17	1.19	0 - 8
Age	7,486	48.32	15.61	21 - 92
Household income	5,609	\$124,316	\$125,830	\$0 - \$4,000,000

Table 6

Percentages for Dichotomous Nominal Level Variables for Survey Respondents

Variable	0	1
Marital status (0 = <i>not married</i> , 1 = <i>married</i>)	29.3	70.7
Response type (0 = <i>electronic</i> , 1 = <i>hard copy</i>)	96.9	3.10
Current alumni association member (0 = <i>no</i> , 1 = <i>yes</i>)	47.6	52.4
Lapsed alumni association member (0 = <i>no</i> , 1 = <i>yes</i>)	86.6	13.4
Gender (0 = <i>male</i> , 1 = <i>female</i>)	54.6	45.4
U.S. residence (0 = <i>no</i> , 1 = <i>yes</i>)	99.3	0.70
Kentucky residence (0 = <i>no</i> , 1 = <i>yes</i>)	45.5	54.5
Phone number on record (0 = <i>no</i> , 1 = <i>yes</i>)	14.6	85.3
Resides in alumni club area (0 = <i>no</i> , 1 = <i>yes</i>)	16.4	83.6
Fellows donor over \$10,000 (0 = <i>no</i> , 1 = <i>yes</i>)	95.8	4.2
Current donor within prior year (0 = <i>no</i> , 1 = <i>yes</i>)	70.0	30.0
University graduate degree only (0 = <i>no</i> , 1 = <i>yes</i>)	82.4	17.6
Employed as university faculty or staff (0 = <i>no</i> , 1 = <i>yes</i>)	91.6	8.40
Legacy spouse (0 = <i>no</i> , 1 = <i>yes</i>)	67.9	32.1
Aware of university donors (0 = <i>no</i> , 1 = <i>yes</i>)	47.8	52.2
Aware of alumni association members (0 = <i>no</i> , 1 = <i>yes</i>)	41.2	58.8
Lived on campus (0 = <i>no</i> , 1 = <i>yes</i>)	36.1	63.9
Received financial aid (0 = <i>no</i> , 1 = <i>yes</i>)	69.4	30.6
Received scholarships (0 = <i>no</i> , 1 = <i>yes</i>)	64.1	35.9

Variable	0	1
Owed student loans upon graduation (0 = <i>no</i> , 1 = <i>yes</i>)	63.7	36.3
Was employed as a student (0 = <i>no</i> , 1 = <i>yes</i>)	36.0	64.0
Extracurricular Greek (0 = <i>no</i> , 1 = <i>yes</i>)	72.4	27.6
Children (0 = <i>no</i> , 1 = <i>yes</i>)	34.5	65.5
Children under age 18 (0 = <i>no</i> , 1 = <i>yes</i>)	72.4	27.6
Degree(s) from other universities (0 = <i>no</i> , 1 = <i>yes</i>)	58.7	41.3

Table 7

Percentages for Categorical Nominal Level Variables for Survey Respondents

Variable	0	1	2	3	4	5	6	7	8
Member pay type (1 = <i>not a member</i> , 2 = <i>annual member</i> , 3 = <i>life member</i>)	-	47.6	26.9	25.5	-	-	-	-	-
Membership classification (1 = <i>single member</i> , 2 = <i>joint member</i> , 3 = <i>not a member</i>)	-	30.8	21.6	47.6	-	-	-	-	-
Highest degree overall (1 = <i>bachelor's</i> , 2 = <i>master's</i> , 3 = <i>doctoral/professional</i>)	-	46.2	32.5	21.3	-	-	-	-	-
Highest degree obtained from the university (1 = <i>bachelor's</i> , 2 = <i>master's</i> , 3 = <i>doctoral/professional</i>)	-	67.6	19.3	12.7	-	-	-	-	-
GPA (1 = <i>below 2.5</i> , 2 = <i>2.5 to 2.99</i> , 3 = <i>3.0 to 3.39</i> , 4 = <i>3.4 to 3.79</i> , 5 = <i>3.8 to 4.0</i>)	-	2.8	20	30.8	30.1	16.3	-	-	-
Proximity (in miles) to the university campus (1 = <i>0 to 15</i> , 2 = <i>16 to 49</i> , 3 = <i>50 to 99</i> , 4 = <i>100 to 299</i> , 5 = <i>300 to 499</i> , 6 = <i>500 to 799</i> , 7 = <i>800 to 1,000</i> , 8 = <i>more than 1,000</i>)	-	20.6	7	18	17.6	11.4	9.8	6.1	9.5
Semesters lived on campus (0 = <i>none</i> , 1 = <i>1 to 2</i> , 2 = <i>3 to 4</i> , 3 = <i>5 to 6</i> , 4 = <i>7 to 8</i> , 5 = <i>more than 8</i>)	36.1	19.9	18.6	11.5	10.6	3.2	-	-	-

Variable	0	1	2	3	4	5	6	7	8
Hours worked per week (0 = none, 1 = 1 to 5, 2 = 6 to 15, 3 = 16 to 25, 4 = 26 to 35, 5 = 36 to 40, 6 = more than 40)	25.3	4.1	23	29.3	8.9	6.5	3	-	-
Semesters as a student at the university (1 = 1 to 2, 2 = 3 to 4, 3 = 5 to 6, 4 = 7 to 8, 5 = 9 to 10, 6 = 11 to 12, 7 = 13 to 14, 8 = more than 14)	0.5	7.8	14.7	32.3	26	8.7	4.4	5.8	-

Internal Reliability

After reviewing the descriptive statistics of the survey responses, the researcher completed a reliability analysis of the five survey scales. The scales had been deemed reliable based upon the internal reliability of pilot test data, but to ensure that these results were duplicated within the survey response data, the researcher again completed a reliability analysis. Table 8 shows the alpha coefficients for the scales. All of the scales exceeded the minimally accepted criterion of .70 for reliability (Nunnally & Bernstein, 1994).

Table 8

Internal Reliability for the Scaled Variables for Survey Respondents

Scale	Cronbach's alpha	Number of items
Frequency of involvement	0.85	12
Positive alumni feelings	0.94	6
Positive student feelings	0.89	6
University perceptions	0.89	8
Alumni association perceptions	0.88	4

Results for Research Question 1

The question posed in the primary research question was “What variables predict a university graduate’s membership in a dues-based alumni association at his or her alma mater?” The researcher used logistic regression to answer this question, using survey response data along with the appended demographic data culled from the university’s alumni database.

The researcher conducted and evaluated results from diagnostic procedures, including the analog of Cook’s influence statistics, leverage value, and normalized residuals for the combined dataset. Some statistical outliers existed, but these pertained to a very small proportion (less than 2%) of the data, so the researcher did not perform any data transformations or manipulations.

The researcher then computed descriptive statistics, including a correlation matrix, and evaluated cases in which two variables were highly correlated in order to delete cases as necessary to prevent potential problems with multicollinearity within the model. There was a high degree of correlation between the age when receiving one’s degree and age at the time of the study ($r = .915$). Both explained basically the same thing, but the age variable provided a more accurate representation of the age of the respondent and therefore was retained and the degree age variable omitted. The variable related to a graduate’s geographic proximity to campus was highly correlated with the variables pertaining to Kentucky residence ($r = .762$) and Fayette County residence ($r = .586$), so the latter two variables were deleted. The highest university degree variable was highly correlated with the graduate-degree-only ($r = .676$) and degree from another

university ($r = .562$) variables, so the researcher retained the highest university degree variable and omitted the other two.

The legacy spouse variable was highly correlated with the total number of legacy relationships variable ($r = .611$), so the researcher retained the latter variable and deleted the former. The variable pertaining to Greek involvement as a student and the variable for total number of extracurricular activities were correlated at $r = .536$, so the Greek variable was omitted. The received financial aid and received student loans variables were also highly correlated ($r = .500$), so the researcher deleted the loan variable. Finally, the awareness variables (donor and member) were highly correlated ($r = .602$), so the researcher retained only the awareness of alumni association members variable. Of the retained variables, all were correlated with the dependent membership status variable but were not highly correlated ($r \geq .50$) with any of the other independent variables.

In evaluating the descriptive statistics, the researcher noted a great number of missing cases in the household income variable and the variable pertaining to hours worked as a student at the university. After performing some preliminary logistic regression analyses, the researcher determined that the hours worked variable was statistically nonsignificant and the household income variable, although significant, did not have a strong relationship with the dependent membership variable and subsequently deleted both variables. The researcher opted to use the nominal and dichotomous current donor variable as opposed to the interval level total university giving variable because the distribution of the total giving variable was highly skewed. Other excluded variables were categorical in nature and were not conducive to logistic regression.

The researcher also noted two other potential issues evident within the descriptive statistics, one related to a disproportionate number of responses from the electronic survey as opposed to the hard copy survey and the other a potential self-selection bias of respondents. Among survey respondents, 97% completed the electronic version of the survey and only 3% completed the hard copy paper version. The researcher ran preliminary logistic regression analyses, with and without the response type variable, and determined that the differences across important goodness-of-fit measures were nominal. Although minor changes occurred with the inclusion of the variable, the researcher erred on the side of conservatism and opted to include survey response type as a control variable.

The potential problem with self-selection bias among respondents was apparent in that approximately 17% of graduates within the entire population were current alumni association members, yet 52% of survey respondents were members. The researcher corrected for the bias by stratifying the sample so the proportion of members to nonmembers reflected the population. The researcher retained all 3,588 nonmember cases and performed a random selection of just 744 member cases. The resulting dataset ($N = 4,332$) was proportionally representative of the population in regard to the percentages of members and nonmembers.

At the conclusion of data verification and modification, 26 variables remained, including the control variable. One of the excluded variables was the university college from which the subject received his or her first degree. The variable was excluded as its categorical nature made it difficult to analyze using logistic regression. A separate analysis of this variable, however, was explored and is presented in Appendix F.

Descriptive statistics for the included demographic variables drawn from the stratified dataset appear in Table 9 and are denoted under the “label” column to indicate which variables were obtained through survey responses and which variables were obtained from the university’s alumni database. The mean or percentage for members and nonmembers as well as the correlation between each variable and member status are shown (*nonmember* = 0, *member* = 1). In the case of age and marital status, these variables were primarily derived from the university’s database, but there were a great number of missing cases. Therefore, survey response data were used to supplement these variables to fill in the blanks for those missing cases.

Table 9

Summary of Descriptive Statistics for Survey Response Data by Member Status

Independent variable		Mean or %		<i>r</i>
Label	Description	Non-members	Members	
GENDER ^a	Grad is female (%)	48	45	-.022
AGE ^b	Age of the grad	45.04	50.41	.132**
MARITAL ^b	Grad is married (%)	67	72	.044**
HIGHDEG ^a	Highest degree obtained from the university (bachelor, master, doctoral/professional)	1.52	1.34	-.090**
PHONE ^a	Phone number is included within alumni record (%)	77	93	.151**
CLUB ^a	Grad resides in a region served by an alumni club (%)	81	88	.068**
FACSTAFF ^a	Grad is employed as university faculty or staff (%)	12	5	-.079**
FELLOW ^a	Grad has made at least \$10,000 in total university financial contributions (%)	1	7	.170**
DONOR ^a	Grad is a current university donor of any amount within the last year (%)	16	43	.260**

Independent variable		Mean or %		<i>r</i>
Label	Description	Non-members	Members	
RESPONSE	Grad responded to survey using a hard copy instrument.	5	1	-.060**
RECSCHOLAR	Grad received scholarship(s) as a student at the university (%)	40	34	-.047**
TOTEXTRA	Total number of extracurricular activities the grad was involved with as a student at the university	0.99	1.4	.138**
LEGNUM	Total number of university legacy relationships	0.86	1.21	.131**
GPA	Grad's total cumulative university GPA upon graduation.	3.51	3.27	-.085**
SEMESTERSTU	Number of semesters the grad spent as a student at the university.	4.44	4.47	.007
PROXIMITY	Geographic proximity from the grad's primary residence to the university's main campus.	3.9	3.79	-.019
CHILDREN	Graduate has a child or children (%)	61	68	.055**

Independent variable		Mean or %		<i>r</i>
Label	Description	Non-members	Members	
CHILDREN18	Grad has a child or children under the age of 18 (%)	31	25	-.053**
AWAREMEM	Grad is aware of other university alumni association members (%)	43	77	.259**
SEMONCAMPUS	Number of semesters the grad spent living on campus in university housing as a student.	1.31	1.44	.116**

Note. Correlation coefficients are between the independent variables and member status (*nonmember* = 0, *member* = 1).

^aDenotes variables obtained from the university's alumni database.

^bDenotes variables obtained from the university's alumni database but with missing cases supplemented by survey response data.

* $p < .05$. ** $p < .01$.

The researcher expected positive regression coefficients for variables pertaining to age, current and fellows donor status, involvement as a student as measured by number of extracurricular activities, number of legacy relationships, proximity to campus, awareness of other alumni association members, and higher rankings across all five attitudinal scales. Negative coefficients were expected for graduates with a higher level of degree attainment, status as a member of the university faculty or staff, and receipt of financial aid as a student of the university. Logistic regression estimates appear in Table 10.

Table 10

Logistic Regression Estimates for Member Status
 (Nonmember = 0, Member = 1)

Variable Label	Parameter estimate*	Standard error	Odds ratio
CONSTANT	-9.452	.637	.000
GENDER ^a	.061	.105	1.063
AGE ^b	.013*	.005	1.013
MARITAL ^b	.067	.126	1.069
HIGHDEG ^a	-.231*	.061	.794
PHONE ^a	1.029**	.173	2.800
CLUB ^a	.222	.140	1.249
FACSTAFF ^a	-1.048**	.207	.351
FELLOW ^a	1.076**	.287	2.932
DONOR ^a	1.040**	.110	2.830
RESPONSE	-.785*	.363	.456
RECFINAID	-.128	.110	.880
RECSCHOLAR	-.131	.111	.877
TOTEXTRA	.008	.046	1.008
LEGNUM	.081	.049	1.085
GPA	.062	.053	1.064
SEMESTERSTU	-.062	.037	.940
PROXIMITY	.034	.025	1.035

Variable Label	Parameter estimate*	Standard error	Odds ratio
CHILDREN	-.046	.166	.955
CHILDREN18	-.233	.148	.793
AWAREMEM	.896**	.112	2.449
SEMONCAMPUS	.118*	.035	1.126
SCALEFIQ	.701**	.105	2.016
SCALEPOSAF	.335*	.137	1.398
SCALEPOSSF	-.260*	.128	.771
SUNIVPERCEP	-.288*	.134	.750
SAAPERCEP	1.020**	.109	2.774
<u>Model Summary Statistics</u>			
Nagelkerke R^2			0.347
Cox & Snell R^2			0.211
Hosmer & Lemeshow Chi-square			4.517

^aDenotes variables obtained from the university's alumni database.

^bDenotes variables obtained from the university's alumni database but with many missing cases that were supplemented by survey responses.

* $p < .05$. ** $p < .001$.

The Nagelkerke pseudo R^2 indicated that the model accounted for 34.7% of the variance in alumni association member status. This suggests that the set of predictors discriminates between members and nonmembers. The Hosmer and Lemeshow chi-square was statistically nonsignificant $\chi^2(8, N = 3,990) = 4.52$, which is indicative of a good model (Tabachnick & Fidell, 2001) as it indicates that the predicted probabilities match the observed probabilities (Meyers, Gamst, & Guarino, 2006). Classification table results indicated that membership type was correctly predicted 82.2% of the time without any of the included variables, and when the 26 variables were included in the model, correct membership type classification occurred 85.3% of the time.

The observation-to-predictor ratio was 153.46:1 (approximately 153 subjects per predictor) with the sample selectivity correction. Although there is no precise standard regarding a minimum observation-to-predictor ratio, the ratio for this model exceeded the minimum 10:1 ratio recommended by Long (1997) and was in the middle range when compared to an evaluation of logistic regression studies (Peng et al., 2002).

Most of the unscaled variables derived from the survey were statistically nonsignificant. Awareness of members and semesters spent on campus as a student were the only significant demographic survey variables. Graduates who were aware of other alumni association members were 2.45 times more likely than graduates who were not aware of members to be alumni association members themselves. Graduates who spent a greater amount of time living on campus were more likely to be alumni association members.

Among demographic database variables, age was statistically significant, with graduates being 1.01 times more likely to be an alumni association member with each

additional year of age. Other statistically significant demographic database variables, and those of the greatest magnitude, included fellows donor, current donor, and phone number on record, all with odds ratios nearing 3.0. The relationship between donor status and alumni association membership was explored in further detail to answer Research Questions 3 and 4.

Highest university degree had a negative regression coefficient, with graduates being .79 times as likely to be an alumni association member for each additional level of degree attainment, in order as follows: bachelor's, master's, doctoral/professional. Employment as university faculty or staff was also negatively associated with membership, with graduates who were employed at the university being .35 times less likely to be a member compared to a graduate who was not employed at the university.

The attitudinal survey variables that had the highest magnitudes and were positively associated with alumni association membership were the frequency of alumni involvement scale, positive alumni feelings scale, and alumni association perceptions scale, which were the three scales specifically related to alumni association involvement and perceptions. The two scales related to university experiences and perceptions, positive student feelings scale and university perceptions scale, had regression coefficients negatively associated with membership.

Comparison of Models

When conducting the logistic regression analysis, the researcher used the simultaneous method of entry for variables, entering variables as three separate blocks. The first block included only variables obtained from the university database, the second

block added demographic variables obtained from survey responses, and the third block added attitudinal variables obtained from survey responses. A comparative summary of the results appears in Table 11.

Table 11

Member Status Logistic Regression Model Comparison

Block Entered	Number of variables	Nagelkerke R^2	ΔR^2	Percent correct classification	Δ Correct classification
Constant	0	-	-	82.2%	-
Demographic database variables	9	18.4%	-	83.0%	0.8%
Demographic survey variables	12	26.9%	8.5%	84.1%	1.1%
Attitudinal survey variables	5	34.7%	7.8%	85.3%	1.2%
TOTAL	26				

Results of the logistic regression analysis indicate that the comprehensive model with all types of predictors provided a statistically significant improvement over the constant-only model, $\chi^2(26, N = 3,990) = 946.99, p < .001$.

The constant-only model resulted in a correct classification 82.2% of the time, which was expected because the proportion of nonmembers within the dataset was approximately the same. When adding only the variables derived from the university database: gender, age, marital status, highest degree, phone number on record, residence in a club area, employment at the university, current donor, and fellows donor, predictive accuracy improved by 0.8% and the model correctly classified cases 83% of the time. When adding in demographic survey variables, received financial aid as a student, received scholarships as a student, total number of extracurricular activities, number of legacy relationships, GPA, semesters spent at the university, semesters spent living on campus as a student, current geographic proximity to campus, children, children under 18, awareness of alumni association members, and the control variable response type, the percentage of correctly classified cases increased to 84.1%. Correct classification improved to 85.3% when the researcher added the attitudinal survey variables derived from the five scales.

Although an overall improvement from 82.2% to 85.3% in correct classifications might seem nominal, it is important to consider the proportion of nonmembers within the dependent membership variable. The percentage of nonmembers within the dataset was approximately 83%, which left little room for correct classification improvement over what would have occurred merely by chance. Therefore, it is also useful to make model

comparisons with the Nagelkerke R^2 value and the Hosmer-Lemeshow statistic (Hosmer & Lemeshow, 2000).

The model comprised solely of demographic database variables accounted for 18.4% of the variance in alumni association membership, and the addition of demographic survey variables improved the R^2 value to 26.9%. A complete model consisting of demographic database and survey variables along with attitudinal survey variables improved the explained variance in alumni association membership to 34.7%.

Empirical Testing

The statistical logistic regression model developed through the investigation of Research Question 1 was derived to predict membership among the current population of members and nonmembers. To test the model's predictive power when applied to potential membership prospects through solicitation of university graduates who were not current alumni association members, the researcher enacted empirical testing measures within a real-life scenario.

On June 7, 2009, the researcher sent an alumni association membership solicitation to 3,600 university graduate nonmembers. Of this group of recipients, 1,800 were the prospects drawn from the entire population of university graduates who were not current alumni association members that were ranked as higher prospects by the logistic regression model based upon database demographic variables. The other 1,800 recipients were randomly selected from the population of university graduates who were not current alumni association members. The researcher ensured that no duplicate records

existed between the two groups and also double-checked to verify that all prospects were in fact alumni association nonmembers before mailing the solicitation.

The mailing consisted of a personalized membership solicitation letter (Appendix G) printed on alumni association letterhead along with a postage-paid return envelope and membership application, all inserted into a windowed envelope. Each mailing contained a solicitation code printed on the response device, which was used to identify the group to which each returned paid membership corresponded: either the “higher prospects” group or the “random selection” group. After 30 days, the researcher evaluated the results from each solicitation, as tracked by each group’s unique solicitation code. Tabulated comparative results from the two solicitations appear in Table 12.

Table 12

Empirical Test Results

Solicitation group	Quantity mailed	Number of new members	Response rate	Dues income	Income per member
Higher nonmember prospects identified by the regression model	1,800	42	2.33%	\$1,680	\$40.00
Randomly selected nonmember graduates	1,800	15	0.83%	\$535	\$35.67

As evident from the results, the higher prospects group, which was identified through logistic regression model scoring, yielded far more favorable results across all categories compared to the randomly selected group. The solicitation segment mailed to the higher prospects group resulted in a significantly better response rate (2.33% compared to 0.83%) and generated \$1,145 more in dues income than the solicitation segment mailed to the randomly selected group. Income from each member from the higher prospect group was \$40.00 compared to only \$35.67 from the randomly selected group.

The results indicated that nonmember graduates identified as best alumni association member prospects by the logistic regression model based upon demographic database variables developed in the analysis of Research Question 1 served as an effective prospecting tool for cultivating new members.

Summary of Results for Research Question 1

The best predictors of alumni association membership were demographic variables that existed within the university database along with attitudinal variables related to alumni association and university experiences and perceptions. The strongest significant predictors of membership were the two variables related to donor status, current donor, and fellows donor. Graduates who had a phone number associated with their alumni record, were older, and were aware of other alumni association members were also significantly more likely to be alumni association members than their counterparts. Graduates who were employed at the university were significantly less

likely to be alumni association members, as were graduates with a higher level of degree attainment.

Attitudinal variables also played a role within the resulting predictive membership model, with the scaled variables pertaining to alumni experiences being the most significant. Among the attitudinal scale variables, a graduate's perception of the alumni association was the most significant predictor of membership, followed by the frequency of a graduate's involvement with alumni association and university events and programs, as well as positive alumni feelings. The two attitudinal survey variables related to the university, positive student feelings and university perceptions, were statistically significant but negatively associated with alumni association membership.

When applying predictive modeling to alumni association membership, the best model was one that incorporated the demographic variables from the dataset, the demographic survey variables, and the attitudinal survey variables. Empirical testing verified that when the logistic regression model was applied in a real-life scenario, a membership solicitation mailed to graduates who were identified as higher prospects by the regression model yielded significantly better results across all metrics than a membership solicitation mailed to randomly selected graduates.

Results for Research Question 2

The second research question differentiated between annual and life membership categories in predicting alumni association membership and specifically asked "What variables predict whether a member of a dues-based alumni association is an annual member or life member?" As with the first research question, the researcher was

interested in not only addressing the research question, but also in comparing the predictive value of various logistic regression models, each with different types of variables.

In addressing the first research question, it had been necessary for the researcher to stratify the sample to account for the self-selection bias of the respondents. To evaluate whether a similar procedure would be necessary for Research Question 2, the researcher examined the descriptive statistics pertaining to the outcome variable, membership type. Within the entire population of university graduates who were alumni association members, approximately 55% were annual members and 45% were life members. Among survey respondents who were members, 52% were annual members and 48% were life members. While the proportion of membership type among survey respondents was not identical to what existed within the population, the researcher determined that the difference was not great enough to justify the loss of observations that would occur with the stratification of the dataset.

Although the researcher made no correction to the dataset, the resulting number of usable data still differed significantly from the total number of responses, since this research question dealt specifically with membership type. The dataset of alumni association members yielded 3,705 observations.

The researcher had previously evaluated results from diagnostic procedures including the analog of Cook's influence statistics, leverage value, and normalized residuals for the combined data set. The same variables that were excluded within Research Question 1 were also omitted from analysis within Research Question 2. All

retained variables were correlated with the dependent variable, membership type, but were not highly correlated with any of the other independent variables.

The researcher again retained the response type variable to serve as a control variable to account for the significant difference in proportion of survey response type between the electronic and hard copy survey versions. The descriptive statistics for the 26 included variables appear in Table 13. Shown are means or percentages for annual members and life members as well as the correlation coefficient between each variable and membership type (0 = *annual member*, 1 = *life member*).

Table 13

Summary Descriptive Statistics for Survey Response Data by Membership Type

Independent variable		Mean or %		<i>r</i>
Label	Description	Annual members	Life members	
GENDER ^a	Grad is female (%)	47	39	-.075**
AGE ^b	Age of the grad	48.04	54.74	.218**
MARITAL ^b	Grad is married (%)	0.703	0.774	.081**
HIGHDEG ^a	Highest degree obtained from the university (bachelor, master, doctoral/professional)	1.37	1.38	0.012
PHONE ^a	Phone number is included within alumni record (%)	93	92	-0.008
CLUB ^a	Grad resides in a region served by an alumni club (%)	86	87	0.023
FACSTAFF ^a	Grad is employed as university faculty or staff (%)	6	4	-.050**
FELLOW ^a	Grad has made at least \$10,000 in total university financial contributions (%)	2	13	.216**
DONOR ^a	Grad is a current university donor of any amount within the last year (%)	33	54	.205**

Independent variable		Mean or %		<i>r</i>
Label	Description	Annual members	Life members	
RESPONSE	Grad responded to survey using a hard copy instrument.	2	2	0
RECFINAID	Grad received financial aid as a student at the university (%)	30	22	-0.101**
RECSCHOLAR	Grad received scholarship(s) as a student at the university (%)	34	30	-0.035*
TOTEXTRA	Total number of extracurricular activities the grad was involved with as a student at the university	1.19	1.48	0.118**
LEGNUM	Total number of university legacy relationships	1.07	1.35	.123**
GPA	Grad's total cumulative university GPA upon graduation.	3.3	3.2	-.047**
SEMESTERSTU	Number of semesters the grad spent as a student at the university.	4.46	4.58	.043**
PROXIMITY	Geographic proximity from grad's primary residence to the university's main campus.	3.91	4.04	.032*

Independent Variable		Mean or %		<i>r</i>
Label	Description	Annual members	Life members	
CHILDREN	Grad has a child or children (%)	65	74	0.105**
CHILDREN18	Grad has a child or children under the age of 18 (%)	25	24	-0.01
AWAREMEM	Grad is aware of other university alumni association members (%)	72	75	.041*
SEMONCAMPUS	Number of semesters the grad spent living on campus in university housing as a student.	1.96	1.81	-0.016

Note. Correlation coefficients are between the independent variables and membership type (*annual member* = 0, *life member* = 1).

^aDenotes variables obtained from the university's alumni database.

^bDenotes variables obtained from the university's alumni database but with missing cases supplemented by survey response data.

* $p < .05$. ** $p < .01$.

Based upon results from the first research question, as well as empirical evidence gained through professional experience, the researcher expected the correlation with life membership to be positive for older graduates, graduates who were donors, graduates who were aware of other members, and graduates who had high scores across the attitudinal scales related to alumni association experiences and perceptions. The researcher hypothesized that correlation with life membership would be negative for graduates with a graduate degree only and graduates who were employed as university faculty or staff.

As with the first research question, the researcher used a simultaneous entry method, segmenting variables into three blocks consisting of demographic database variables, demographic survey variables, and attitudinal survey variables. Logistic regression results appear in Table 14.

Table 14

Logistic Regression Estimates for Membership Type
(0 = Annual Member, 1 = Life Member)

Variable label	Parameter estimate*	Standard error	Odds ratio
CONSTANT	-3.492	.477	.030
GENDER ^a	-.105	.076	.900
AGE ^b	.033**	.004	1.034
MARITAL ^b	.067	.095	1.070
HIGHDEG ^a	-.032	.059	.969
PHONE ^a	-.464*	.135	.629
CLUB ^a	.081	.104	1.085
FACSTAFF ^a	-.447*	.177	.640
FELLOW ^a	1.547**	.201	4.698
DONOR ^a	.515**	.075	1.674
RESPONSE	-.632*	.290	.531
RECFINAID	-.253*	.084	.776
RECSCHOLAR	.046	.082	1.047
TOTEXTRA	.146**	.031	1.157
LEGNUM	.129**	.035	1.137
GPA	.015	.039	1.015
SEMESTERSTU	.046	.028	1.047
PROXIMITY	.057*	.019	1.058
CHILDREN	-.394*	.117	.674

Variable label	Parameter estimate*	Standard error	Odds ratio
CHILDREN18	.510	.109	1.665
AWAREMEM	-.033	.087	.967
SEMONCAMPUS	.000	.000	1.000
SCALEFIQ	.285*	.075	1.329
SCALEPOSAF	.105	.094	1.110
SCALEPOSSF	-.213*	.094	.808
SUNIVPERCEP	.005	.098	1.005
SAAPERCEP	.172*	.080	1.188

Model Summary Statistics

Nagelkerke R^2	0.176
Cox & Snell R^2	0.132
Hosmer and Lemeshow Chi-square	3.239

^aDenotes variables obtained from the university's alumni database.

^bDenotes variables obtained from the university's alumni database but with missing cases supplemented by survey response data.

* $p < .05$. ** $p < .001$.

Results from the Nagelkerke pseudo R^2 indicated that the model accounted for 17.6% of the variance in alumni association membership type. This suggests that the set of predictors discriminates between annual members and life members. The Hosmer and Lemeshow chi-square was statistically nonsignificant $\chi^2 (8, N = 3,696) = 3.24$, indicating good model fit (Tabachnick & Fidell, 2001).

Classification table results indicated that membership type was correctly predicted 52.1% of the time without any of the included variables, and when the 26 variables were included in the model, correct membership type classification occurred 64.4% of the time. The observation-to-predictor ratio was 142.2:1 (about 142 subjects per predictor), which exceeded the recommended 10:1 ratio (Long, 1997) and fell into the middle range when compared to a review of other logistic regression studies (Peng et al., 2002).

As expected, graduates who were older were more likely to be life members, as were graduates who were donors, both current donors and fellows donors. The specific relationships between donor status and membership type were investigated more thoroughly within Research Question 4. Graduates who were employed at the university and graduates who received financial aid as a student were less likely to be life members. The number of legacy relationships and the number of extracurricular activities a graduate was involved with during his or her time as a student at the university were both positively related to alumni association life membership.

Interestingly, the regression coefficient for variables pertaining to phone number on record was negative for life membership, as was the variable regarding whether the graduate has a child or children. The geographic proximity of a graduate's primary residence to the main university campus was positively associated with life membership.

Two of the five attitudinal survey measures, the positive alumni feelings scale and university perceptions scale, were statistically nonsignificant. The frequency of alumni involvement scale and alumni association perceptions scale were both positively associated with life membership, while the positive student feelings scale resulted in a negative regression coefficient for life membership.

Comparison of Models

A comparison of models used within analyses of Research Question 2 appears in Table 15. Results of the logistic regression analysis indicate that the comprehensive model with all types of predictors provided a statistically significant improvement over the constant-only model, $\chi^2(26, N = 3,696) = 522.18, p < .001$.

Table 15

Membership Type Logistic Regression Model Comparison

Block entered	Number of variables	Nagelkerke R^2	Δr^2	Percent correct classification	Δ correct classification
Constant	0	-	-	52.1%	-
Demographic database variables	9	13.6%	-	61.9%	9.8%
Demographic survey variables	12	16.6%	3.0%	63.9%	2.0%
Attitudinal survey variables	5	17.6%	1.0%	64.4%	0.5%
TOTAL	26				

The constant-only model correctly classified cases 52.1% of the time. The addition of demographic variables from the university database, gender, age, marital status, highest university degree, phone number on record, residence in an alumni club area, employment as university faculty or staff, fellows donor, and current donor, improved classification accuracy to 61.9% and resulted in a model that explained 13.6% of the variance in alumni association membership type.

After the researcher added the control variable for response type and the demographic survey variables received financial aid, received scholarships, total number of extracurricular activities, number of legacy relationships, GPA, semesters spent as a student at the university, semesters spent living on campus, proximity to campus, children, children under 18, and awareness of alumni association members, the predictive accuracy improved to 63.9% and the amount of variance explained improved to 16.6%.

The best fitting model, although only marginally better than the previous iteration, was one that included database and survey demographic variables along with the attitudinal survey variables including the frequency of involvement scale, positive alumni feelings scale, positive student feelings scale, university perceptions scale, and alumni association perceptions scale. This complete model resulted in correct classification of membership type 64.4% of the time and explained 17.6% of the variance in alumni association membership type.

Summary of the Results for Research Question 2

When attempting to predict membership type, the strongest significant predictors that were positively associated with alumni association membership type were those

related to donor status. Other significant variables with positive coefficients and odds ratios in excess of one included age, total number of extracurricular activities the graduate was involved with as a student at the university, number of legacy relationships, and proximity to campus.

Graduates with children were less likely to be life members. Other statistically significant demographic variables that were negatively associated with life membership included receipt of financial aid as a student, employment at the university, and having a phone number on record. Two of the five attitudinal survey measures, frequency of alumni involvement and alumni association perceptions, were both significantly and positively associated with life membership. The positive student feelings measure had a significant and negative regression coefficient for life membership.

In regard to predictive modeling for alumni association membership type, the best model was one that incorporated demographic database and survey variables as well as attitudinal survey variables. The comprehensive model, which included all variables, improved classification by 12.3% from the constant-only model.

Results for Research Question 3

Research Question 3 was, “What is the relationship between alumni association membership and alumni giving?” To address this question, the researcher used a chi-square analysis procedure in the form of a 2 x 2 contingency table to examine the association between the nominal scaled variables pertaining to alumni association membership and alumni giving. The researcher examined data pertaining to the entire population, using data extracted from the university’s alumni database, which included

information for 156,356 living graduates who had received a bachelor, master, doctorate or professional degree from the university.

Members by Donors Analysis

Multiple iterations of chi-square analysis were conducted to examine associations of donors and members among classifications such as status (current or lapsed) as well as evaluating donors using a threshold for what is considered a donor (a gift of any amount; total giving of at least \$25; and “fellows” status indicating total giving of more than \$10,000). The giving threshold of \$25 was established due to the fact that many graduates within the data file had minimal giving associated with their alumni record, some with a total university giving of less than one dollar. In addition, because this research question addresses comparisons between alumni giving and alumni association membership, the researcher set the giving threshold of \$25 because this value corresponds with the cost of the most inexpensive alumni association membership dues category.

Regarding the alumni association membership variables, only individuals who were current or previous dues-paying members were counted in the analyses as current or lapsed members. For several years prior to 2003, the alumni association provided a one-year complimentary membership to new university graduates. Nonpaid memberships were excluded from the analyses. Table 16 summarizes the definitions of member and donor that were used in the analyses.

Table 16

Description of Member and Donor Variables

Variable	Description
Current member	University graduates who are current dues-paying members of the alumni association; either an annual member who is current on their annual membership payment, a life member on an installment plan who is current on their membership payment, or a life member whose membership is paid in full.
Current or Previous member	All current alumni association members (see definition of current member) as well as university graduates who have previously been a dues-paying member of the alumni association.
Current donor	University graduates who have made a financial contribution of any amount to the university within the previous 12 months.
Current or previous donor > \$0	University graduates who have made a financial contribution of any amount to the university within any time since graduation.
Current or previous donor $\geq$ \$25	University graduates who have made a financial contribution of \$25 or more to the university within any time since graduation.
Fellows donor	University graduates who have made total cumulative financial contributions to the university of at least \$10,000.

Current or Previous Member by Current or Previous Donor (> \$0)

The researcher first examined the relationship between alumni association membership, including all current or previous members, and donor status, including all current or previous donors who had made a gift to the university at any time and of any amount. Table 17 summarizes this analysis.

Among current or previous alumni association members, 62.8% were current or previous donors and 37.2% were not current or previous donors. Among university graduates who had never been alumni association members, 26.7% were current or previous donors and 73.3% were not current or previous donors. Current or previous alumni association members were more than twice as likely (2.3 times) as nonmembers (26.7% versus 62.8%) to be current or previous donors: $\chi^2(1, N = 156,296) = 18730.25, p < .001$. Current or previous member status was moderately correlated with current or previous donor status, with an Φ of .35.

Table 17

Crosstabulation of Current or Previous Member by Current or Previous Donor (> \$0)

Current or previous donor (> \$0)	Current or Previous member				χ^2	Φ
	Yes		No			
Yes	31,124	62.8%	28,508	26.7%	18730.25*	0.35
No	18,402	37.2%	78,262	73.3%		
TOTAL	49,526	100%	106,770	100%		

* $p < .001$.

Current or Previous Member by Current or Previous Donor ($\geq \$25$)

The researcher next evaluated the relationship between alumni association membership, using both current or previous membership status and alumni donor, again using either current or previous donor status but limiting the analysis to include current or previous donors with a total university giving of at least \$25. Table 18 summarizes the results.

The results indicated that among current or previous alumni association members, 58.3% were current or previous donors with total giving of at least \$25, and 41.7% were not. Among graduates who had never been alumni association members, 22.1% were current or previous donors of at least \$25, and 77.9% were not. The results of the analysis using a \$25 donor threshold were similar to the prior analysis, which did not require a minimum donation amount. When using \$25 in total giving to identify who was considered a donor, current or previous alumni association members were more than twice as likely (2.6 times) as nonmembers (22.1% versus 58.3%) to be current or previous donors: $\chi^2(1, N = 156,296) = 19935.97, p < .001$. Current or previous member status was moderately correlated with current or previous donor status for graduates making total gifts of at least \$25, with an Φ of .36.

Table 18

Crosstabulation of Current or Previous Member by Current or Previous Donor ($\geq \$25$)

Current or previous donor (≥ \$25)	Current or previous member				χ^2	Φ
	Yes		No			
Yes	28,884	58.3%	23,568	22.1%	19935.97*	0.36
No	20,642	41.7%	83,202	77.9%		
TOTAL	49,526	100%	106,770	100%		

* $p < .001$.

Current Member by Current Donor

The researcher next analyzed the associations between alumni association membership and alumni giving by looking at the relationships between current members and current donors. This included all active alumni association members who were either fully paid life members, life members on a payment plan who were current on their installment payments, and annual members who were current on their annual dues payment. Regarding donors, “current” represents any donor who had made a gift of any amount to the university within one year prior to the time of data collection. The results were summarized in Table 19.

A chi-square analysis based upon current status for members and donors yielded the following results: Among alumni association members, 35.1% were current donors and 64.9% were not current donors, and among graduates who were not current alumni association members, 7.3% were current donors and 92.7% were not.

Current alumni association members were almost 5 times as likely (4.8 times) as nonmembers (7.3% versus 35.1%) to be current donors: $\chi^2 (1, N = 156,356) = 16061.91$, $p < .001$. When comparing the results of the analysis conducted based upon current member and donor status rather than current or previous status, the results differed significantly, particularly between the likelihood of giving from alumni association members versus nonmembers. Current member status was moderately correlated with current donor status, with an Φ of .32.

Table 19

Crosstabulation of Current Member by Current Donor

Current donor	Current member				χ^2	Φ
	Yes		No			
Yes	9,260	35.1%	9,503	7.3%	16061.91*	0.32
No	17,099	64.9%	120,494	92.7%		
TOTAL	26,359	100%	129,997	100%		

* $p < .001$.

Current Member by Fellows Donor

As the final chi-square analysis to examine the relationship between alumni giving and alumni association membership, the researcher evaluated current alumni association members and fellows donors, who are individuals with total university giving of at least \$10,000. As can be seen in Table 20, among current members, 6.9% were fellows donors and 93.1% were not. Among university graduates who were not current alumni association members, 0.6% were fellows donors and 99.4% were not. Current alumni association members were 11.5 times more likely than nonmembers (0.6% versus 6.9%) to be fellows donors: $\chi^2 (1, N = 156,296) = 5289.56, p < .001$. The correlation between current membership and fellows donor status was small in magnitude ($\Phi = .18$).

Table 20

Crosstabulation of Current Member by Fellows Donor

Fellows donor	Current member				χ^2	Φ
	Yes		No			
Yes	1,818	6.9%	791	0.6%	5289.56*	0.18
No	24,505	93.1%	129,182	99.4%		
TOTAL	26,323	100%	129,973	100%		

* $p < .001$.

Members by Donors Summary

A comparison of results of the member by donor analyses can be seen in Table 21. In summation, university graduates who were members of the alumni association were significantly more likely to be donors to the university than were nonmembers. Not only were members more likely to be donors, but they were more likely to donate higher values as indicated by results comparing alumni association membership and fellows donors. The most marked difference in giving between members and nonmembers can be seen from the relationship between current members and current fellows donors. University graduates who were current alumni association members were 11.5 times more likely than graduates who were not alumni association members to be fellows donors with a total university giving of at least \$10,000.

Table 21

Comparison of Member by Donor Results

Member by donor comparison	Percentage of nonmembers who are donors	Percentage of members who are donors	Likelihood of a member being a donor versus a nonmember being a donor
Current or previous member by Current or previous donor (> \$0)	26.7%	62.8%	2.3 times
Current or previous member by Current or previous donor ($\geq$ \$25)	22.1%	58.3%	2.6 times
Current member by Current donor	7.3%	35.1%	4.8 times
Current member by Fellows donor (> \$10,000)	0.6%	6.9%	11.5 times

Donors by Members Analysis

In addition to examining the relationships between membership and donor status, where donor status was the dependent variable, the researcher also examined membership as the dependent variable to determine the likelihood of donors across various levels and classifications becoming members of the alumni association. This analysis used the same data as the previous analyses for Research Question 3. Chi-square results were identical, however percentages changed because now donor status was the independent variable and membership was the dependent variable. Table 22 summarizes the outcomes as percentages.

Just as university graduates who were alumni association members were more likely to be university donors than nonmembers, university graduates who were donors were more likely to be alumni association members than were nondonors.

Table 22

Comparison of Donor by Member Results

Donor by member comparison	Percentage of nondonors who are members	Percentage of donors who are members	Likelihood of a donor being a member versus a nondonor being a member
Current or previous donor (> \$0) by Current or previous member	19.0%	52.2%	2.7 times
Current or previous donor ($\geq$ \$25) by Current or previous member	19.9%	55.1%	2.8 times
Current donor by Current member	12.4%	49.4%	4.0 times
Current fellows donor (> \$10,000) by Current member	15.9%	69.7%	4.4 times

Time Order of Membership and Giving

During the literature review process, the researcher was only able to locate one study that specifically analyzed the relationship between alumni giving and alumni association membership (Patouillet, 2000). Although Patouillet's findings indicated that a relationship between membership and giving exists, the study did not examine timing to determine which comes first: the membership or the gift. Therefore, in addition to evaluating associations between alumni association membership and alumni giving among university graduates, the researcher also examined sequencing to obtain a better picture of this relationship.

Analyzing the dataset, which was representative of the entire population of university graduates, the researcher first identified cases which represented individuals who were current or previous donors as well as current or previous alumni association members and who had the date of first paid membership and the date of the first university gift on record ($N = 28,453$). Next, the researcher looked at the date of first paid membership and date of first university gift to determine which occurred first among current or previous member donors. After assigning codes to the nominal level data, representing either member first or donor first, the researcher calculated descriptive statistics to measure the proportions. The results (Table 23) indicate that the slight majority of university graduates who were current or previous donor members with data on record (51.8%) became members of the alumni association prior to making their first gift to the university. There were a small number of cases (less than 100) in which a graduate made their first university gift on the same day as joining the alumni association. These cases were not included in this analysis.

Table 23

Sequencing of Alumni Association Membership and Giving

Sequence	<i>N</i>	Percentage
Alumni association member first		
Paid alumni association membership dues prior to making first gift to the university.	14,724	51.8%
University donor first		
Made university gift prior to making first payment for alumni association membership dues.	13,728	48.2%
TOTAL	28,452	100%

Summary of the Results for Research Question 3

In conclusion, the results of the analyses conducted to examine Research Question 3 indicate that a relationship between alumni association membership and donor status among university graduates exists. Graduates who were alumni association members were significantly more likely to be donors than nonmembers. Reciprocally, graduates who were donors were significantly more likely to be alumni association members than nondonors.

When examining the sequencing of events pertaining to the date of first paid alumni association membership and the date of the first university donation, the results indicate that there were slightly more donor members who first became dues-paying alumni association members prior to making a university contribution than there were member donors who made their first university contribution prior to first becoming dues-paying members of the alumni association.

Results for Research Question 4

Research Question 4 asked, “Does the relationship between alumni association membership and alumni giving differ between those who are annual members and those who are life members?” The question expanded upon Research Question 3 by examining the differences in giving based on the two types of membership: annual and life. To analyze this research question, the researcher again conducted chi-square procedures, this time using a 2 x 3 contingency table. As with Research Question 3, the researcher again examined data pertaining to the entire university-graduate population, using data extracted from the university’s alumni database, which included information for 156,356

living graduates who had received a bachelor's, master's, doctoral or professional degree from the university.

Current Donor by Membership Type

The first iteration of chi-square analysis for Research Question 4 evaluated the association between university graduates who were current donors, having made a gift of any amount within the prior year, and alumni association membership type: annual member, life member, or not a member. Only current dues-paying alumni association members were used in the analysis. A summary of current donor by membership type appears in Table 24.

The results indicated that among current alumni association life members, 41.4% were current donors and 58.6% were not. Among current alumni association annual members, 29.9% were current donors and 70.1% were not. Among university graduates who were not current alumni association members, 7.3% were current donors and 92.7% were not.

Current alumni association life members were 5.7 times more likely than nonmembers (7.3% versus 41.4%) to be current donors, and current alumni association annual members were 4.1 times more likely as nonmembers (7.3% versus 29.9%) to be current donors. Current alumni association life members were 1.4 times more likely than annual members (29.9% versus 41.1%) to be current donors: $\chi^2 (2, N = 156,356) = 16884.93, p < .001$. Current donor status was moderately correlated with membership type ($\Phi = .33$).

Table 24

Crosstabulation of Current Donor by Membership Type

Current donor	Membership type						χ^2	Φ
	Annual member		Life member		Nonmember			
Yes	4,317	29.9%	4,943	41.4%	9,503	7.3%	16884.93*	0.33
No	10,116	70.1%	6,983	58.6%	120,494	92.7%		
TOTAL	14,433	100%	11,926	100%	129,997	100%		

* $p < .001$.

Current or Previous Donor ($\geq$ \$25) by Membership Type

The researcher next evaluated the associations between university graduates who were current or previous donors with total university giving of at least \$25 and alumni association membership type: annual member, life member, or not a member. Only current dues-paying alumni association members were used in the analysis. Table 25 includes a summary of results for this analysis.

Results indicated that among current alumni association life members, 79.7% were current or previous donors of at least \$25 and 20.3% were not. Among current alumni association annual members, 58.8% were current or previous donors of at least \$25 and 41.2% were not. Among university graduates who were not current alumni association members, 26.5% were current or previous donors of at least \$25 and 73.5% were not.

Current alumni association life members were 3 times more likely than nonmembers (26.5% versus 79.7%) to be current or previous donors of at least \$25, and current alumni association annual members were 2.2 times more likely than nonmembers (26.5% versus 58.8%) to be current or previous donors of at least \$25. Current alumni association life members were 1.3 times more likely than annual members (58.8% versus 79.7%) to be current or previous donors of at least \$25: $\chi^2 (2, N = 156,296) = 18346.92, p < .001$. Current or previous donor status of at least \$25 was moderately correlated with membership type ($\Phi = .34$).

Table 25

Crosstabulation of Current or Previous Donor ($\geq \$25$) by Membership Type

Current or previous donor (≥ \$25)	Membership type						χ^2	Φ
	Annual member		Life member		Nonmember			
Yes	8,477	58.8%	9,484	79.7%	34,491	26.5%	18346.92*	0.34
No	5,945	41.2%	2,417	20.3%	95,482	73.5%		
TOTAL	14,422	100%	11,901	100%	129,973	100%		

* $p < .001$.

Fellows Donor by Membership Type

In order to evaluate the association between fellows donor status of university graduates (those who have at least \$10,000 in total university giving) and alumni association membership type among current members, the researcher again used a 2 x 3 chi-square contingency table to analyze these relationships. Within this analysis, and more so than all the other chi-square procedures, the resulting differences were substantial. A summary of results from this analysis appears in Table 26.

Among current alumni association life members, 11.9% were fellows donors and 88.1% were not. Among current alumni association annual members, 2.8% were fellows donors and 97.2% were not. Among university graduates who were not current alumni association members, 0.6% were fellows donors and 99.4% were not. Current alumni association life members were 19.8 times more likely than nonmembers (0.6% versus 11.9%) to be fellows donors. Current alumni association annual members were 4.6 times more likely than nonmembers (0.6% versus 2.8%) to be fellows donors. Current alumni association life members were 4.3 times more likely than annual members (2.8% versus 11.9%) to be fellows donors: $\chi^2 (2, N = 156,296) = 8620.31, p < .001$. The correlation between fellows donor status and membership type was small in magnitude ($\Phi = .24$).

Table 26

Crosstabulation of Fellows Donor by Membership Type

Fellows donor	Membership type						χ^2	Φ
	Annual member		Life member		Nonmember			
Yes	399	2.8%	1,419	11.9%	791	0.6%	8620.31*	0.24
No	14,023	97.2%	10,482	88.1%	129,182	99.4%		
TOTAL	14,422	100%	11,901	100%	129,973	100%		

* $p < .001$.

Summary of the Results for Research Question 4

As with Research Question 3, the results from the analyses conducted to examine Research Question 4 indicate that a relationship existed between alumni association membership and university giving, with university graduates who were alumni association members being significantly more likely to be university donors than nonmembers. The magnitude varied across membership type, with life members being more likely donors than annual members across all categories studied. A summary comparison of donor-by-member results appears in Table 27.

Table 27

Comparison of Donor by Membership Type Results

	Current donor	Current or previous donor $\geq$ \$25	Fellows donor
Percentage of current nonmembers who are donors	7.3%	26.5%	0.6%
Percentage of current annual members who are donors	29.9%	58.8%	2.8%
Percentage of current life members who are donors	41.1%	79.7%	11.9%
Likelihood of current life members donating versus nonmembers	5.7 times	3.0 times	19.8 times
Likelihood of current annual members donating versus nonmembers	4.1 times	2.2 times	4.6 times
Likelihood of current life members donating versus current annual members	1.4 times	1.3 times	4.3 times

Across membership types, life members were 1.4 times more likely than annual members to be current donors. When comparing life member donors to nonmember donors, the difference was greater, as life members were 5.7 times more likely than nonmembers to be current donors. Annual members were 4.1 times more likely than nonmembers to be current donors.

When examining the relationship between alumni association membership and current or previous donor status using \$25 as the minimum threshold, members were again much more likely than nonmembers to be donors, with the likelihood varying between annual and life members. Life members were 1.3 times more likely than annual members and 3 times more likely than nonmembers to be current or previous donors of at least \$25. Annual members were 2.2 times more likely than nonmembers to be current or previous donors of at least \$25.

The difference in magnitude of likelihood is most significant when examining relationships among membership type and fellows donor status. Life members were 4.3 times more likely than annual members and 19.8 times more likely than nonmembers to be fellows donors. Annual members were 4.6 times more likely than nonmembers to be fellows donors.

Overall Summary of Results

The study revealed a number of associations linking variables to alumni association membership. Tables 28 and 29 provide a global (not comprehensive) summary of key results for the four research questions of the study.

Table 28

Summary of Key Results for Research Questions 1 and 2

Research question	Dependent variable	Most important significant positive predictors in the logistic regression equation	Nagelkerke R^2 for all predictors
1. What factors predict membership by university graduates in a dues-based alumni association?	Membership Status (0 = <i>nonmember</i> , 1 = <i>member</i>)	<ul style="list-style-type: none"> * Fellows donor * Current donor * Phone number on record * Perception of alumni association * Aware of other association members 	$R^2 = .347$
2. What factors predict type of membership by university graduates in a dues-based alumni association?	Membership Type (0 = <i>annual</i> , 1 = <i>life</i>)	<ul style="list-style-type: none"> * Fellows donor * Current donor * Frequency of involvement * Perception of alumni association * Total number of extracurricular activities 	$R^2 = .176$

Table 29

Summary of Key Results for Research Questions 3 and 4

Research question	Results
3. What is the relationship between alumni association membership and alumni giving?	<p>Positive association between donating and membership.</p> <p>For example:</p> <ul style="list-style-type: none"> * 35% of current members are current donors. * 7% of nonmembers are current donors.
4. Does the relationship between alumni association membership and alumni giving differ between those who are annual members and those who are life members?	<p>Positive association between donating and life membership.</p> <p>For example:</p> <ul style="list-style-type: none"> * 41% of current life members are current donors. * 30% of current annual members are current donors.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This chapter provides an overview of this research including a summary of results, as well as conclusions and implications pertaining to the findings. In addition, suggestions for future research are provided.

The purpose of this study was to determine what factors relate to alumni membership in dues-based alumni associations and to examine the relationships between alumni association membership and alumni giving to the alma mater. This issue is of particular importance in this time of economic strife within higher education, which is a result of declining state appropriations, increasing costs, and decreases in critical revenue sources such as endowment income. The determination of factors related to membership was accomplished through Research Questions 1 and 2. Research Questions 3 and 4 evaluated the relationships between alumni association membership and alumni giving.

Conclusions and Summary of Research Question 1

Through an investigation of Research Question 1, the researcher identified the predictors of alumni association membership through logistic regression modeling. Studied variables included three types: demographic variables obtained from the university's alumni database, demographic variables obtained from survey responses, and attitudinal variables obtained from survey responses.

Significant demographic database variables that were positively associated with alumni association membership included those pertaining to age, donor status and phone number on record. University graduates who were older were more likely to be alumni association members, which is not surprising given the increased likelihood that older individuals have a higher degree of discretionary income than their younger counterparts. Further, recent graduates who represent the younger population of graduates are likely to still owe student loans. This result was consistent with the existing alumni giving research (Beeler, 1982; Bruggink & Siddiqui, 1995; Haddad, 1986; Hanson, 2000; Keller, 1982; Okunade & Berl, 1997; Olsen et al., 1989; Yankelovich, 1987).

It also was no surprise to the researcher that the presence of a phone number in a university graduate's alumni record indicated a more likely member because the number provides the alumni association with another avenue through which to solicit membership. In addition, members were likely to have more up-to-date records because they were in more frequent contact with the alumni association through inquiries and membership renewals.

The researcher also expected the result of a positive relationship between donor status, both current donor and fellows donor, and alumni association membership, given graduates who were donors would probably have more discretionary income, be more philanthropic, and have greater loyalty to their alma mater as demonstrated by their past financial contributions to the university. This concurs with research that concluded that a significant predictor of alumni giving was past giving (Lindahl & Winship, 1994; Okunade & Berl, 1997).

Demographic database variables with a negative relationship with alumni association membership included employment at the university and higher degree attainment. Graduates who were employed at the university were probably less likely to become alumni association members because they enjoy many of the benefits provided to alumni association members, such as on-campus discounts, access to affiliate partners, and ready availability of information, by virtue of being a university employee. Further, employees may already feel as though they “give back” to the university through their work and are therefore not as inclined to make a financial contribution.

One might assume that a graduate with a higher degree is likely to have a higher level of income and would therefore be more likely to be an alumni association member than graduates with just a bachelor’s degree. The negative association between the high degree variable and membership, however, indicated that this was not the case. A likely explanation for this phenomenon is that the higher degree variable was highly correlated with the graduate degree only variable and the degree from another university variable. An undergraduate degree typically takes more years to complete than a graduate degree, and more years spent on campus, particularly in the formative years as a new college student, and this might translate into a greater degree of loyalty to the alma mater. In addition, graduates who have a degree from another university likely have split loyalties across multiple higher education institutions from which he or she obtained degrees.

The only two statistically significant demographic survey variables, awareness of other members and semesters spent on campus as a university student, were both positively associated with alumni association membership. In the case of the awareness variable, peer pressure may play a role in a graduate’s decision to join the alumni

association. Okunade and Berl (1997) found a similar result in a study of alumni giving. The fact that graduates who spent more time on campus as a student were more likely to be members is not surprising, as more time spent on campus likely increased the level of commitment and loyalty to the alma mater by virtue of time invested in studies at the institution.

All five of the attitudinal survey variables were statistically significant. The variable of the highest magnitude, however, was the scale related to perception of the alumni association, with graduates who indicated greater levels of satisfaction with the alumni association being more likely to be members. This finding is not surprising given greater satisfaction relates to greater awareness of the alumni association and perceptions of the effectiveness, value, and quality of the alumni association. Similarly, the attitudinal survey variable related to positive alumni feelings, which corresponded to pride in the university degree, willingness to recommend the alma mater, and perceived improvement of life as a result of the university degree, was positively associated with alumni association membership.

The frequency of involvement scale indicated that graduates who were more involved with both university and alumni association events and programs were more likely to be members. This is to be expected because a greater level of involvement likely means that a graduate is more committed to the institution and therefore more inclined to demonstrate their loyalty through alumni association membership. This is consistent with findings from the field of alumni giving research, which has found that alumni involvement, particularly through reunion participation, corresponds to alumni giving

(Grant & Lindauer, 1986; Holmes, 2008; Olsen, Smith, & Wunnava, 1989; Wunnava & Lauze, 2001).

Two of the attitudinal survey variables were negatively associated with alumni association membership. These included positive student feelings and university perceptions. The university perceptions scale related to measures of perception and satisfaction for institutional characteristics such as prestige, value, quality, and overall reputation. One potential explanation for the negative relationship between this attitudinal measure and alumni association membership is that university graduates who perceive their alma mater as being in a good state of affairs may believe that because the university is doing well, it is not in need of donations. Similarly, in a study of alumni giving, Holmes (2008) found that an increase in academic prestige had a negative impact on giving.

The positive student feelings scale related to measures of perception and satisfaction of student experiences at the institution, and this scale was negatively associated with alumni association membership. Although there is a feasible explanation based on the existing literature for this counterintuitive finding of a negative relationship with university perceptions and membership, there is no apparent explanation for the result that the positive student feelings scale was negatively associated with alumni association membership. In this case, the researcher concluded that a reversal paradox existed, whereby the direction of the relationship between the two variables, positive student feelings and alumni association membership, was reversed as a result of the addition of several other variables within the logistic regression model (Tu, Gunnell, &

Gilthorpe, 2008). The univariate correlation between the two variables was positive, confirming the reversal paradox that occurred at the multivariate level.

The fact that the attitudinal measures related to alumni factors were statistically significant positive predictors for both membership status and type indicate that the experiences that alumni undergo after graduation have an impact on the motivation to become an alumni association member. This is good news for alumni association practitioners because their work can contribute toward improvement in alumni perceptions, which in turn contributes to an increase in the number of members.

In addition to determining the variables that predict a university graduate's membership in the alumni association, the researcher also concluded that the best predictive membership model was one that incorporated all three types of variables: demographic database variables, demographic survey variables, and attitudinal survey variables. Unfortunately, only demographic database variables are typically readily available in alumni databases, but even with just these variables, membership was correctly predicted 82.2% of the time. The addition of the other variables improved classification accuracy to 85.3%, so the improvement in prediction may motivate alumni association membership professionals to obtain and record those variables not already available within the database in order to develop the most effective logistic regression membership model. Overall, all of the included predictor variables explained 34.7% of the variance in alumni association membership.

Empirical testing confirmed that the logistic regression membership model was effective in identifying the most likely membership prospects, as evidenced by the fact

that the identified higher prospects group realized an improvement in response rate by 1.5% and dues income by \$1,145 from the randomly selected nonmember group.

If an alumni association membership professional would like to enact data-selection measures in an effort to improve response but does not have the means necessary to develop a regression model and score nonmember prospects, he or she can still do so through simple selective prospecting based upon the results from this research. This prospecting is based upon simple data selection criteria of nonmembers as follows: exclude graduates employed at the university, exclude graduates who obtained only a graduate degree from the university, and specifically target graduates who are donors, particularly donors with higher cumulative total giving and who are older.

Conclusions and Summary of Research Question 2

The researcher again used logistic regression modeling to predict membership type, either annual or life, and the resulting equation with all variable types included explained 17.6% of the variance in alumni association membership type.

The researcher had expected the predictor variables for Research Question 2 to share many similarities with those derived from the logistic regression model developed in Research Question 1 and was surprised at how different the models were. Within the member status model, the majority of statistically significant predictor variables were demographic database variables. With the membership type model, however, significant variables were evenly split among the demographic database and demographic survey variables. Whereas all five of the attitudinal survey variables were statistically significant

for membership status, only three of them were significant in the logistic regression model predicting membership type.

Among significant demographic database variables, donor status and age were positively associated with life membership. This was expected because life membership is significantly more costly than annual membership, and older graduates are likely have more discretionary income at their disposal and probably do not bear as much student loan debt as their younger counterparts. Graduates who were current donors and/or fellows donors were much more likely to be a life member, which was expected given the strong correlation between alumni association membership and alumni giving. One of the selling points of life membership is “enjoy member benefits for life,” which is not as appealing of a prospect for graduates employed at the university given their employment already provides them with eligibility for many of the same benefits. This likely explains the negative association between status as university faculty/staff and alumni association membership type.

The most surprising outcome was the negative association between life membership and the presence of a phone number on record. This could be attributable, however, to the fact that life members receive significantly less communication from the alumni association than annual members because annual membership renewal notices are not required for life members. They are therefore less likely to provide updated information, such as a phone number, as doing so would require proactive measures rather than simply providing information as specifically and regularly requested by the alumni association.

Demographic survey variables that were positively associated with alumni association life membership included the total number of extracurricular activities the graduate participated in as a student at the university, number of legacy relationships, and proximity to campus. The extracurricular variable can be explained by considering that more active involvement as a student cultivated greater loyalty to the institution and this translates to a higher level of commitment, as demonstrated through a more expensive life membership. The relationship between extracurricular student involvement and subsequent alumni giving has been extensively studied, with a resulting positive relationship (Bruggink & Siddiqui, 1995; Clotfelter, 2003b; Haddad, 1986; Harrison, Mitchell, & Peterson, 2006; Keller, 1982; Marr et al., 2005; Monks, 2003; Wunnava & Lauze, 2001). A similar explanation, loyalty, can also be used in examination of the finding that more legacy relationships resulted in a greater likelihood of life membership. Research related to alumni giving has also found that legacy relationships positively impact alumni giving (Okunade & Berl, 1997; Wunnava & Lauze, 2001; Clotfelter, 2003a; Holmes 2008).

The proximity to campus variable indicated that graduates whose geographic primary residence was farther from the primary university campus location were more likely to be life members. Graduates who lived further from campus may have had less access to campus news, and therefore might have found that receiving the alumni magazine for life was an attractive benefit. In comparison, graduates who live near campus are more likely to hear about the alma mater daily through conversations with other alumni and receive regular news coverage by local media, and they may simply take for granted the availability of information about the institution.

Demographic survey variables with a negative association with life membership included receipt of financial aid as a student and presence of children. Receipt of financial aid as a student corresponds to family income and socioeconomic status, which may mean that a graduate, particularly a recent graduate, has less income with which to make the financial commitment of life membership. A study of alumni giving by Clotfelter (2003a) also found a negative association between receipt of financial aid and alumni giving. Graduates with children were less likely to be life members, which may be attributable to life cycle factors in that graduates with young children or children of college age must bear a substantial financial burden and have less discretionary income with which to contribute to the expense of a life membership.

Regarding attitudinal survey variables, both the frequency of involvement scale and alumni association perceptions scale were positively associated with life membership. Graduates who were more frequently involved with the alumni association and university events and programs were likely to be more dedicated to the alma mater and, therefore, were more likely to demonstrate their loyalty through life membership. In addition, graduates who had more favorable perceptions about the alumni association were more likely to feel confident in making a lifelong commitment to the organization. As with the findings from Research Question 1, the positive student feelings scale was negatively associated with life membership, indicating that graduates who had more favorable ratings of their experiences as a student at the university were less likely to be life members. Again, a reversal paradox exists since the two variables were positively correlated with a univariate correlation analysis and the sign reversed when the positive

student feeling measure was included with multiple other variables Tu, Gunnell, & Gilthorpe, 2008).

When comparing the predictive accuracy of logistic regression models developed with different variable types, the researcher concluded that the best model was one derived from all variable types: demographic database variables, demographic survey variables, and attitudinal survey variables. With all predictors included, membership type was correctly classified 64.4% of the time, which represented an improvement over the constant-only model by 12.3%.

The resulting logistic regression model for membership type can be useful in helping alumni association membership practitioners identify potential life member converts from the pool of existing annual members. By soliciting the highest ranked annual member prospects, membership professionals can send targeted membership conversion solicitations to urge an upgrade from annual to life membership. In the absence of the ability to use regression modeling, a membership professional can still use simple selective prospecting when extracting a prospect list from the alumni database in order to target the annual members most likely to convert to life membership. This can be done by excluding graduates who are university employees and targeting annual members who are older, current donors, and fellows donors.

Conclusions and Summary of Research Question 3

The researcher completed several chi-square analyses to answer Research Question 3, looking at relationships of membership by various categories of donors. The results indicated that a relationship existed between alumni association membership and

donor status among university graduates, with graduates who were alumni association members being significantly more likely than nonmembers to be donors and donors being significantly more likely than nondonors to be alumni association members. These results concur with previous research. Because this reciprocal relationship existed, which is a theoretical “chicken and egg” scenario, the researcher analyzed the sequencing of events among donors who were also members. The results revealed that slightly more graduates who were donors and members (51.8%) became members prior to making their first financial contribution to the university.

The relationship between giving and membership is evident through the likelihood scenarios presented in this research. Specifically, current members were 4.8 times more likely than nonmembers to be current donors of any amount, with a statistically significant chi-square value 16061.91 and a correlation coefficient of .32. Current or previous members were 2.3 times more likely than nonmembers to be current or previous donors of any amount, with a statistically significant chi-square value of 18730.25 and a correlation coefficient of .35. When setting a minimum giving threshold of at least \$25, current or previous members were more than 2.6 times more likely than nonmembers to be current or previous donors, with a statistically significant chi-square value of 19935.97 and a correlation coefficient of .36.

The most substantial difference between members and nonmembers existed within the relationship between current members and fellows donors. Current alumni association members were found to be 11.5 times more likely than nonmembers to be fellows donors, with a statistically significant chi-square value of 5289.56 and a correlation coefficient of .18.

Conclusions and Summary of Research Question 4

The researcher again used a chi-square analysis to examine the relationships between alumni giving and alumni association membership by membership type in the evaluation of Research Question 4. The results indicated that a relationship existed between giving and membership type.

The likelihood of a current life member being a current donor was 1.4 times greater than the likelihood of an annual member being a current donor and 5.7 times greater than the likelihood of a nonmember being a current donor, with a chi-square value of 16884.93 and a correlation coefficient of .33. The likelihood of a current life member being a current or previous donor of at least \$25 was 1.3 times greater than that of an annual member and 3.0 times greater than that of a nonmember, with a chi-square value of 18346.92 and a correlation coefficient of .34.

The most substantial difference in likelihood across membership type occurred in the evaluation of fellows donor by membership type. Life members were found to be 4.3 times more likely than annual members to be fellows donors and 19.8 times more likely than nonmembers to be fellows donors, with a chi-square value of 8620.31 and a correlation coefficient of .24.

Implications

The results from this research have many implications for practitioners in alumni relations and development. The predictors of alumni association membership can be used by membership professionals within alumni relations who are charged with targeting

membership solicitations to the most likely prospects. By targeting solicitations to the groups that are the most likely to become members, these professionals can best utilize marketing dollars, which is of paramount importance in a time of higher education funding crisis. Further, development professionals who seek to identify higher prospects for alumni giving can use membership as an indicator of likelihood of giving and can target members for donations, particularly life members.

Research results may also motivate managers of alumni databases to obtain or enhance database information to capture additional data, which can be used for the aforementioned marketing purposes. For example, data on the awareness of other members was not available in the university's alumni database, yet was a predictor of membership status. As a result, data managers may want to make an effort to cultivate this information in the future. This goes for both demographic information as well as attitudinal measures, although the latter may require more effort to collect.

The present results indicate that a relationship does exist between alumni association membership and giving among university graduates, with the slight majority becoming alumni association members prior to making their first financial contribution to the university. This relationship provides some supporting evidence for dependent alumni associations considering the move to become dues-based membership organizations because it indicates that alumni association membership likely supports alumni giving rather than competing with it.

University graduates who are dues-paying alumni association members are great donor prospects, and not just in terms of the likelihood of making a gift, but also in making gifts of larger amounts. Fundraising professionals within higher education

institutions that have dues-based alumni associations can use this information as a prospecting tool.

Alumni association professionals may feel encouraged to learn that the psychological factors pertaining to alumni experiences and alumni association perceptions are positively associated with membership, as these factors can be controlled at least partially by programs, events, and communications. In the present study, the most significant attitudinal variable associated with alumni association membership was alumni association perceptions. This finding might motivate alumni professionals to work to bolster positive goodwill and perceptions, as this translates into increased financial support from graduates. In addition, frequency of involvement was an important measure associated with alumni association membership. This may inspire alumni professionals to expand or enhance alumni events and programs in order to positively impact membership.

Implications from this research also extend from the practical side to the realm of research. This study can aid researchers in additional studies of alumni association membership, including both predictors of membership as well as the relationship between membership and alumni giving. This is of particular importance given the existing research pertaining to the specific topic of alumni association membership is very limited.

Recommendations for Future Research

1. Other researchers may want to replicate this study in whole or in part at other institutions to aid in the generalizability of these results.
2. The findings of this study relate to predictors of alumni association membership status and type, as well as to the relationships between giving and alumni association membership at a single institution, in this case a doctoral-granting, public research institution. Other researchers may seek to compare the differences in predictors and relationships across other institutions, particularly at institutions of a different type.
3. Further research related to the time order of membership and giving would be useful because this is an understudied area and because the results within this study indicated only a slight difference in the order of events.
4. Qualitative research pertaining to alumni association membership would be illuminating, particularly because many of the significant variables within this research were attitudinal in nature.
5. One of the most commonly studied variables related to alumni giving is athletic success. Other researchers may want to examine the relationships between athletic success and alumni association membership.

REFERENCES

- About advancement. (n.d.). Retrieved December 31, 2008, from <http://www.case.org>.
- Alexander, F. K. (2001). The silent crisis: The relative fiscal capacity of public universities to compete for faculty. *Review of Higher Education*, 24(2), 113-129.
- Altbach, P. G., Berdahl, R. O., & Gumport, P. J. (2005). *American higher education in the twenty-first century* (2nd ed.). Baltimore: The Johns Hopkins University Press.
- Archibald, R. B., & Feldman, D. H. (2006). State higher education spending and the tax revolt. *Journal of Higher Education*, 77(4), 618-644.
- Arnold, G. L. (2003). Friend raisers and fund raisers: Alumni relations and development in large, public universities. Ph.D. dissertation. University of Michigan.
- Baade, R. A., & Sundberg, J. O. (1996a). Fourth down and gold to go? Assessing the link between athletics and alumni giving. *Social Science Quarterly*, 77, 789-803.
- Baade, R. A., & Sundberg, J. O. (1996b). What determines alumni generosity? *Economics of Education Review*, 15, 75-81.
- Beeler, K. J. (1982). A study of predictors of alumni philanthropy in private universities. Ph.D. dissertation. University of Connecticut.
- Belfield, C. R., & Beney, A. P. (2000). What determines alumni generosity? Evidence for the UK. *Education Economics*, 8(1), 65-81.
- Birnbaum, R. (1988). *How colleges work: The cybernetics of academic organization and leadership*. San Francisco: Jossey-Bass.
- Brooker, G., & Klastorin, T. D. (1981). To the victors belong the spoils? College athletics and alumni giving. *Social Science Quarterly* (62), 744-750.
- Bruggink, T. H., & Siddiqui, K. (1995). An econometric model of alumni giving: A case study for a liberal arts college. *The American Economics*, 39(2), 53-59.
- Budig, J. F. (1976). The relationships among intercollegiate athletics, enrollment, and voluntary support for public higher education. Ph.D. dissertation. Illinois State University.

- Center on Budget and Policy Priorities. (2008). *State budget troubles worsen*. Washington, DC: McNichol, E. C. & Lav, I. J.
- Cheslock, J. J. (2006). Applying economics to institutional research on higher education revenues. *New Directions for Institutional Research*, 2006(32), 25-41.
- Clotfelter, C. T. (2003a). Alumni giving to elite private colleges and universities. *Economics of Education Review*, 22, 109-120.
- Clotfelter, C. T. (2003b). Who are the alumni donors? *Nonprofit Management and Leadership*, 12(2), 119-138.
- Clotfelter, C. T. & Feldstein, M. (1986). Tax incentives and charitable contributions in the U.S. *Journal of Public Economics*, 29, 1-26.
- Cook, T. D., Shadish, W. R., & Campbell, D. T. (2001). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton-Mifflin.
- Coughlin, C. C., & Erekson, O. H. (1985). Contributions to intercollegiate athletic programs: Further evidence. *Social Science Quarterly*, 66, 194-202.
- Council for Advancement and Support of Education (n.d.). *CASE Timeline*. Retrieved December 31, 2008 from <http://www.case.org>.
- Council for Advancement and Support of Education. (2008). *CASE-CAAE Survey of Alumni Association Directors about Affinity Programs*. Washington, DC.
- Council for Aid to Education. (2008). *Contributions to colleges and universities up by 4.9 percent to \$25.6 billion*. New York: Kaplan, A. E.
- Council for Alumni Association Executives. (2007). *2007member survey*. Washington, DC.
- Council for Alumni Marketing and Membership Professionals. (n.d.). *Standardizing Terminology*. Retrieved February 3, 2009, from <http://www.cammp.org>.
- Cunningham, B. M., & Cochi-Ficano, C. K. (2002). The determinants of donative revenue flows from alumni of higher education. *The Journal of Human Resources*, 37(3), 540-569.
- Curti, M., & Nash, R. (1965). *Philanthropy in the shaping of American higher education*. New Brunswick, NJ: Rutgers University Press.
- Cutlip, S. M. (1965). *Fund raising in the United States: Its role in America's philanthropy*. New Brunswick, NJ: Rutgers University Press.

- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York: John Wiley & Sons.
- Dolbert, S. C. (2002). *Future trends in alumni relations*. Presented at the Australian International Education Conference.
- Ehrenberg, R. G., & Rizzo, M. J. (2004). Financial forces and the future of American higher education. *Academe*, 90(4), 28-31.
- Frank, R. H. (2004). Challenging the myth: A review of the links among college athletic success, student quality, and donations. *Knight Foundation Commission on Intercollegiate Athletics*.
- Garson, D. (2009). *Logistic Regression*. Retrieved May 10, 2009 from <http://faculty.chass.ncsu.edu/garson/PA765/logistic.htm>
- Gaski, J. F., & Etzel, M. J. (1984). Collegiate athletic success and alumni generosity: Dispelling the myth. *Social Behavior and Personality*, 12(1), 29-38.
- Gill, J. L. (1998). Alumni programs: Principles and practice. In W. W. Tromble (Ed.), *Excellence in advancement: Applications for higher education and nonprofit organizations* (pp. 241-280). Gaithersburg, MD: Aspen Publishers, Inc.
- Grant, J., & Lindauer, D. (1986). The economics of charity life-cycle pattern of alumnae contributions. *Eastern Economic Journal*, 12(2), 129-141.
- Grimes, P., & Chressanthins, G. (1994). Alumni contributions to academics: The role of intercollegiate sports and NCAA sanctions. *American Journal of Economics and Sociology*, 53(1).
- Haddad, F. D. (1986). An analysis of the characteristics of alumni donors and nondonors at Butler University. Ed.D. dissertation. Butler University.
- Hanson, S. K. (2000). *Alumni characteristics that predict promoting and donating to alma mater: Implications for alumni relations*. University of North Dakota, Grand Forks, North Dakota.
- Harrison, W. B. (1995). College relations and fund-raising expenditures: Influencing the probability of alumni giving to higher education. *Economics of Education Review*, 14(1), 73-84.
- Harrison, W. B., Mitchell, S. K., & Peterson, S. P. (2006). Alumni donations and colleges' development expenditures: Does spending matter? *The American Journal of Economic and Sociology*, 54(4), 397-412.

- Haurwitz, R. K. M. (2008, October 31). UT-Austin endowment down nearly \$1 billion this year. *Austin American-Statesman*. Retrieved November 10, 2008 from <http://www.statesman.com/news/content/news/stories/local/10/31/1031utendow.html>.
- Holmes, J. (2008). Prestige, charitable deductions and other determinants of alumni giving: Evidence from a highly selective liberal arts college. *Economics of Education Review*, 22, 1-11.
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). New York: John Wiley & Sons.
- Hovey, H. A. (1999). *State spending for higher education in the next decade: The battle to sustain current support*. Washington, DC: The National Center for Public Policy and Higher Education.
- Hueston, F. R. (1992). Predicting alumni giving: A donor analysis test. *Fund raising Management*, XX, 18-23.
- Isidore, C. (2008, December 1). It's official: Recession since Dec. '07. *CNN Money*. Retrieved January 18, 2009 from <http://money.cnn.com/2008/12/01/news/economy/recession/index.htm>.
- Johnstone, D. B. (2004). The economics and politics of cost sharing in higher education: Comparative perspectives. *Economics of Education Review*, 23, 403-410.
- Kane, T. J., Orszag, P. R., & Gunter, D. L. (2003). *State fiscal constraints and higher education spending: The role of Medicaid and the business cycle* (Urban-Brookings Tax Policy Center. Discussion Paper No. 11). Washington, DC: Urban Institute.
- Keller, J. (2007). Ohio governor proposes tuition cap. *Chronicle of Higher Education*, 53(29), A25.
- Keller, M. J. C. (1982). An analysis of alumni donor and nondonor characteristics at the University of Montevallo. Ph.D. dissertation. University of Alabama.
- Leslie, L. L., & Ramey, G. (1988). Donor behavior and voluntary support for higher education institutions. *The Journal of Higher Education*, 59(2), 115-132.
- Lindahl, W. E., & Winship, C. (1994). A logit model with interactions for predicting major gift donors. *Research in Higher Education*, 35(6), 729-743.
- Litan, R. E., Orszag, J. M., & Orszag, P. R. (2003). *The empirical effects of college athletics: An interim report*. Commissioned by the National Collegiate Athletic Association.

- Logue, A. C. (2004). Paying your dues. *Currents*, 30(2), 16-20.
- Long, J. S. (1997). *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage Publications, Inc.
- Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, 13(2), 103-123.
- Marr, K. A., Mullin, C. H., & Siegfried, J. J. (2005). Undergraduate financial aid and subsequent alumni giving behavior. *The Quarterly Review of Economics and Finance*, 45, 123-143.
- McGraw, D. (2003, January 1). Shrinking assets. *ASEE Prism*. Retrieved November 10, 2008 from <http://www.prism-magazine.org/jan03/shrinking.cfm>.
- Meglio, F. D. (2008). Colleges explore alternative revenue streams. *Business Week Online*, 3-3.
- Merriam-Webster online dictionary*. (2009). Retrieved January 9, 2009, from <http://www.merriam-webster.com/dictionary/almamater>.
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and implementation*. Thousand Oaks, CA: Sage Publications.
- Miller, A. (2008a, February 20). *Logistic Regression*. EDP 707: University of Kentucky.
- Miller, A. (2008b, January 23). *Multiple Regression*. EDP 707: University of Kentucky.
- Monks, J. (2003). Patterns of giving to one's alma mater among young graduates from selective institutions. *Economics of Education Review*, 22(2), 121-130.
- National Association of College and University Business Officers. (2007). *2007 NACUBO endowment study*. Washington, DC: Cambridge Associates, Inc..
- National Center for Education Statistics. (2007). *Digest of education statistics 2007*. Washington, DC: U.S. Department of Education.
- Norusis, M. J. (1994). Measuring scales: Reliability analysis. In *SPSS Professional Statistics 6.1* (pp. 143-148). Chicago: SPSS Inc.
- Nunnally, J. & Bernstein, I. (1994). *Psychometric Theory*. New York: McGraw Hill.
- Okunade, A. A. (1996). Graduate school donations to academic funds: Micro-data evidence. *American Journal of Economics and Sociology*, 55(2), 213-229.

- Okunade, A. A., & Berl, R. L. (1997). Determinants of charitable giving of business school alumni. *Research in Higher Education*, 38(2), 201-214.
- Olsen, K., Smith, A. L., & Wunnava, P. V. (1989). An empirical study of the life-cycle hypothesis with respect to alumni donations. *American Economist*, 33(2), 60-63.
- Patouillet, L. D. (2000). Alumni association members: Attitudes toward university life and giving at a public AAU institution. Ph.D. dissertation. University of Pittsburgh.
- Peng, J. C., So T. H., Stage, F. K., & St. John, E. P. (2002). The use and interpretation of logistic regression in higher education journals: 1988-1999. *Research in Higher Education*, 43(3), 259-293.
- Pulley, J. (2002). Crumbling support for colleges. *Chronicle of Higher Education*, 48(29), A28.
- Rhoads, T. A., & Gerking, S. (2000). Educational contributions, academic quality, and athletic success. *Contemporary Economic Policy*, 18(2), 248-258.
- Rizzo, M. J. (2003). *A (less than) zero sum game? State funding for public education: How public higher education institutions have lost* (CHERI Working Paper #52). Retrieved November 10, 2008, from Cornell University, ILR School site: http://www.ilr.cornell.edu/cheri/workingPapers/upload/cheri_wp42.pdf.
- Schuch, J. H. (1993). Fiscal pressures on higher education and student affairs. In J. J. Barr (Ed.), *The handbook of student affairs administration* (pp. 49-68). San Francisco: Jossey-Bass.
- Shaw, W. B., Embree, E. R., Upham A. H., & Johnson, E. B. (1917). *Hand book of alumni work*. American Alumni Council: The Association of Alumni Secretaries: University of California.
- Shoss, R. D. (2007). Dues and don'ts. *Currents*, 33(7), 40-45.
- Sigelman, L., & Bookheimer, S. (1983). Is it whether you win or lose? Monetary contributions to big-time college athletic programs. *Social Science Quarterly*, 64(2), 347-359.
- Sigelman, L., & Carter, R. (1979). Win one for the giver? Alumni giving and big-time college sports. *Social Science Quarterly*, 60, 284-294.
- State Higher Education Executive Officers. (2008). *State higher education finance FY07*. Boulder, CO.

- Stutler, D., & Calvario, D. (1996). In alumni support, satisfaction matters. *Fund Raising Management*, 27(9), 12-14.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.
- Taylor, A. L., & Martin, J. C. (1995). Characteristics of alumni donors and nondonors at a research I, public university. *Research in Higher Education*, 36(3), 283-302.
- Taylor, B. E., & Massey, W. F. (1996). Strategic indicators for higher education: Vital benchmarks and information to help you evaluate and improve your institution's performance. Princeton, NJ: Peterson's.
- Tu, Y.K., Gunnell, D., & Gilthorpe, M. (2008). Simpson's Paradox, Lord's Paradox, and Suppression Effects are the same phenomenon – the reversal paradox. *Emerging Themes in Epidemiology*, 5(2), 1-9.
- Tucker, I. B. (2004). A reexamination of the effect of big-time football and basketball success on graduation rates and alumni giving rates. *Economics of Education Review*, 23, 655-661.
- Turner, S. E., Meserve, L., & Bowen, W. G. (2001). Winning and giving: Football results and alumni giving at selective private colleges and universities. *Social Science Quarterly*, 82(4), 812-827.
- University of XX Alumni Association. (n.d.). *Mission and History*. Retrieved January 19, 2009, from the association's website.
- University of XX Alumni Association. (2008a). *Member resource guide*. [Brochure]. Lexington, KY.
- University of XX Alumni Association. (2008b). *2007-2008 annual report*. Lexington, KY: Linda Perry.
- Weerts, D. J., & Ronca, J. M. (2006). Examining differences in state support for higher education: A comparative study of state appropriations for research I universities. *Journal of Higher Education*, 77(6), 935-967.
- Willemain, T. R., Goyal, A., Van Deven, M., & Thukral, I. S. (1994). Alumni giving: The influences of reunion, class, and year. *Research in Higher Education*, 35(5), 609-629.
- Winter, P. (2007, June 19). *Types of Reliability*. ELFH 602: University of Louisville.

- Wunnava, P. V., & Lauze, M. A. (2001). Alumni giving at a small liberal arts college: Evidence from consistent and occasional donors. *Economics of Education Review*, 20, 533-543.
- Yankelovich, D. (1987). Bridging the gap. *Currents*, 13(9), 24-27. Washington, DC.

APPENDIX A

ELECTRONIC SURVEY
INVITATION E-MAIL SCREENSHOT

Dear [REDACTED]:

You have been selected along with other University of [REDACTED] graduates to receive an invitation to complete the 2009 [REDACTED] Alumni survey. Results will help us to better understand alumni perceptions and opinions.

Please take a few moments to complete the survey, which should take about 10 minutes.

As a special bonus, the first 100 respondents will receive a complimentary University of [REDACTED] license plate frame. [Click here](#) to begin the survey. Use your ID# to enter the survey.

Thank you in advance for your participation.

Regards,
Melissa Newman '02
Associate Director for Membership and Programs
University of [REDACTED] Alumni Association

APPENDIX B

ELECTRONIC SURVEY
REMINDER E-MAIL SCREENSHOT

Dear [REDACTED]:

If you have not already done so, please take time today to complete the 2009 University of [REDACTED] Alumni survey. We value your feedback and want to better understand alumni perceptions and opinions. The survey should only take about 10 minutes to complete.

[Click here](#) to begin and use your ID# [REDACTED] to enter the survey.

Thank you in advance for your participation.

Sincerely,
Melissa Newman '02
Associate Director for Membership and Programs
University of [REDACTED] Alumni Association

APPENDIX C
HARD COPY SURVEY
COVER LETTER

<<Date>>

<<Name>>

<<Address>>

<<City>>, <<State>> <<Zip>>

Dear <<Salutation>>,

You have been randomly selected to receive the 2009 University of XX Alumni Survey. I hope you will take the time to complete the survey, which should take approximately 10 minutes. Your feedback is important as it allows us to examine alumni perceptions and opinions.

As a special bonus, the first 50 respondents to return the survey will receive a complimentary University of XX Alumni license plate frame as our way of saying "thanks" for participating!

Don't delay – please complete the 2009 XX Alumni Survey as soon as possible and return it no later than April 24, 2009. And remember, if you are one of the first 50 respondents, you will receive a free license plate frame.

Once the survey is complete, simply fold it in half and mail it back to the XX Alumni Association using the enclosed postage paid return envelope. Thank you in advance for your participation and providing your valuable feedback.

Regards,

A handwritten signature in cursive script that reads "Melissa Newman".

Melissa Newman '02

Associate Director for Membership & Programs

Enclosure

APPENDIX D
SURVEY FOLLOW-UP
POSTCARD

Survey Reminder

This is a reminder to please complete and return your 2009 University of [redacted] Alumni Association survey. If you have already completed the survey, then thank you for your participation and please disregard this notice.

Your feedback and opinions are important to us. We will be very appreciative if you can take a few moments to complete and return this survey as soon as possible.

If you have misplaced your survey questionnaire and need a replacement, please call [redacted] or [redacted] and we will mail one to you.

Thank you for helping us!

APPENDIX E
SURVEY INSTRUMENT

University of XX Alumni Survey

Dear University of XX Alum:

You are being invited to participate in a research study by answering the attached survey about university alumni perceptions and opinions. There are no known risks for your participation in this research study. The information collected may not benefit you directly. The information learned in this study may be helpful to others. The information you provide could benefit researchers and practitioners with insight into alumni giving and membership behaviors. The survey will take approximately 10 minutes to complete.

Individuals from the Department of Leadership, Foundations and Human Resource Education, the Institutional Review Board (IRB), the Human Subjects Protection Program Office (HSPPPO), and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. By completing this survey you agree to take part in this research study. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact Melissa Newman at (859) 257-1499 or Dr. Joseph Petrosko at (502) 852-0638.

If you have any questions about your rights as a research subject, you may call the Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have other questions about the research, and you cannot reach the research staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this research study.

If you have concerns or complaints about the research or research staff and you do not wish to give your name, you may call (877) 852-1167. This is a 24 hour hot line answered by people who do not work at the University.

Sincerely,
Melissa Newman Dr. Joseph Petrosko

1. ID number: (pre-printed)

Alumni Involvement

DIRECTIONS: Please select the appropriate response or write in your response in the space provided next to or below each statement or question below.

2. Please check the boxes that correspond with your family members who attended XX.
(check all that apply):

☐ N/A – None of these family attended XX	☐ Your child(ren)
☐ Your spouse	☐ Your parent(s)
☐ Your spouse's parent(s)	☐ Your grandparent(s)
☐ Your spouse's grandparent(s)	☐ Your sibling(s)

3. On a scale of 1 to 5, where 1 = never and 5 = very frequently, circle the one number that represents the frequency in which you participate in each of the activities listed below.

	Never	Very Rarely	Occasionally	Frequently	Very Frequently
Return to the XX campus when possible.	1	2	3	4	5
Attend XX athletic events.	1	2	3	4	5
Wear XX apparel.	1	2	3	4	5
Read alumni publications.	1	2	3	4	5
Attend a XX event.	1	2	3	4	5
Watch XX athletic events on television.	1	2	3	4	5
Volunteer for XX.	1	2	3	4	5
Seek out information about fellow XX alumni.	1	2	3	4	5
Visit a XX website.	1	2	3	4	5
Wear a XX class ring.	1	2	3	4	5
Interact with fellow XX alumni (excluding family members).	1	2	3	4	5
Speak positively about XX to others.	1	2	3	4	5

4. Are you aware of other individuals (excluding family members) who contribute financially to XX? (check one):
- ☐ Yes ☐ No

5. Are you aware of other individuals (excluding family members) who are dues-paying members of the XX Alumni Association? (check one):
☐ Yes ☐ No
6. On a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, circle the one number that represents your level of agreement with each statement listed below.

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I find value in my education from XX.	1	2	3	4	5
I am proud to be an alum of XX.	1	2	3	4	5
I would recommend XX to others.	1	2	3	4	5
I have positive feelings about XX.	1	2	3	4	5
I want others to know I am a XX alum.	1	2	3	4	5
My XX education has improved my life.	1	2	3	4	5

Student Experiences

DIRECTIONS: Please select the appropriate response or write in your response in the space provided next to or below each statement or question below.

7. At any time as a XX student, did you live on campus in XX dormitories or living facilities? (check one):
☐ Yes ☐ No
8. If yes to the previous question, how many semesters did you live on campus in XX dormitories or living facilities? (check one):
☐ N/A – I did not live on campus in XX dormitories or living facilities
☐ 1-2 Semesters
☐ 3-4 Semesters
☐ 5-6 Semesters
☐ 7-8 Semesters
☐ More than 8 Semesters

9. On a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, circle the one number that represents your level of agreement with each statement listed below.

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I really enjoyed the time I spent at XX.	1	2	3	4	5
As a XX student, XX faculty cared about me.	1	2	3	4	5
I have positive memories of my time spent at XX.	1	2	3	4	5
I learned much during my time at XX.	1	2	3	4	5
As a XX student, XX staff cared about me.	1	2	3	4	5
I am satisfied with my experience as a XX student.	1	2	3	4	5

10. As a XX student, did you receive financial aid (excluding scholarships, work study and loans)? (check one):
☐ Yes ☐ No
11. As a XX student, did you receive any scholarships (excluding work study)? (check one):
☐ Yes ☐ No
12. Upon graduation from XX, did you owe student loans? (check one):
☐ Yes ☐ No
13. Did you maintain regular employment with paid job(s) while attending XX? (check one):
☐ Yes ☐ No
14. If yes to the previous question, on average, how many hours per week did you work at paid job(s) while attending XX? (check one):
☐ N/A – I did not work a paid job as a XX student
☐ 1-5 hours per week
☐ 6-15 hours per week
☐ 16-25 hours per week
☐ 26-35 hours per week
☐ 36-40 hours per week
☐ More than 40 hours per week

15. Please check the extracurricular activities you were involved with as a XX student (check all that apply):

☐ N/A – I did not participate in extracurricular activities	
☐ Greek Social Organization(s)	☐ Student Government
☐ Student Publications	☐ Religious Organization(s)
☐ Student Activities Board	☐ Intramural Athletics
☐ Residence Hall Association	☐ Varsity Athletics
☐ Band (pep or marching)	
☐ Other(s) (please specify): _____	

16. Upon graduation from XX, what was your final cumulative GPA? (check one):

- ☐ 3.8 – 4.0
- ☐ 3.4 – 3.79
- ☐ 3.0 – 3.39
- ☐ 2.5 – 2.99
- ☐ Below 2.5

17. How many semesters did you attend XX as a student? (check one):

- ☐ 1-2 Semesters
- ☐ 3-4 Semesters
- ☐ 5-6 Semesters
- ☐ 7-8 Semesters
- ☐ 9-10 Semesters
- ☐ 11-12 Semesters
- ☐ 13-14 Semesters
- ☐ More than 14 Semesters

Survey continues on the next page.

Institutional Characteristics

DIRECTIONS: Please select the appropriate response or write in your response in the space provided next to or below each statement or question below.

18. On a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, circle the one number that represents your level of agreement with each statement listed below.

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
XX is an institution that provides quality learning.	1	2	3	4	5
My peers respect my XX education.	1	2	3	4	5
My education from XX is valuable.	1	2	3	4	5
XX is a prestigious academic institution.	1	2	3	4	5
XX provides a good value for higher education.	1	2	3	4	5
XX has a good reputation as an academic institution.	1	2	3	4	5
The athletics program at XX is prestigious.	1	2	3	4	5
The XX athletics program has a good reputation.	1	2	3	4	5

19. On a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, circle the one number that represents your level of agreement with each statement listed below.

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
XX does a good job communicating with alumni.	1	2	3	4	5
I am aware of the XX Alumni Association.	1	2	3	4	5
The XX Alumni Association is a valuable organization.	1	2	3	4	5
The XX Alumni Association connects alumni with XX.	1	2	3	4	5

Alumni Characteristics

DIRECTIONS: Please select the appropriate response or write in your response in the space provided next to or below each statement or question below.

20. What is your age? (in years): _____
21. What is your gender? (check one):
☐ Female ☐ Male
22. What is your marital status? (check one):
☐ Divorced/Separated ☐ Single, Never Married
☐ Married ☐ Widowed
23. What is the approximate distance of your primary residence from the main University of XX campus? (check one):
☐ 0-15 miles
☐ 16-49 miles
☐ 50-99 miles
☐ 100-299 miles
☐ 300-499 miles
☐ 500-799 miles
☐ 800-1,000 miles
☐ More than 1,000 miles
24. What is your ethnicity? (check one):
☐ African American ☐ Hispanic American
☐ Asian American ☐ Native American
☐ Caucasian ☐ Other (please specify): _____
25. What is your gross (before taxes) family household income during 2008?
(please list): _____
26. Which of the following best describes your current primary occupation? (check one):
☐ Administrative ☐ Professional
☐ Blue Collar ☐ Retired
☐ Clerical ☐ Technical
☐ Homemaker ☐ Currently Unemployed

27. If married, which of the following best describes your spouse's current primary occupation? (check one):

☐ N/A – I am not married	☐ Professional
☐ Administrative	☐ Retired
☐ Blue Collar	☐ Technical
☐ Clerical	☐ Currently Unemployed
☐ Homemaker	

28. Do you have any children? (check one):

- ☐ Yes ☐ No

29. If you have children, are any under the age of 18? (check one):

- ☐ N/A – I do not have children
☐ Yes
☐ No

30. What is the highest level of education you have completed? (check one):

- ☐ Some College
☐ Associate's Degree
☐ Bachelor's Degree
☐ Master's Degree
☐ Doctoral Degree
☐ Professional Degree (i.e. MD, JD, PharmD, etc.)

31. Do you have a degree or degrees from any institution(s) other than XX? (check one):

- ☐ Yes ☐ No

-- END OF SURVEY --

Thank you for taking the time to complete the 2009 Alumni Survey. Please fold this completed survey questionnaire in half and return to the XX Alumni Association using the enclosed postage paid envelope. If you are one of the first 50 respondents, you will receive your complimentary alumni license plate frame in the mail within 3-4 weeks.

If you would like information about the University of XX Alumni Association, visit (website) or call (phone numbers).

APPENDIX F

CHI-SQUARE ANALYSIS OF MEMBERSHIP BY COLLEGE

In addition to the studied variables used to predict alumni association membership, another variable of importance which was not included in the preceding analyses is the individual college from which a university graduate received his or her degree. This is a nominal level categorical variable represents 19 colleges and therefore did not lend itself well to analysis through logistic regression. To evaluate the likelihood of a graduate from a specific college becoming an alumni association member, the researcher used Chi-square analysis in evaluating current members by the university college from which each graduate received his or her first degree from the university. Results appear below in Table 30.

Table 30

Crosstabulation of Current Member by University College

College	Current member			
	No		Yes	
Agriculture	13,021	83.7%	2,542	16.3%
Arts & Sciences	29,236	83.8%	5,666	16.2%
Business	20,031	77.8%	5,700	22.2%
Communications	9,514	86.6%	1,469	13.4%
Dentistry	1,071	78.6%	291	21.4%
Design	2,404	88.0%	329	12.0%
Diplomacy	548	94.2%	34	5.8%
Education	15,292	82.1%	3,329	17.9%
Engineering	13,576	82.2%	2,936	17.8%
Fine Arts	3,958	90.1%	434	9.9%
Graduate School	318	94.4%	19	5.6%
Health Sciences	3,973	85.8%	656	14.2%
Law	3,237	85.4%	552	14.6%
Medicine	2,212	87.5%	316	12.5%
Nursing	3,678	84.8%	659	15.2%
Pharmacy	2,696	74.7%	913	25.3%
Public Health	247	83.4%	49	16.6%
Public Policy	411	90.3%	44	9.7%

College	Current Member			
	No		Yes	
Social Work	4,528	91.6%	415	8.4%
TOTAL	129,951	83.1%	26,353	16.9%

Note. $\chi^2 = 1477.85$. $p < .001$.

Subsequent comparisons were made using the membership penetration rate of 16.9% for the population as a baseline. Results indicated that the best membership prospects were College of Pharmacy graduates, when based upon the individual college variable alone. Graduates from Pharmacy were one and a half times as likely to be a dues-paying member of the alumni association compared to the baseline measure. Graduates from the College of Business and College of Dentistry were the next best prospects, both with substantially higher membership penetration rates than the overall population.

The least likely prospects for alumni association membership were graduates from the Graduate School and School of Diplomacy, with graduates from these colleges being only one-third as likely to be an alumni association member compared to the baseline. The next group of graduates, based upon college, who were least likely to be members were graduates from the College of Social Work. These individuals were only half as likely to be an alumni association member compared to the baseline measure.

APPENDIX G
EMPIRICAL TESTING
MEMBERSHIP SOLICITATION COPY

<<Date>>

<<Name>>

<<Address>>

<<City>>, <<State>> <<Zip>>

Dear <<Salutation>>:

Our alumni sometimes ask “what’s in it for me” when they receive a membership invitation. We often reply that membership provides an important connection back to the alma mater and member dues provide support for worthwhile programs such as scholarships, student recruitment, and awards for great teaching.

Although membership is a way of supporting the university, we realize that with a tough economy, alumni want to know that membership is a good deal. The great thing about membership in the XX Alumni Association is that it not only provides support for XX, but members receive a variety of great benefits with a value that exceeds the cost of membership.

These benefits include great tangible items such as a complimentary subscription to the alumni magazine, annual 12-month university wall calendar, and yearly personalized address labels. Plus, members are eligible for exclusive member discounts, access to career services, event invitations, and much more.

As a special bonus, when you join the XX Alumni Association by June 30, we’ll send you a FREE XX Alumni T-shirt, which alone is a \$15 value!

Times are tough, but membership provides a good value to members through the variety of great benefits available exclusively to them. Membership benefits *both* you and XX, so please become a member today.

Regards,

Melissa Newman '02

Associate Director for Membership & Programs

CURRICULUM VITAE

NAME: Melissa Dawn Newman

ADDRESS: 400 Rose Street
Lexington, Kentucky 40506-0119

DOB: Fort Thomas, Kentucky – February 1, 1979

EDUCATION & TRAINING:

B.B.A., Marketing
University of Kentucky
2002

M.B.A., Business Administration
Morehead State University
2003

M.A., Higher Education
University of Louisville
2009

AWARDS:

CASE III Merit Award for Institutional Programs, 2005
CASE Kentucky Excellence Award for Institutional Publications, 2005
CASE Kentucky Grand Award for Total Educational Fund-Raising
Programs, 2006
CASE Kentucky Excellence Award for Institutional Publications, 2007
CASE Kentucky Excellence Award for Special Events, 2007
CASE Kentucky Excellence Award for Institutional Relations Programs,
2007
CASE Kentucky Merit Award for Institutional Publications, 2008
CASE Kentucky Excellence Award for Special Events, 2008
CASE Kentucky Merit Award for Direct Mail Programs, 2008
CASE Kentucky Merit Award for Institutional Relations Projects, 2008