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Factors and Characteristics of Alumni Role Identity: Implications for Practice in Higher Education Fundraising and Alumni Relations

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FACTORS AND CHARACTERISTICS OF ALUMNI ROLE IDENTITY: 
IMPLICATIONS FOR PRACTICE IN HIGHER EDUCATION FUNDRAISING 
AND ALUMNI RELATIONS

A Dissertation Presented 

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The Faculty of the School of Education

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Doctor of Education

by

Jay Le Roux Dillon

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ABSTRACT

Now more than ever, colleges and universities are relying on funds raised from alumni to support their operations. At the same time, the percentage of alumni donors is in decline and new research suggests that higher education fundraising strategies are overly reliant on alumni behaviors and demographics as predictors of giving. A 2011 study by McDearmon addressed this issue by establishing a psychometric measure of a graduate’s self-identification with his or her role as an alumnus/a, dubbed “alumni role identity.” Based in role identity theory (Stryker 1968, 1980; Callero, 1985), McDearmon’s research demonstrated that alumni role identity was associated positively with alumni participation in giving. The purpose of this study was to determine the factors and characteristics that influence alumni role identity, and thereby improve the ability of colleges and universities to solicit alumni donations.

Four research questions were investigated by fielding an alumni role identity questionnaire to graduates of a mid-size, Jesuit university on the West coast. Institutionally-held data on communications, social media use, behavioral, demographic, and giving attributes of the 4,094 respondents were appended to survey responses. Using correlation, principal component analysis, independent samples t-tests, and multiple regression techniques, 11 of the 18 attributes studied were found to be unique and statistically significant predictors of alumni role identity. Most notably, participants who had “liked” the university’s Facebook page or joined the university’s LinkedIn group reported levels of alumni role identity comparable to those reported by participants who had attended a university event. This suggests that higher education fundraising
professionals could boost alumni giving by implementing social media strategies to increase the alumni role identity of graduates.

Low effect-size results in the regression models of this study indicated that alumni role identity, while influenced by behavioral and demographic factors and characteristics to a degree, is not behavioral, nor demographic in nature. Additionally, a methodological comparison with McDearmon’s 2011 study revealed that institutionally sourced data on participant donation history is more exact than donor information collected from participants via self-report. Further research into the antecedents of alumni role identity should take both of these findings into account.
This dissertation, written under the direction of the candidate’s dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Jay Le Roux Dillon                      April 25, 2017  
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Robert Burns, Ph.D.                      April 25, 2017
DEDICATION

This dissertation is dedicated to Rossitza, whose support for my doctoral work far exceeded anything I could’ve asked of her as my girlfriend, fiancée, and wife. Rossitza is the greatest thing I’ve ever found and the best decision I’ve ever made.
ACKNOWLEDGEMENTS

I was welcomed into this journey of academic inquiry by my advisor and dissertation committee chairperson Dr. Patricia Mitchell, who delivered on her promise to “get me through it.” Dr. Mitchell was kind to me with her time and support, and also provided great hugs.

I took my first course in the doctoral program with Dr. Robert Burns, a survey of research methods that served me well throughout my studies. As a member of my committee, Dr. Burns was instrumental in helping me navigate the statistical methods of my study, all while providing good conversation about the world’s greatest hobby.

I can trace the idea for my dissertation topic to discussion over coffee with Dr. Walt Gmelch, Dean Emeritus of the School of Education. Dr. Gmelch assisted me in narrowing the focus of my research in order to broaden its appeal, and I appreciated his insight and interest as a member of my committee.

I could not have pursued doctoral study without the support and encouragement of my first supervisor at the University of San Francisco, Jessica Jordan. Over my four years on staff and three as a student, Jessica has become a most trusted friend and confidant, and I thank her for that. I relied on my colleague Aimee Holland, Associate Director of Development Services, to provide the data necessary to conduct this study, which she assembled in virtuosic fashion. Aimee was always willing to assist me in this personal effort, even in the midst of professional obligations. Finally, I am indebted to my staff and friends in the Department of Alumni Engagement, who provided me with daily encouragement and tolerated my absence from the office on “school days.” I will never forget the time that we spent together in the Panda Pit or at Howard Street.
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CHAPTER I

THE RESEARCH PROBLEM

Philanthropy in American higher education is “central to the mere existence and daily function of academe” (Drezner, 2010, p. 194). Contributions from alumni support the basic operational expenses of colleges and universities, not just institutes, student scholarships, and faculty chairs. Alumni donations directly funded 6.5% of college and university expenditures in 2011 (Council for Aid to Education, 2012). Three years later, that figure was as high as 12% for some institutions (Brown, Dimmock, Jun-Koo Kang, & Weisbenner, 2014). Fundraising from alumni is now a fundamental part of the higher education industry and a significant factor in the success of colleges and universities. With that in mind, the systematic decline of alumni participation in giving across the United States is cause for concern. According to the Council for Advancement and Support of Education (2014), the percentage of alumni who made a donation to their alma mater dropped by half from 18% in 1990 to less than 9% in 2013. The dramatic downshift of alumni participation in giving has colleges and universities across the nation scrambling to find ways to support their operations by increasing revenue received through fundraising.

Statement of the Problem

Higher education fundraising efforts rely primarily on the use of observable alumni behaviors and demographics to predict alumni participation in giving. The success of these efforts depend on the ongoing ability of a college or university to “find variables that are observable to the development offices on campus [that] can be effectively used to target” alumni for donations (Monks, 2003, p. 122). While the use of behavioral and
demographic criteria to solicit alumni is commonplace in higher education fundraising, new research suggests that the effectiveness of such strategies is falling short.

In their study of graduates of a large West coast university, Netzer, Lattin, and Srinivasan (2008) found that observable alumni characteristics such as event attendance and volunteering were too personal in nature to be “treated as decision variables” in predicting alumni participation in giving (p. 96). Netzer et al. determined that the motivation behind a graduate’s resolve to volunteer for or attend an event at the university could not be quantified in and of itself, and therefore the ensuing alumni behaviors (i.e. volunteerism or attendance) could not be operationalized as a predictor of alumni participation in giving.

In a separate study on alumni giving at a major Midwestern university, researchers Durango-Cohen, Torres, and Durango-Cohen (2013) demonstrated that fundraising efforts at the school relied too heavily on observed alumni behaviors and demographics to segment solicitations, resulting in missed opportunities for the university to garner donations from graduates that fell outside the selected criteria. Durango-Cohen et al. concluded that fundraising efforts at the university they studied were constrained by an over dependence on observable alumni demographics and behaviors (including alumni age, proximity to campus, event attendance, and volunteering).

The work of Stephenson and Bell (2014) found that biographic and demographic indicators were immaterial in predicting alumni participation in giving. In a study of alumni of a mid-sized, public university on the East coast, the researchers reported that 68% of graduates who were donors “claimed that they donated money to the institution
simply because they were an alumna/us” (p. 181). Stephenson and Bell found that alumni behavioral and demographic predictors seemed to have no bearing on a graduate’s decision to make a donation.

The work of Netzer et al. (2008), Durango-Cohen et al. (2013), and Stephenson and Bell (2014) demonstrated that alumni behavioral and demographic attributes may not be as effective at predicting alumni participation in giving as previously thought. One possible explanation for the decline in effectiveness of these predictors is the nature of the attributes themselves. By using observable alumni characteristics as predictors of alumni giving, colleges and universities only scratch the surface “into the deep, internal processes that are used by alumni when making the decision to give” (McDearmon, 2013, p. 285). The problem in current higher education fundraising practice is that colleges and universities are losing the ability to reliably predict alumni participation in giving.

**Background and Need**

Alumni participation in giving is an economic transaction in which a former student makes a financial contribution to his or her alma mater. It is a transaction that research has shown can be predicted through the observation of alumni attributes (Weerts & Ronca, 2009). Alumni behaviors, such as volunteering or attending a university event, are associated positively with alumni giving (Sun, Hoffman, & Grady, 2007; Weerts & Ronca, 2007), as are demographic factors such as age and income level (Bruggink & Siddiqui, 1995; Clotfelter, 2003). Taken together, alumni behavioral and demographic indicators are the *de facto* criteria used by colleges and universities to target specific groups of alumni for philanthropic solicitation (Monks, 2003).
For example, when faced with limited resources, a college or university fundraising office might choose to mail a philanthropic solicitation only to those graduates who are older, have a steady income, and who have volunteered for or attended a university event. Based upon the research (Bruggink & Siddiqui, 1995; Clotfelter, 2003; Sun et al., 2007; Weerts & Ronca, 2007), a segmentation strategy of this nature should yield a greater number of alumni donors relative to the number solicited versus a broader and more expensive strategy of mailing the same solicitation to all alumni. The success of such a strategy, however, is limited by the very alumni characteristics on which it relies. An institution’s fundraising office can no more change a graduate’s age from young to old or income from low to high than it can alter a graduate’s decision whether or not attend an event in order to increase that graduate’s likelihood to donate. The usefulness of alumni demographic and behavioral attributes to predict patterns of alumni giving is finite because the attributes themselves are immutable, leaving little to no room for expanding philanthropic efforts.

The rising proportion of college and university operating budgets funded directly by alumni donations (Brown et. al, 2014; Council for Aid to Education, 2012), the decline of alumni participation in giving (Council for the Advancement and Support of Education, 2014), and new research in the literature (Durango-Cohen et al., 2013; Netzer et al., 2008; Stephenson & Bell, 2014) point to a need within the academic community to examine the antecedents of alumni participation in giving for predictors that are not behavioral or demographic in nature. In order to increase alumni donations, new non-behavioral, non-demographic predictors of alumni giving are needed – predictors that can be both broadly observed and influenced by college and university fundraising offices.
Theoretical Rationale

The theoretical rationale for this study is role identity theory (Stryker 1968, 1980). Role identity theory was first applied in the field of higher education fundraising by J. Travis McDearmon (2011) in his study of alumni giving at a large, public research university in the Midwest. McDearmon operationalized a new, non-behavioral, non-demographic predictor of alumni participation in giving that he called “alumni role identity.” Based in Stryker’s (1968, 1980) role identity theory and Callero’s (1985) seminal study of role identity salience, alumni role identity is a psychometric measure of the degree to which a college or university graduate self-identifies and is identified by others as an alumnus of a particular institution, and the inclination of that graduate to exhibit the socially expected behaviors of alumni, such donating to their alma mater (McDearmon, 2011).

McDearmon defined alumni role identity as an alumni attribute with dimensions of “salience, social and institutional expectations, and alumni involvement behaviors” (2013, p. 285). Using a self-report role identity survey instrument adapted from Callero (1985), McDearmon collected data on 688 alumni from a sample of 8,987 undergraduate degree holders from a large, public research university in the Midwest. The instrument assessed respondent levels of alumni role identity through a 15-item questionnaire designed to measure self-definition with the role of alumnus, social perceptions of being an alumnus, and self-expectations of behavior as an alumnus. McDearmon found that alumni who reported higher levels of alumni role identity participated more frequently in giving to their alma mater (2013, p. 299).
McDearmon’s (2011, 2013) findings suggested that higher education fundraising professionals could use alumni role identity as a criteria to more effectively solicit donations from alumni. Whereas McDearmon expanded the literature by operationalizing a new non-demographic, non-behavioral predictor of alumni participation in giving, there has been no research into what factors and characteristics lead to increased alumni role identity. As McDearmon himself pointed out, further research was needed to understand the “factors and characteristics...that lead to increased alumni role identity” (2013, p. 300). Therein lies the purpose of this study.

**Purpose of the Study**

The purpose of this study was to determine the factors and characteristics that influence alumni role identity. Based upon the research of Durango-Cohen et al. (2013), Netzer et al. (2008), and Weerts and Ronca (2007, 2009), a graduate's alumni role identity might be influenced by any number of alumni attributes that are known to be associated positively with alumni participation in giving, including alumni communications, social media use, behaviors, demographics, and giving history. This study examined the factors and characteristics that influenced alumni role identity among the graduates a mid-size, Jesuit university on the West coast.

**Research Questions**

This study investigated the factors and characteristics that influence alumni role identity. The following research questions guided this research:

1. What is the relationship of alumni role identity to alumni communications and social media attributes, including e-newsletter opens, Facebook activity, and LinkedIn participation?
2. What is the relationship of alumni role identity to alumni behavioral attributes, including event attendance and volunteering?

3. What is the relationship of alumni role identity to alumni demographic attributes, including age, years from degree, distance from campus, and status as a traditional or non-traditional undergraduate alumnus(a)?

4. What is the relationship of alumni role identity to alumni giving attributes, including donating, number of gifts, total lifetime giving, largest gift, and total years of giving?

**Limitations of the Study**

This study was conducted using a sample from a mid-size, Jesuit university on the West coast. The rationale for this decision was that institutionally-held data on the sample population was readily available to the researcher. This study collected data from a self-report survey instrument and compiled it with information on participants that was stored in the university’s alumni database. Access to the level of confidential information needed to conduct this research would have been difficult to attain from multiple institutions. The researcher therefore determined that it was most feasible to conduct this study using a study population from a single university.

The primary limitation of this research is that the findings cannot be generalized beyond the alumni population of the university from which the study sample was drawn. The implications of the study, however, are important for any 4-year institution of higher education in the United States. By describing the factors and characteristics that influence alumni role identity, this study provides higher education fundraising practitioners with an improved ability to predict alumni participation in giving.
A secondary limitation of this study is the use of email to recruit study participants. This limitation was moderated by two factors: (1) the number of alumni for whom the university had an email address on file, and (2) the accuracy of the email address itself. The sample population for this study included only those graduates to whom the university was able to send email. As a result, the generalizability of the study findings to alumni who do not have an email address on file with the university must be considered.

The researcher acknowledges the potential for bias in conducting this study. Since 2013, the researcher has served as the Director of Alumni Engagement for the university that was the research setting. Intimate knowledge of the university’s fundraising activities and alumni population might have introduced a predisposition on the part of the researcher regarding the potential for positive outcomes in the findings of this study.

Significance of the Study

The implications of this study are directed specifically at the higher education fundraising industry. This research helps address the nation-wide decline of alumni participation in giving by describing the factors and characteristics that influence alumni role identity. First proposed by McDearmon (2011), alumni role identity is a non-behavioral, non-demographic predictor of alumni participation in giving. It is a psychometric measure of a graduate’s level of connection to his or her alma mater and an indicator of their inclination to donate to the same.

Research has shown that fundraising in higher education is becoming overly reliant on alumni demographics and behaviors – over which colleges and universities have no influence – to predict alumni participation in giving (Netzer et al., 2008;
Durango-Cohen et al., 2013; Stephenson & Bell, 2014). The factors and characteristics identified in this study can be used by higher education fundraising professionals to implement engagement strategies focused on increasing alumni role identity at the level of individual alumni. A fundraising strategy of this nature broadens the scope of college and university fundraising efforts by providing fundraising offices with the ability to predict a graduate’s inclination to donate more effectively.

**Definition of Terms**

The following terms have been operationalized for this study.

*Alumni*—A group of graduates of a college or university.

*Alumnus(a)*—A graduate of a college or university.

*Alumni Attribute*—Any quantifiable piece of information about a college or university graduate, especially in relation to their alma mater (such as age, class year, number of university events attended, amount of donations made, etc.).

*Alumni E-newsletter*—A monthly email communication from a college or university to its graduates that contains campus news and information about alumni activities.

*Alumni Engagement*—The function of higher education fundraising that seeks to reconnect graduates with their alma mater through communications, events, programs, and services in order to increase a graduate’s inclination to donate to the institution.

*Alumni Role Identity*—An alumni attribute defined according to dimensions of “salience, social and institutional expectations, and alumni involvement behaviors” (McDearmon, 2013, p. 285). In this study, alumni role identity was
operationalized as a measure of a graduate’s level of connection to the university and an indicator of their inclination to donate to the same.

*Alumni Role Identity Score*—The sum of the three scales of the alumni role identity questionnaire (McDearmon, 2011). A participant’s score is an indicator of his or her level of identity salience with the alumni role. In this study, alumni role identity score was the criterion, or dependent variable, in the research questions.

*Donor*—A person who had made a gift of cash or cash-equivalents to a college or university.

*Fundraising*—The art and science of seeking of financial support for an organization, in the case of this study, for a college or university.

*Higher Education*—An industry comprised of colleges and universities that grant undergraduate and graduate degrees.

*Identity Salience*—The readiness of an individual to act out a particular role (Stryker, 1980). In this study, alumni role identity salience is represented by alumni role identity score. Study participants with higher alumni role identity scores are presumed to have a more salient alumni role identity.

*Role Identity*—The character and the role that an individual devises for himself or herself as an occupant of a particular social position (McCall & Simmons, 1966, p. 68). In this research, the social position being studied is ‘alumnus(s)’ and the subsequent role identity being examined is the character that an individual formulates for himself or herself as a college or university graduate.

*San Francisco Bay Area*—A geographic region in northern California that is comprised of the nine counties with direct access to the San Francisco bay, including San

Segmentation—The strategy and process of separating alumni into groups for solicitation according to attributes that are thought to increase participation in giving; specifically for the purpose of prioritizing resources towards soliciting donations from alumni that exhibit the greatest propensity to donate.

Social Media Use—In the context of this study, social media use was the act of an alumnus or alumna “liking” the university’s official Facebook page, adding their university degree to their public profile on LinkedIn, or joining the university’s official alumni networking group on LinkedIn.

Solicitation—The process and act of asking alumni in person, by phone, or through mail or email for a donation to a college or university.

Traditional Undergraduate—An individual who received their degree from the university’s full-time undergraduate program, as compared to a part-time undergraduate degree completion program.

Summary

Chapter I of this paper presented the research problem. Now more than ever, colleges and universities are relying on funds raised from alumni to support their operations. At the same time, alumni participation in giving is in decline and new research in the area of higher education suggests that college and university fundraising strategies are overly reliant on alumni behaviors and demographics as predictors of alumni giving. A 2011 study by McDearmon identified a non-behavioral, non-demographic measure of a graduate’s inclination to donate to his or her alma mater,
which he called “alumni role identity.” Based in role identity theory (Stryker 1968, 1980; Callero, 1985), McDearmon’s research demonstrated that alumni role identity was associated positively with alumni participation in giving. However, his investigation fell short of identifying the factors and characteristics that influence alumni role identity itself. The purpose of this study was to determine the factors and characteristics that influence alumni role identity. The implication of this study was to improve the ability of colleges and universities to predict alumni donations by increasing the alumni role identity of graduates.

Chapter II provides a review of the literature on the antecedents of alumni participation in giving and an in-depth examination of role identity theory and the alumni role identity construct. Chapter III outlines the methodology of this study and the results of a pilot study and content validity study conducted using McDearmon’s (2011) alumni role identity questionnaire. Chapter IV describes the results of this study. Chapter V presents a discussion of the findings, along with implications for practice and recommendations for further research.
CHAPTER II
REVIEW OF THE LITERATURE

Restatement of the Problem

Success in higher education fundraising is highly dependent on the ability of colleges and universities to exploit alumni attributes that have been shown to lead to increased donations (Monks, 2003). New research has revealed that certain of these attributes, namely alumni behavioral and demographic attributed, have lost some of their effectiveness in predicting alumni participation in giving (Durango-Cohen et al., 2013; McDearmon, 2013; Netzer et al., 2008, Stephenson & Bell, 2014). A non-demographic, non-behavioral indicator of a graduate’s inclination to donate to his or her alma mater is needed in order to give institutions new leverage in attracting donations from alumni. One such indicator, and the one examined in this study, is alumni role identity – a psychometric alumni attribute that has been shown to be positively associated with alumni participation in giving (McDearmon, 2011, 2013). The purpose of this study was to determine the factors and characteristics that influence alumni role identity.

Overview

The purpose of this literature review is to provide historical background on higher education fundraising in the United States and to review the current literature on predictors of alumni participation in giving. This chapter also includes an in-depth review of role identity theory, including roles and expectations and measuring role identity, and the relationship of alumni role identity to alumni participation in giving.
Historical Background

Standard practice in higher education alumni fundraising relies heavily on the use of observable alumni demographics and behaviors to predict a graduate’s propensity to donate (Monks, 2003). Alumni that demonstrate behaviors and demographics that are positively associated with giving are targeted for philanthropic solicitation. Alumni that do not exhibit such attributes are left out of solicitation efforts. This practice is based upon decades of research on the alumni to alma mater relationship, which has shown that alumni behaviors, such as volunteering or attending a university event, are associated positively with alumni giving (Sun et al., 2007; Weerts & Ronca, 2007), as are demographic factors such as age, income level, and proximity to campus (Bruggink & Siddiqui, 1995; Clotfelter, 2003).

Higher education fundraising professionals use alumni demographic and behavioral criteria to inform their work on a daily basis (Monks, 2003). The effectiveness, however, of alumni demographic and behavioral attributes in predicting alumni giving has been called into question by some researchers (Durango-Cohen et al., 2013; McDearmon, 2013; Netzer et al., 2008, Stephenson & Bell, 2014). As the reliance of institutions of higher education on fundraising continues to increase (Brown et. al, 2014; Council for Aid to Education, 2012), college and university fundraising professionals are looking for new ways to identify alumni who are likely to become donors.
Predictors of Alumni Participation in Giving

Outside of McDearmon’s (2011, 2013) research, no literature exists on the predictors of alumni role identity. Since alumni role identity is known to be associated positively with alumni participation in giving (McDearmon, 2011), this literature review explored the antecedents of alumni participation in giving in search of possible predictors of alumni role identity. This section is organized according to groupings of attributes that emerged from the literature: (1) alumni communications and social media use, and (2) alumni behaviors and demographics.

Alumni communications and social media use

A review of the literature in higher education fundraising reveals a lack of serious inquiry into the impact of email communication and email readership on alumni donations. Some evidence exists that university-produced communications, such as alumni magazines, can influence philanthropy. In her study of predictors of alumni philanthropy at a public college in New England, Shadoian (1989) found that alumni readership of university publications was the most useful factor at differentiating between alumni donors and alumni non-donors, more accurate even than behavioral and demographic attributes. Further research into the use of electronic communications by the nonprofit sector has shown that an increase in email readership by non-profit constituents, such as members of non-profit organizations, was correlated with increased donations and volunteer participation (Burt & Taylor, 2000; Olsen, Keevers, Paul, & Covington, 2001). Taken together, these findings suggest that alumni readership of university-authored electronic publications might also be associated positively with alumni donations.
The research of Shadoian (1989), Burt and Taylor (2000), Olsen et al. (2000), and Covington (2011) suggest that alumni readership of electronic communications sent by their alma mater are associated positively with alumni participation in giving, and might therefore also be predictors of alumni role identity. In this research, readership of the university’s alumni e-newsletter by study participants was one of the many factors examined for its relationship to alumni role identity.

In addition to alumni communications, another relatively unexplored area in the literature of higher education fundraising concerns the relationship of social media use to alumni participation in giving. A 2013 study from the University of Massachusetts Dartmouth revealed that nearly 100% of U.S. colleges and universities surveyed were using at least one social media platform to promote their institution (Barnes & Jacobsen, 2013). While the use of social media by colleges and universities may be ubiquitous, little is known about how a graduate’s interaction with their alma mater via social media might influence his or her participation in giving. Nor is the influence of social media marketing on online giving behavior in the nonprofit sector well understood (Ingenhoff & Koelling, 2009).

In the private sector, efforts by organizations to cultivate trust with customers via social media have been shown to increase customer loyalty (Porter & Donthu, 2008). A 2011 study of the attitudes of consumers in Turkey towards social media marketing by corporations demonstrated a positive relationship between the two (Akar & Topcu, 2011). The findings of Porter and Donthu (2008) and Akar and Topcu (2011) suggest that institutions of higher education might also increase loyalty and attitudes of support among alumni through strategic use of social media marketing.
In a cross-sectional study of American internet users, researchers Reddick and Ponomariov (2013) examined the relationship between nonprofit organization participation, social media use, and online giving. They found that while off-line participation in a nonprofit organization was associated positively with making an online gift to the same organization, usage of social media “does not appear to influence the likelihood of donating online, nor is there an interaction between associational participation and usage of social media” (2013, p. 1211). Although social media marketing conducted by nonprofit organizations may not have much influence on the giving behavior of prospective donors and constituents, Reddick and Ponomariov’s results demonstrated that social media marketing strategies focused on deepening relationships with existing constituents could positively influence online giving behavior.

In the context of higher education fundraising, Reddick and Ponomariov’s research suggests that a preexisting relationship, such as that between a graduate and his or her alma mater, might contribute to a graduate’s inclination to make an online donation. Just over 21% of survey respondents in Reddick and Ponomariov’s (2013) study indicated they were currently active in a college or university alumni association. Factor analysis of active group participation and donations via the internet revealed that the most influential factor in predicting online giving behavior among all respondents was off-line affiliation with an alumni association.

The work of Reddick and Ponomariov (2013) showed that social media marketing did influence online giving behavior among survey respondents that reported active, off-line participation with an alumni association. This finding implies that that alumni who
interact with their alma mater via social media platforms may have a higher propensity to donate than alumni who do not participate in such interact actions.

The research of Porter and Donthu (2008), Akar and Topcu (2011), and Reddick and Ponomariov (2013) suggest that alumni interactions with their alma mater via social media use are associated positively with alumni participation in giving, and therefore might also be predictors of alumni role identity. In this research, the social media use of study participants was one the many factors examined for its relationship to alumni role identity.

_Alumni behaviors and demographics_

In their case study of alumni giving at an independent liberal arts college in the late 1980’s, Bruggink and Siddiqui (1995) demonstrated the value of an alumni behavioral and demographic attributes in predicting in alumni donations. The researchers used an econometric model of giving to test the impact and relative influence of a variety of demographic and behavioral factors on alumni participation in giving. Findings revealed that alumni income, volunteering, and age were, in that order, the three factors most highly correlated with alumni donations.

In addition to alumni volunteering, income, and age, alumni attendance at on-campus events has also been shown to be a predictor of alumni participation in giving. A 2008 study of 15 years of data on alumni giving at Middlebury College, a small, elite liberal arts school in Vermont, found that reunion attendance was a “good indicator of attachment to the college” (Holmes, 2009, p. 24). Middlebury College alumni that had attended an on-campus event were 17% more likely to make a contribution to their alma mater college than those who had not. Results also showed that alumni proximity to
campus was a moderating factor in predicting participation in giving. Graduates who lived within 250 miles of the Middlebury College campus were more likely to donate to than alumni who lived further away from their alma mater.

Using alumni data collected by the College and Beyond survey from 14 private colleges and universities, Clotfelter (2003) showed that the amount of a graduate's donation to their alma mater was most highly correlated with age and income. Unlike other econometric studies of alumni giving, Clotfelter’s study took into account the “personal experiences that often link donors to the organizations to which they donate” by including several measures of alumni satisfaction as independent control variables (2003, p. 119). This study demonstrated that “donations that alumni made to their alma maters were highly correlated to their expressed satisfaction with their own college experiences and other measures of satisfaction with the institution” (Clotfelter, 2003, p. 119).

In 2008, researchers Netzer, Lattin, and Srinivasan investigated the alumni to alma mater relationship at a large West coast university. Borrowing from the literature on customer relationship management, the researchers used a Hidden Markovian Model (HMM) to analyze the giving patterns of 1,256 randomly selected graduates. Inputs for the model included demographic, behavioral, and attitudinal data on the sample population sourced from the institution’s alumni and donor database. The attitudinal measures were taken from an alumni engagement survey deployed by the university’s alumni association.

The HMM analysis placed study participants into one of three states of alumni giving: (a) dormant, (b) occasional, or (c) active. Alumni in the active state of giving
were far more likely than their peers to report a strong emotional connection to the university and a strong sense of responsibility to help the university (Netzer et al., 2008).

In an unexpected finding, the HMM revealed that alumni behaviors such as reunion attendance and volunteering did not differ significantly among alumni in each of the three states of giving. This study showed that an alumni who demonstrated high feelings of connection to their alma mater were more likely to also be donors. Additionally, the findings indicated that alumni behavioral factors were not necessarily uniform in predicting alumni giving.

In their study of alumni of the University of Wisconsin, Madison (UW Madison), Weerts and Ronca demonstrated that “alumni beliefs about institutional needs” were associated positively with alumni participation in giving (2009, p. 95). The authors gathered demographic, behavioral, and attitudinal information from a randomly selected group of undergraduate alumni via a self-report survey questionnaire. Using a statistical model based on Breiman, Friedman, Olshen, and Stone’s (1984) Classification and Regression Trees, the researchers compared survey responses with observed instances of respondent giving, as recorded in the institution’s alumni and donor database.

The first node in the classification tree and, therefore, the most important factor in a graduate’s decision to give to UW Madison, was his or her own perception of the degree to which the university needed their financial support. Although demographic factors did reveal themselves as decision nodes further down the classification tree, the primary finding of this study is that a non-demographic, non-behavioral variable – in this case alumni perceptions of UW Madison – was the primary predictor of whether or not a graduate chose to make a gift to the institution (Weerts & Ronca, 2009).
The research of Bruggnik and Siddiqui (1995), Clotfelter (2003), Holmes (2009), Netzer et al. (2008), and Weerts and Ronca (2009) revealed that alumni behaviors and demographics such as event attendance, volunteering, age, and proximity to campus are associated positively with alumni participation in giving, and might therefore also be predictors of alumni role identity. In this research, the behaviors and demographics of study participants were some the many factors examined for their relationship to alumni role identity.

**Theoretical Framework**

This subsection presents the theoretical and empirical foundation of alumni role identity, an alumni attribute developed by McDearmon (2011) that served as the criterion, or dependent variable, in this study. Rooted in Stryker’s (1968, 1980) role identity theory, alumni role identity is a quantifiable, non-behavioral, non-demographic alumni attribute that is a known predictor of alumni participation in giving (McDearmon, 2011).

**Role identity theory**

Role identity theory (Stryker, 1968, 1980) defines the social nature of self as constituted by society and provides a framework for understanding self-concept and normative behavior (Hogg, Terry, & White, 1995). It describes the self “as differentiated into multiple identities that reside in circumscribed practices (e.g., norms, roles)” (p. 255). Role identity theory posits that individuals placed into socially recognizable positions will likely fulfill the social expectations of those positions (Stryker, 1968, 1980). For example, a person appointed as the leader of a group will likely exhibit leadership behavior toward that group. Stryker theorized that socially recognizable positions such as these serve “to cue behavior and to act as predictors of behavior” for
those that occupy them (1980, p. 57). In the context of this study, the position was
‘alumnus(a)’ and the behavior to be predicted was the social expectation that alumni give
back to their alma mater through donations.

Role identity theory frames a socially recognized position, like alumnus(a), as a
status that comes with a set of social expectations. In the United States, college and
university graduates are given the socially recognized status of alumni. Inherent with this
status are the mores of the community of all college graduates. In his seminal work on the
topic, Sheldon Stryker wrote, “role theory uses "status" for parts of organized groups and
"role" for basically fixed behaviors expected of persons occupying a status” (2001, p. 17).
Identity theorist Ralph Turner expanded Stryker’s definition, stating that a role is, at its
essence, “a cluster of behaviors and attitudes that are thought to belong together” (Turner,
2001, p. 233). According to these criteria, the position and status of ‘alumnus(a)’ is a part
of a college graduate’s identity by virtue of the fact that it differentiates them from the
behaviors and attitudes of others, namely as those that did not attend college. The
position and status of ‘alumni(a)’ is a role unto itself.

Roles and expectations

Role identity theory holds that individuals can inhabit many different roles at the
same time (Stryker, 1968). Roles are not mutually exclusive. A person can occupy several
roles at once, such as a family role (father or mother), a role at work (boss or
subordinate), and a role at play (friend or teammate). The expectations of each role,
however, can be quite different. Role expectations are acquired by the role player through
symbolic interactions learned in social situations (Stryker, 1980). Social expectations are
formed when “individual behavior in social contexts is organized and acquires meaning”
through roles (Turner, 2001, p. 233). For example, a college graduate accrues, from interacting with other alumni, a set of expectations about how they are to interact with their alma mater.

When an individual becomes a role player, like that of an alumnus or alumna, role identity theory suggests that the individual will, both in terms of behavior and attitude, start to become guided by the expectations of that role (Turner, 2001). The role expectations of those occupying the role of alumnus(a) are acquired and defined when interacting with groups of other alumni. According to Turner, “casual patterns of behavior materialize spontaneously as individuals acquire situational identities during sustained interaction in a group setting” (2001, p. 234). For a college graduate, interacting with other alumni creates social mores that influence choice, and when the patterns and behaviors expected of alumni are not met or exceeded, others within and outside of the community of alumni take notice.

Research into the alumni role has found that donating to one’s alma mater is the most prevalent social and communal expectation among college graduates. In their study of a mid-sized public university on the East coast, Stephenson and Bell (2014) found that the majority of alumni that donated to the institution did so primarily because of their status as an alumnus or alumna. Using a self-report survey instrument, the researchers gathered data from 2,763 alumni respondents, 1,617 of whom were donors to the university. Of those that were donors, 68% “claimed that they donated money to the institution simply because they were an alumna/us” (p. 181). Over two-thirds of alumni participants in Stephenson and Bell’s study indicated that they donated to their alma mater simply because of their role and status as alumni. This suggested that, within the
population studied, there existed a strong belief that alumni were expected to contribute financially to the university for no reason other than their role as a graduate.

**Measuring role identity**

The most widely accepted method in the literature for measuring role identity is the role identity questionnaire developed by Peter Callero in 1985 (McDearmon, 2011, 2013). Using blood donors as a case study, Callero (1985) conducted an empirical investigation of role identity by comparing reported levels of role salience, social perceptions, and role expectations among voluntary blood donors with documented instances of blood donation. Callero (1985) found that study participants who demonstrated greater salience toward their identity as blood donors were likely to give blood more often than blood donors who demonstrated a lower salience with the blood donor identity. Participants with high and low salience for their role identity both gave blood, but those with higher degrees of salience towards their identity as blood donors were shown to donate blood more often. Callero’s research demonstrated that “when a role identity is salient it is more representative of the self” it has “implications for social relationships in that they announce to others who we are” (1985, p. 205). Callero’s findings supported Stryker’s (1968, 1980) theoretical position that privately and publicly expressed alignment with a role identity results in increased likelihood for an individual to fulfill the social expected behaviors of that role identity.
Alumni role identity

McDearmon (2011) extended the concept of role identity into the area of higher education fundraising by adapting Callero’s (1985) methodology. To arrive at a measure of alumni role identity, McDearmon (2011) modified Callero’s (1985) role identity questionnaire by substituting the role ‘alumnus(a)’ for ‘blood donor.’ Both studies used Stryker’s (1968, 1980) role identity theory as a framework to test their respective hypotheses. Callero’s (1985) research sought to determine the degree to which one’s identity as a blood donor was related to frequency of blood donation. McDearmon’s (2011) research examined the relationship between one’s identity as a college graduate and one’s support behaviors towards one’s alma mater, namely donations.

McDearmon (2011) theorized that college and university graduates with a high degree of alumni role identity would be more active participants in alumni giving and other support behaviors. To test this hypothesis, McDearmon administered an alumni role identity questionnaire to a random sample of alumni of a large, public research university in the Midwest. Using independent samples t-tests, McDearmon compared respondents’ questionnaire scores with respondents’ self-reported donation history and found that study participants who were also donors responded more favorably across all three scales of the alumni role identity questionnaire as compared to their non-donor peers (McDearmon, 2013, p. 294) (see Table 1). These findings indicated that graduates with high alumni role identity were more likely to be donors to their alma mater than graduates with low alumni role identity (p. 299).
Table 1

Independent Samples t-test Results by Donor and Non-Donor Respondents for the Three Scales of McDearmon’s 2011 Alumni Role Identity Questionnaire

<table>
<thead>
<tr>
<th>Scale</th>
<th>Donors</th>
<th>Non-Donors</th>
<th>ΔMean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salience</td>
<td>4.11</td>
<td>3.58</td>
<td>.53</td>
</tr>
<tr>
<td>Social perceptions</td>
<td>3.49</td>
<td>3.10</td>
<td>.29</td>
</tr>
<tr>
<td>Role expectations</td>
<td>3.02</td>
<td>2.40</td>
<td>.62</td>
</tr>
</tbody>
</table>

*Note:* Means and difference between means of the two groups (ΔMean). *n* = 657. All means were significant at the *p* < .05 level.

McDearmon’s research demonstrated that alumni role identity is associated positively with alumni giving. Specifically, participants who reported high levels of salience towards their role identity as an alumnus(a) were more likely to be donors to their alma mater. These results corroborated Callero’s (1985) findings that increased role identity salience was a predictor of fulfilling role expected behavior.

McDearmon’s (2011) work suggested that higher education fundraising professionals could use alumni role identity as criteria to more effectively solicit donations from alumni. In order to do this, however, McDearmon noted that further research was needed to understand the “factors and characteristics...that lead to increased alumni role identity” (2013, p. 300). This study continued the research where McDearmon left off by investigating the factors and characteristics that influence alumni role identity.
Summary

In the mid-2000s, research in higher education fundraising began to explore antecedents of alumni giving that operate independent of, or in addition to, the demographic and behavioral characteristics of graduates. This was in response to findings in the literature that indicated a decline in the effectiveness of alumni demographic and behavioral attributes in predicting alumni donations. Evidence suggests that alumni role identity, a non-behavioral and non-demographic alumni attribute, is a useful predictor of alumni participation in giving (McDearmon, 2011). However, further research is needed to determine how higher education fundraising professionals might influence alumni role identity and thereby increase giving. A review of the literature suggests that alumni role identity will be associated positively with alumni attributes such as communications, social media use, behaviors, demographics, and giving. This study contributes to the literature by describing which of these attributes influence alumni role identity.
CHAPTER III

METHODOLOGY

Restatement of the Purpose

The purpose of this study was to determine the factors and characteristics that influence alumni role identity. Alumni role identity is a measure of a graduate’s level of connection to his or her alma mater and an indicator of their inclination to donate to the same (McDearmon, 2013). Alumni role identity has been shown to be associated positively with alumni donations (McDearmon, 2011). This study investigated the factors and characteristics that influence alumni role identity among the graduates of a mid-size, Jesuit university on the West coast.

Research Design

This research was a quantitative study that used correlational, t-test and regression techniques to analyze data collected from a self-report survey and the university’s alumni database. The method took place in four steps (see Figure 1). The first step was to gather the email contact information for all alumni within the sampling frame, which included all undergraduate degree holders with an email on file in the university’s alumni database. Second, a sample was created by selecting 1 in 2 alumni from the sampling frame using a random sampling generator. Third, the alumni role identity questionnaire (McDearmon, 2011) was sent to all alumni in the sample using the online survey software Qualtrics. Fourth, information on the communications, social media use, behaviors, demographics, and giving history of survey respondents was appended to survey responses using data on file in the university’s alumni database. The resulting dataset included alumni role
identity questionnaire responses along with alumni attributes and giving history for all study participants.

Figure 1

Research Design

Research Setting

This study examined the graduates of a mid-size, Jesuit university on the West coast. Founded by the Society of Jesus in 1855, the university enrolled all male students until 1965, when women were first admitted as students. The institution was comprised of two professional schools that grant graduate degrees only, the School of Law and the School of Education, two professional schools that award both undergraduate and graduate degrees, the School of Management and the School of Nursing and Health
Professions, and the College of Arts and Sciences, which grants both undergraduate and graduate degrees. Additionally, the institution had a robust non-traditional undergraduate degree granting program, which enrolled adults as part-time students. In the fall of 2015, the university enrolled 6,782 undergraduate students and 4,046 graduate students in over 100 degree programs. The school had 15 NCAA Division I sports teams and held 8 national sports championships (Ziajka, 2016). The main campus of the university was located in the San Francisco Bay Area.

**Population and Sample**

The population studied was all living alumni that held an undergraduate degree from the university. As of May 31, 2016, the university had 61,324 living undergraduate alumni. The population was narrowed to a sampling frame that included only those graduates to whom the university was able to send email. At the time this study was conducted, the university had on file a valid email address for 60% of the living undergraduate alumni population (Holland, 2016). An alumnus(a) was considered emailable if the university had a valid email address on file for them in the institution’s alumni database and the alumnus(a) had not opted out of email communications from the university. In this study, an email address was deemed to be valid if the most recent email communication sent to that address by the university did not fail, bounce, or return rejected.

The study sample was limited to emailable undergraduate alumni in order to ensure that all possible study participants would have had equal chance to read electronic communications from the university. This criteria was critical to the research question one of this study, which addressed the relationship of alumni email readership to alumni
role identity. The sampling frame included 38,905 emailable undergraduate degree holders. Demographic statistics were generated for both the study population and sampling frame (see Table 2).

Table 2

*Location, Sex, Age, and Race of the Study Population (n=61,324) and Sampling Frame (n=38,905)*

<table>
<thead>
<tr>
<th></th>
<th>Study population %</th>
<th>Sampling frame %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Francisco bay area</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>Other California</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Other U.S. states</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>International</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>54</td>
<td>57</td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>43</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 to 29</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>30 to 39</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>40 to 49</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>50 to 59</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>60 to 69</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>70 and older</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>58</td>
<td>53</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>22</td>
<td>26</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Black/African American</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
A random sample generator was used to select 1 in 2 alumni from the sampling frame to create the study sample. Only half of the sampling frame was selected for the study sample in order to preserve the remaining members of the sampling frame for possible further research related to the findings of this study. All alumni within the sampling frame had an equal chance of being selected for the study sample. Prior to the random sampling procedure, 105 alumni were removed because they had responded to the pilot study, which reduced the total members of the sampling frame to 38,800. The random sampling generator produced a list of 19,400 alumni to invite to participate in the study. This list contained the first name, last name, email address, and a unique numeric identifier for each invitee.

**Instrumentation**

This study used data collected via a self-report survey instrument titled the Alumni Role Identity Questionnaire (McDearmon, 2011), used by permission of the author (see APPENDIX A). McDearmon adapted this instrument from a questionnaire developed by Peter Callero (1985) for a study of role identity salience. Both instruments were based in Stryker’s (1968, 1980) role identity theory. The alumni role identity questionnaire was designed to measure the strength of a graduate’s identification with his or her role as an alumnus(a) from a particular college or university. In his research, McDearmon (2011) theorized that graduates with high alumni role identity would be more likely to participate in the support behaviors towards their alma mater, such as making a donation. McDearmon created the alumni role identity questionnaire in order to measure alumni role identity and test this hypothesis.
Like Callero’s (1985) protocol for gauging role identity salience, McDearmon’s (2011) alumni role identity questionnaire quantified role identity according to three dimensions: (1) identity salience, (2) social perceptions, and (3) role expectations. The dimensions are separated into three sections in the questionnaire. Each section includes five statements. The statements address aspects of a respondent’s self-definition with the role of alumnus (identity salience), his or her social perceptions of being an alumnus (social perceptions), and his or her self-expectations of how alumni should behave toward their alma mater (role expectations).

When completing the questionnaire, respondents were asked to indicate their level of agreement with each statement along a 6 point Likert scale, listed below with coded response values in parentheses.

- Strongly Disagree (1)
- Disagree (2)
- Slightly Disagree (3)
- Slightly Agree (4)
- Agree (5)
- Strongly Agree (6)

The first section, which measured the identity salience of the respondent, contained five statements, each presented below with item labels in brackets. Respondents were asked to rate their agreement with each statement according to the scale provided.
1. Being a <universityname> alumnus(a) is something I often think about. [salience1]

2. I really don't have any clear feelings about being a <universityname> alumnus(a). [salience2]

3. For me, being a <universityname> alumnus(a) means more than just contributing money or time. [salience3]

4. Being a <universityname> alumnus(a) is an important part of who I am. [salience4]

5. I would feel lost if I were not a <universityname> alumnus(a). [salience5]

The second section, which measured the social perceptions of the respondent, contained five statements, each presented below with item labels in brackets.

Respondents were asked to rate their agreement with each statement according to the scale provided.

6. Many people think of me as being a <universityname> alumnus(a). [social 1]

7. Other people think that being a <universityname> alumnus(a) is important to me. [social2]

8. It is important to my friends and family that I am a <universityname> alumnus(a). [social3]

9. It does not matter to most people that I am a <universityname> alumnus(a). [social4]

10. Many people I know are not aware that I am a <universityname> alumnus(a). [social5]
The third and final section, which measured the role expectations of the respondent, contained five statements, each presented below with item labels in brackets. Respondents were asked to rate their agreement with each statement according to the scale provided.

11. As an alumnus(a), it is my duty to support the university through financial contributions (Donations or Gifts). [role1]

12. As an alumnus(a), it is my duty to support the university through volunteering. [role2]

13. As an alumnus(a), I am expected to attend alumni events (On-and Off-Campus). [role3]

14. As an alumnus(a), it is my duty to serve on a university board or committee. [role4]

15. As an alumnus(a), I am expected to attend athletic events. [role5]

In his 2011 study, McDearmon reported Cronbach alpha reliability estimates of at least .84 for the items with the sections of the alumni role identity questionnaire (identity salience, social perceptions, and role expectations), and intercorrelations of .50 or higher ($p<.01$) for the same. These were consistent with Callero's (1985) role identity instrument, which served as the basis for McDearmon’s (2011) questionnaire. Callero (1985) reported Cronbach alpha reliability estimates of at least .81 for the items within the sections of his instrument, and intercorrelations of .55 ($p<.001$) for the same. The consistency of Cronbach alpha reliability estimates and intercorrelation coefficients between the two instruments led McDearmon (2011) to conclude that the alumni role identity questionnaire was a reliable measure of alumni role identity.
Pilot Study

This study measured the role identity of college graduates using the alumni role identity questionnaire (McDearmon, 2011). Participants in McDearmon’s research were alumni of a large, public university in the Mid-west, whereas the population and sample for this study were graduates of a mid-sized, Jesuit university on the West coast. Given the distinct differences between the two research settings (i.e. large v. mid-size, public v. Jesuit, Mid-west v. West coast), a pilot study was undertaken in order to test the validity and reliability of the alumni role identity instrument for this study.

A random sample of 1,082 alumni were chosen from this study’s sample master list and invited to participate in the pilot study. An email invitation to complete the alumni role identity questionnaire (McDearmon, 2011) was sent to the pilot study sample via the survey software Qualtrics. A reminder email was sent three days after the initial invitation. Delivery to 17 email addresses failed. A total of 1,065 alumni in the sample received the email invitation; 105 started the online survey and 100 completed it – a response rate of just under 9%.

Participant responses (n=100) were loaded into the statistical software STATA for analysis. Negatively worded questionnaire items [salience 2], [social4], and [social5] were recoded so that scores could be added into a scale. Descriptive statistics, Cronbach alpha reliability estimates, and intercorrelations were computed at the summary level for each scale within the alumni role identity questionnaire. The results of the pilot study were then compared to those reported by McDearmon in his 2011 study (see Table 3).
Table 3

Means, Standard Deviations (SD), Intercorrelations, and Reliabilities for the Three Scales in the Pilot Study and the McDearmon (2011) Study

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td><strong>Pilot study</strong></td>
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<tr>
<td>1. Salience</td>
<td>3.55</td>
<td>1.00</td>
<td>.80</td>
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<tr>
<td>2. Social perceptions</td>
<td>2.90</td>
<td>1.05</td>
<td>.73**</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>3. Role expectations</td>
<td>2.54</td>
<td>.94</td>
<td>.52**</td>
<td>.53**</td>
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<tr>
<td>1. Salience</td>
<td>3.96</td>
<td>1.02</td>
<td>.85</td>
<td></td>
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</tr>
<tr>
<td>2. Social perceptions</td>
<td>3.37</td>
<td>1.05</td>
<td>.69**</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td>3. Role expectations</td>
<td>2.83</td>
<td>1.04</td>
<td>.50**</td>
<td>.51**</td>
<td>.89</td>
</tr>
</tbody>
</table>

*Note:* Main diagonals contain Cronbach alpha reliability estimates. **p<.01

**Validity**

Pilot study results of the means and standard deviations of the alumni role identity scales were similar to those attained by McDearmon (2011). Responses to the salience scale items across both studies indicated slight agreement among participants that being a college graduate fit within their own self-identity. This suggests that participants’ overall sense of self includes their identity as an alumnus or alumna of the university. The congruence of pilot study findings with those of McDearmon (2011) and the moderately high intercorrelations among the three scales indicate a moderate degree of construct validity in using the alumni role identity questionnaire to measure alumni role identity in this study.
**Reliability**

The three scales of the alumni role identity questionnaire demonstrated a high level of reliability within the pilot study. Cronbach alpha reliability estimates were .80 or greater for the salience, social perceptions, and role expectations scales in both the pilot study and McDearmon’s 2011 study. Intercorrelations among the three scales from the pilot study were similar to McDearmon’s findings from 2011, which suggests that participants in the pilot study were just as consistent in their responses across the 15 questionnaire items as the respondents in McDearmon’s research. Additionally, correlation results of both the pilot study and McDearmon’s 2011 study indicated that participants who agreed with the social perceptions and role expectations scales had greater salience towards their role identity as an alumnus(a).

Analysis of the performance of the alumni role identity questionnaire between this study and McDearmon’s 2011 study indicated a high degree of construct validity and internal reliability in using the instrument to quantify alumni role identity as an attribute of alumni participants.

**Scoring**

Alumni role identity was the criterion, or dependent variable, in this study. It was operationalized through alumni role identity score as a continuous measure of a participant’s level of connection to the university and an indicator of their inclination to donate to the institution. Alumni role identity scores were calculated for each pilot study participant by summing their responses to the three scales of the alumni role identity questionnaire. The maximum possible alumni role identity score was 90, which was achieved when the participant strongly agreed with each of the 15 questionnaire items.
The minimum possible alumni role identity score was 15, which was achieved when the participant strongly disagreed with all 15 items. A normal distribution of alumni role identity scores was desired in order to facilitate the statistical analyses necessary to address the research questions. To examine the possible distribution of scores in this study, descriptive statistics were generated for the alumni role identity scores of the 100 pilot study participants. Results revealed a slightly positive skew of scores (see Table 4, Figure 2). The researcher concluded that alumni role identity score could be used effectively as a continuous variable in regression models and other statistical techniques.

The results of the pilot study indicated that the alumni role identity questionnaire performed reliably in the research setting. Cronbach alpha reliability estimates and intercorrelations across the three scales of the questionnaire in the pilot study were consistent with those reported by McDearmon (2011) and Callero (1985). However, the mean scores of responses to the three scales (identity salience, social perceptions, and role expectations) of the alumni role identity questionnaire were lower in the pilot study as compared to McDearmon’s (2011) findings. Further investigation into the difference in mean scores revealed that some questionnaire items contributed to the variance in alumni role identity score more than others. As a result, a content validity study was undertaken in order to gather constructive feedback from a panel of experts on the quality of the alumni role identity questionnaire itself.

Table 4

| Mean, Standard Deviation (SD), Skewness (Skew), Minimum (Min) and Maximum (Max) Values for Alumni Role Identity Scores Collected in the Pilot Study |
|---|---|---|---|---|---|
| Alumni role identity score | 100 | 45 | 12.80 | .28 | 15 | 70 |
Figure 2

*Frequency and Distribution of Alumni Role Identity Scores of Pilot Study Participants, n=100*

Content Validity Study

The purpose of the content validity study was to assess the validity of the alumni role identity questionnaire in measuring alumni role identity. Six professionals who have expertise in higher education philanthropy were identified and recruited to serve on a content validity panel. All of the panelists held doctoral degrees in education, four were female and two were male. One was an associate professor and program coordinator for higher and postsecondary education at an Ivy League school, one was the director of special collections and archives and associate professor of philanthropic studies at a major public research university in the Midwest, one was a senior director of development at a university on the West coast, one was the President of a small private liberal arts college in the Midwest who previous worked in institutional fundraising, one
was an associate professor of marketing at a small private professional college in New York with expertise in survey methods, and one was the director of an academic resource center at a large public university in the south with experience in alumni (see Table 5).

Table 5

<table>
<thead>
<tr>
<th>Panelist</th>
<th>Sex</th>
<th>Degree</th>
<th>Title</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panelist A</td>
<td>Male</td>
<td>Ph.D.</td>
<td>Associate Professor &amp; Program Coordinator, Higher &amp; Postsecondary Education</td>
<td>Teachers College, Columbia University</td>
</tr>
<tr>
<td>Panelist B</td>
<td>Female</td>
<td>Ph.D.</td>
<td>Lecturer/Program Coordinator, Post-Baccalaureate Certificate in Philanthropic Leadership Special Collections and Archives and Associate Professor of Philanthropic Studies</td>
<td>LIM College</td>
</tr>
<tr>
<td>Panelist C</td>
<td>Female</td>
<td>Ph.D.</td>
<td>Senior Director of Development, Associate Professor of Marketing, Management &amp; Finance</td>
<td>Indiana University</td>
</tr>
<tr>
<td>Panelist D</td>
<td>Female</td>
<td>Ph.D.</td>
<td>President</td>
<td>California State University, Fresno</td>
</tr>
<tr>
<td>Panelist E</td>
<td>Female</td>
<td>Ph.D.</td>
<td>President</td>
<td>Arkansas State University.</td>
</tr>
<tr>
<td>Panelist F</td>
<td>Male</td>
<td>Ph.D.</td>
<td>President</td>
<td>Franklin College</td>
</tr>
</tbody>
</table>

**Procedure**

An online content validity survey was developed and sent to the panel of experts following a protocol for validity panels set forth by Rubio, Berg-Weger, Tebb, Lee, and Rauch (2003). The content validity survey (see APPENDIX B) was comprised of three sections that corresponded to the three dimensions of alumni role identity that the alumni role identity questionnaire was designed to measure (McDearmon, 2011). The sections were (1) identity salience, (2) social perceptions, and (3) role expectations.
A theoretical definition of the dimension to be measured was presented at the beginning of each section of the content validity survey. Using the theoretical definition provided, the experts were asked to rate each item within that section according to its ability to measure the dimension of alumni role identity defined for that section. For example, the first section of the alumni role identity questionnaire (McDearmon, 2011) was intended to measure identity salience. In the corresponding first section of the content validity survey, the experts were provided with a definition of role identity salience adapted from Stryker (1968) and Callero (1985), and then asked to rate the five items of that section for representativeness and clarity in relation to the theoretical definition. In the content validity survey, the experts were requested to rate the representativeness and clarity of individual alumni role identity questionnaire items using the following scales:

Representativeness scale
1 = item is not representative
2 = item needs major revisions to be representative
3 = item needs minor revisions to be representative
4 = item is representative

Clarity scale
1 = item is not clear
2 = item needs major revisions to be clear
3 = item needs minor revisions to be clear
4 = item is clear

After rating the five items of a section, the experts were asked to evaluate the comprehensiveness of the entire section as a whole by providing qualitative feedback on items they felt should be revised, added, or deleted.
Analysis

Following procedures outlined by Rubio et al. (2003), two types of analyses, interrater agreement (IRA) and content validity index (CVI), were performed on content validity survey responses. To calculate the IRA and CVI, the scales for representativeness and clarity in the content validity survey were dichotomized, with values one and two combined and coded as 0, and value three and four combined and coded as 1. This method of analysis was based upon quantitative procedures recommended by Grant and Davis (1997) in their work on the use and selection of content experts for the development of instruments.

The IRA is the average of these dichotomized values across the panel of experts. An IRA of 1 was an indicator that all six experts rated an item a 3 or 4 on the representativeness or clarity scale. An item where only five of the six experts rated a 3 or 4 was calculated to have an IRA of .83. Interrater agreement was also be calculated across groups of items by taking the number of items within a section that achieved an IRA of 1 and dividing that figure by the total number of items within the section. Additionally, this calculation was made for the instrument as whole.

To estimate the content validity index (CVI) of an item, the number of experts who rated the item 3 or 4 were counted and divided by the total number of experts. The CVI for each section was calculated by taking the average CVI across the five items of the section. The CVI for the instrument as a whole is calculated by taking the average CVI of all items.
**Results**

All six experts completed the content validity survey. The IRA and CVI for representativeness and clarity were calculated for each section of the alumni role identity questionnaire and the instrument as a whole (see Table 6).

Table 6

*Interrater Agreement (IRA) and Content Validity Index (CVI) for the Representativeness and Clarity of the Three Dimensions of the Alumni Role Identity Questionnaire (McDearmon, 2011)*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>IRA</th>
<th>CVI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Representativeness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salience</td>
<td>.80</td>
<td>.97</td>
</tr>
<tr>
<td>Social expectations</td>
<td>.60</td>
<td>.93</td>
</tr>
<tr>
<td>Role expectations</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Overall</td>
<td>.80</td>
<td>.97</td>
</tr>
<tr>
<td><strong>Clarity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salience</td>
<td>.60</td>
<td>.90</td>
</tr>
<tr>
<td>Social expectations</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Role expectations</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Overall</td>
<td>.87</td>
<td>.97</td>
</tr>
</tbody>
</table>

The overall interrater agreement for the representativeness and clarity of the instrument was .80 and .87, respectively, an indication that the panel of experts was consistent in rating 12 of the 15 questionnaire items as representative and 13 of the 15 questionnaire items as clear. The overall content validity index for the representativeness and clarity of the instrument was .97 for both scales. According to Davis (1992), a CVI of .80 or greater is recommended for new instruments. The IRA and CVI scores achieved
for the alumni role identity questionnaire suggest that the instrument has a high degree of content validity in measuring alumni role identity.

Analysis of content validity survey responses revealed a moderately high level of agreement among the panel of experts that the alumni role identity questionnaire was a valid instrument for measuring alumni role identity. A review of quantitative responses revealed four alumni role identity questionnaire items that did not achieve consistent ratings among the panel. These included salience item 2 (I really don't have any clear feelings about being an alumnus(a)) and 5 (I would feel lost if I were not an alumnus(a)), and social expectations item 1 (Many people think of me as being an alumnus(a)) and 2 (Other people think that being an alumnus(a) is important to me). Additionally, a review of the qualitative responses revealed possible concerns with social expectation item 4 (It does not matter to most people that I am an alumnus(a)) and role expectation item 5 (As an alumnus(a), it is my duty to attend athletic events). To address these findings, the panel of experts was convened via video conference to review and discuss possible revisions to these six questionnaire items. The meeting was held one week after the close of the content validity survey. Five of the six experts participated in the conference. The conference was recorded with the permission of the five participants and can be found online as an addendum to this paper at the following permanent link: http://bit.ly/ARICContentValidityDiscussion.

Recommendations

Over the course of the one-hour video conference a robust conversation ensued, during which the experts arrived at consensus with respect to revising each of the six alumni questionnaire items outlined above. The panel of experts recommend the
following revisions, listed below. The original item text is presented in normal typeface. Words or phrases that were removed are shown in strikethrough text. Words or phrases that were added are indicated in italics.

Salience 2: I really don't have any clear feelings about being an alumnus(a).

Salience 5: I would feel incomplete lost if I were not an alumnus(a).

Social 1: People I am closest to know I am an alumnus(a). Many people think of me as being an alumnus(a).

Social 2: People who know me Other people think that being an alumnus(a) is important to me.

Social 4: Being an alumnus(a) is one of the first things I share about me when I meet someone new. It does not matter to most people that I am an alumnus(a).

Role 5: As an alumnus(a), it is my duty to help current students. I am expected to attend athletic events.

Role expectation item 5 was removed and replaced at the recommendation of the panel of experts and the researcher. The research setting for this study is an institution that does not have a strong tradition of intercollegiate athletics affinity among alumni, therefore the panel and researcher concluded that a role expectation question about attendance at athletic events would be a poor indicator of alumni role identity. At the same time, the experts recommended adding a question to the instrument to reflect alumni expectations of support for current students. Thus, question 5 is completely new to the alumni role identity questionnaire.
At the conclusion of the conference, the researcher shared aloud the revised items with the panel and asked each expert to voice his or her agreement with the new wording of the item. Agreement was unanimous among the five panelists that the six revised items were more representative and clear in measuring alumni role identity than the corresponding original items of the questionnaire. Based upon the findings of the content validity study and the recommendations of the panel of experts, the McDearmon’s (2011) alumni role identity questionnaire was revised for use in this study by incorporating the changes to identity salience items 2 and 4, social expectations items 1, 2, and 4, and role expectation item 5 (see APPENDIX C). With these minor revisions in place, the finding of the content validity study was that alumni role identity questionnaire, as designed by McDearmon (2011), had a high degree of validity in measuring all three dimensions of alumni role identity.

**Summary of the Pilot Studies**

Two additional studies on were undertaken as part of this research. A pilot study was pursued in order to evaluate the reliability of McDearmon’s (2011) alumni role identity questionnaire in the research setting. A content validity study was undertaken to determine the validity, representativeness, and clarity of the questionnaire items with respect to alumni role identity. Results of the two studies demonstrated that the alumni role identity questionnaire was both a reliable and valid instrument for the assessment of alumni role identity. As a result, the researcher concluded that the revised alumni role identity instrument was suitable for use in this study.
Data Collection Procedures

Data for this study were collected from two sources: the university’s alumni database and the revised alumni role identity questionnaire. The collection of data from each source is described in detail in the subsections that follow.

University alumni database

The first source of data for this study was the university’s alumni database. The university that served as the research setting for this study maintained a database of information on its graduates using a customer relationship management (CRM) solution called Salesforce Advancement Connect. This CRM served as the source of data for all variables in this study with the exception of alumni role identity score, which was collected via the revised alumni role identity questionnaire. The CRM database included a discrete record for all university alumni. The records were maintained by a 13 person staff in the university’s department of development services.

Individual alumni records included a variety of information on graduates, of which only some was relevant to this study, namely: (1) contact information such as name, residential address, and email address, (2) demographic information, such as age, sex, and race, (3) degree information such as class year and type, (4) behavior information such as event attendance, social media indicators, and volunteering, and (5) donor information such as number and amount of donations made. This information was used as the primary source for all variables in this study, apart from alumni role identity.

Revised alumni role identity questionnaire

The second source of data for this study was the revised alumni role identity questionnaire (see APPENDIX C). The questionnaire was deployed as a survey
instrument to the study sample. To collect the data, a request was made of the university's database administrator to provide a master list of all undergraduate alumni with a valid email on file with the university (n=38,800) (see APPENDIX D). A study sample was created from this master list by selecting 1 in 2 members using a random sampling generator. A total of 19,400 of the 38,800 emailable undergraduate degree holders in the master list were selected to be invited to participate in the study. The online survey and email provider Qualtrics was used to manage the email list of invitees, to track and record survey responses, and to send email invitations and reminders.

Survey responses were not anonymous. Responses were associated with a unique identifier assigned to each respondent. This ensured the ability of the researcher to append survey responses with data collected on survey respondents from the university’s alumni database. The appended information included respondents’ communications, social media use, demographic, behavioral and giving attributes.

The survey was open for a period of 19 days. Alumni in the sample received an email invitation containing the survey link on day 1 or 2 of the survey period. A reminder email invitation was sent to non-respondents on days 5, and 10 or 13 of the survey period. In total, all members of the sample received one email invitation and up to two email reminders. The text of the email invitation and reminders can be found in APPENDIX E of this paper.

Of the 19,400 email invitations sent, 332 were returned as undeliverable, 19,067 were successfully delivered, and 432 invitees opt-outed from receiving further emails related to the project. As a result, the study sample was reduced to a total of 18,635
possible participants. Of these, 4,378 started the survey and 4,094 completed it – a response rate of 22%.

The survey was closed on day 19 and all incomplete responses were set aside. The 4,094 completed survey responses were downloaded from Qualtrics into a .CSV file. A request was made to the university’s alumni database administrator to append to this file all information on respondents’ communications, social media use, behaviors, demographics, and giving history on record with the university. The resulting dataset included revised alumni role identity questionnaire responses and alumni attributes for 4,094 study participants.

**Data Analysis Procedures**

The study dataset was uploaded into the statistical software STATA for analysis. Investigation of the research questions was carried out using a series of techniques, including descriptive statistics, correlation, regression, independent samples t-tests, and principal component analysis. The relationships analyzed and methods of analysis employed are shown in Figure 3. Alumni role identity score served as the criterion, or dependent variable, for all research questions in this study. The predictors, or independent variables, in this study included 18 alumni attributes, grouped into research questions according to attribute types that emerged from the literature.
51

Figure 3

Relationships Analyzed and Statistical Methods Employed to Address the Research Questions (RQ)

RO1: Alumni Communications and Social Media
- E-newsletter opener
- Number of e-newsletters opened
- Facebook liker
- Linkedin public profile
- Linkedin network member

RO2: Alumni Behaviors
- Event attendee
- Number of events attended
- Volunteer
- Number of volunteer opportunities completed

RO3: Alumni Demographics
- Age
- Years from degree
- Distance from campus
- Traditional undergrad

RO4: Alumni Giving
- Donor
- Number of gifts
- Total lifetime giving
- Largest gift
- Total years of giving

*Data collected via the revised alumni role identity questionnaire survey instrument.
^Data collected from the university’s alumni database.

Alumni role identity scores

Prior to scoring survey responses, descriptive statistics, reliability estimates, and intercorrelations were generated for the three scales of the revised alumni role identity questionnaire and compared to McDearmon’s 2011 study (see Table 7). The means, standard deviations, intercorrelations, and Cronbach alpha reliability estimates of this study were comparable to those reported by McDearmon (2011). As a result, the researcher determined that the use of the revised alumni role identity questionnaire survey instrument in this study was valid and reliable at the level of significance required to proceed with analysis of the research questions.
Table 7

Means, Standard Deviations (SD), Intercorrelations, and Reliabilities for the Three Scales of the Alumni Role Identity Questionnaire in This Study and the McDearmon (2011) Study

<table>
<thead>
<tr>
<th>Scale</th>
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<td></td>
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<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>This study</td>
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</tr>
<tr>
<td>1. Salience</td>
<td>3.80</td>
<td>1.10</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Social perceptions</td>
<td>3.35</td>
<td>1.04</td>
<td>.74**</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>3. Role expectations</td>
<td>2.88</td>
<td>1.06</td>
<td>.58**</td>
<td>.55**</td>
<td>.86</td>
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<tr>
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<td>1. Salience</td>
<td>3.96</td>
<td>1.02</td>
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<td>2. Social perceptions</td>
<td>3.37</td>
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<td>3. Role expectations</td>
<td>2.83</td>
<td>1.04</td>
<td>.50**</td>
<td>.51**</td>
<td>.89</td>
</tr>
</tbody>
</table>

Note: Main diagonals contain Cronbach alpha reliability estimates. **p<.01

Alumni role identity scores were calculated for study participants by summing the scales of the three dimensions of the revised alumni role identity questionnaire.

Descriptive statistics were generated once the calculation was complete (see Table 8).

The mean alumni role identity score was 50.18, with a standard deviation of 13.83. The minimum score was 15, an indication that the participant strongly disagreed with all 15 item statements in the alumni role identity questionnaire. The maximum score was 90, and indicator that the participant strongly agreed with all 15 statements. A normal distribution of scores was desired in order to employ regression techniques in the analysis of the research questions. Alumni role identity scores were found to be normally distributed, with a skew of just .006 (see Figure 4). As a result, the researcher concluded
that alumni role identity scores could be used effectively as the criterion, or dependent variable, in the regression procedures carried out in this study.

Table 8

*Mean, Standard Deviation (SD), Skewness (Skew), Minimum (Min) and Maximum (Max) Values for Alumni Role Identity Scores Collected in the Study*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Skew</th>
<th>Min</th>
<th>Max</th>
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<td>Alumni role identity scores</td>
<td>4,094</td>
<td>50.18</td>
<td>13.83</td>
<td>.006</td>
<td>15</td>
<td>90</td>
</tr>
</tbody>
</table>

Figure 4

*Frequency and Distribution of Alumni Role Identity Scores of Study Participants, n=4,094*
Description of the variables

After data collection procedures were completed, summary statistics were generated and correlation coefficients were calculated for all variables in the study (see Table 9). Of the 19 variables in this study, only one – alumni role identity score – was collected directly from participants. The remaining variables were collected from the university’s alumni database. A complete description of the variables included in this research is provided below. Variables were grouped according to attribute type. These groupings were derived from the literature on predictors of alumni participation in giving (see Chapter III of this paper). First is alumni role identity, followed by alumni communications and social media use attributes, alumni behavioral attributes, alumni demographic attributes, and alumni giving attributes. Variable labels are presented in brackets.

Alumni role identity score

1. Alumni role identity score [ari] – The sum of the three scales of the alumni role identity questionnaire. A continuous variable.

Alumni communications and social media use attributes

2. E-newsletter opener [enews] – An indicator of whether or not the participant had opened at least one of the university’s monthly alumni e-newsletters over the period of June 1, 2013 to Dec. 31, 2016. A dichotomous variable, where an e-newsletter opener was coded as 1 and a non e-newsletter opener was coded as 0.
3. Number of e-newsletters opened [enewsn] – The total number of alumni e-newsletters opened by the participant over the period of June 1, 2013 to Dec. 31, 2016. An interval variable.

4. Facebook liker [fb] – An indicator of whether or not the participant had “liked” the university’s official Facebook page. A dichotomous variable, where a participant who had “liked” the page was coded as 1 and a participant who had not “liked” the page was coded as 0.

5. LinkedIn public profile [linkedin] – An indicator of whether or not the participant had a public profile on LinkedIn that listed the university in the profile’s education section. A dichotomous variable, where a participant who had a public profile was coded as 1 and a participant that did not have a public profile was coded as 0.

6. LinkedIn network member [network] – An indicator of whether or not the participant was a member of the university’s official alumni networking group on LinkedIn. A dichotomous, variable where a member was coded as 1 and a non-member was coded as 0.

Alumni behavioral attributes

7. Event attendee [event] – An indicator of whether or not the participant had attended at least one university sponsored event since graduation. A dichotomous variable, where an event attendee was coded as 1 and non-event attendee was coded as 0.
8. Number of events attended [eventn] – The total number of university
sponsored events attended by the participant since graduation. An ordinal
variable.

9. Volunteer [vol] – An indicator of whether or not the participant had
volunteered for the university in a formal capacity since graduation.
A dichotomous variable, where a volunteer was coded as 1 and a non-
volunteer was coded as 0.

10. Number of volunteer opportunities completed [voln] – The total number of
formal volunteer opportunities completed for the university by the participant
since graduation. An interval variable.

Alumni demographic attributes


12. Years from degree [yfd] – The number of years that had passed between 2017
and the participant’s most recent date of graduation from the university.
A ratio variable.

13. Distance from campus [distance] – The distance, in miles, between the
university’s main campus and the primary residence of the participant,
calculated by taking the great-circle distance between the participant’s home
ZIP code and the ZIP code of the university’s main campus. A ratio variable.

14. Traditional undergrad [tradundergrad] – An indicator of whether or not the
participant received their degree from a full-time undergraduate program or
part-time undergraduate degree completion program. A dichotomous variable,
where a traditional undergraduate was coded as 1 and a non-traditional undergraduate was coded as 0.

_Alumni giving attributes_

15. Donor [donor] – An indicator of whether or not the participant had made a donation of cash or cash equivalents to the university in their lifetime. A dichotomous variable, where a donor was coded as 1 and non-donor was coded as 0.

16. Number of gifts [giftn] – The total number of donations that the participant had made to the university over their lifetime. An ordinal variable.

17. Total lifetime giving [lifetime] – The total amount, in dollars, that the participant had donated to the university in their lifetime. Due to the highly skewed distribution of this variable, it was transformed for use in correlational and regression analyses by taking the log base-10 of the values. A continuous variable.

18. Largest gift [largest] – The amount, in dollars, of the largest single donation made to the university by the participant. Due to the highly skewed distribution of this variable, it was transformed for use in correlational and regression analyses by taking the log base-10 of the values. A continuous variable.

19. Total years of giving [total years] – The total number of university fiscal years (June to May) in which the participant had made a donation to the university. An interval variable.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptive statistics</th>
<th>Correlation coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alumni role identity score [ari]</td>
<td>Mean: 50.18 SD: 13.83</td>
<td></td>
</tr>
<tr>
<td>2. E-newsletter opener [enews]</td>
<td>Mean: .83 SD: .37</td>
<td></td>
</tr>
<tr>
<td>4. Facebook liker [fb]</td>
<td>Mean: .10 SD: .90</td>
<td></td>
</tr>
<tr>
<td>5. LinkedIn public profile [linkedin]</td>
<td>Mean: .38 SD: .49</td>
<td></td>
</tr>
<tr>
<td>6. LinkedIn network member [network]</td>
<td>Mean: .06 SD: .24</td>
<td></td>
</tr>
<tr>
<td>7. Event attendee [event]</td>
<td>Mean: .34 SD: 0.47</td>
<td></td>
</tr>
<tr>
<td>8. Number of events attended [eventn]</td>
<td>Mean: 1.50 SD: 5.56</td>
<td></td>
</tr>
<tr>
<td>10. Number of volunteer opportunities [voln]</td>
<td>Mean: .31 SD: 1.80</td>
<td></td>
</tr>
<tr>
<td>11. Age [age]</td>
<td>Mean: 46.46 SD: 17.79</td>
<td></td>
</tr>
<tr>
<td>12. Years from degree [yfd]</td>
<td>Mean: 21.44 SD: 16.54</td>
<td></td>
</tr>
<tr>
<td>13. Distance from campus [distance]</td>
<td>Mean: 705 SD: 1,517</td>
<td></td>
</tr>
<tr>
<td>14. Traditional undergrad [tradundergrad]</td>
<td>Mean: .82 SD: .38</td>
<td></td>
</tr>
<tr>
<td>15. Donor [donor]</td>
<td>Mean: .51 SD: .50</td>
<td></td>
</tr>
<tr>
<td>17. Total lifetime giving [lifetime]</td>
<td>Mean: $3,214 SD: $68,291</td>
<td></td>
</tr>
<tr>
<td>18. Largest gift [largest]</td>
<td>Mean: $1,208 SD: $36,011</td>
<td></td>
</tr>
<tr>
<td>19. Total years of giving [totalyears]</td>
<td>Mean: 3.92 SD: 7.17</td>
<td></td>
</tr>
</tbody>
</table>
Protection of Human Subjects

This study was conducted using alumni of mid-size, Jesuit university on the West coast as human subjects. The institutional review board (IRB) of the university reviewed the revised alumni role identity questionnaire used in this study and granted the researcher an exemption to informed consent for the protocol. In its finding, the IRB determined that completing the alumni role identity questionnaire involved only minimal risk to human subjects (see APPENDIX F). As a result, informed consent was not sought from study participants. In the text of survey invitation and reminders, study participants were provided information about the IRB review and exemption and assured that confidentiality of participant information and questionnaire responses would be closely guarded by the researcher.

There was one potential negative effect of this study on its human subjects. After completing the alumni role identity questionnaire, some participants may have interpreted it as a direct assessment of their personal interest in donating to their alma mater. Such a perception may have had the potential negative effect of decreasing a participant's feeling of connection to the institution and desire to engage with or donate to the university in the future.

Background of the Researcher

The researcher has served, since 2013, as the Director of Alumni Engagement for the university that was the research setting for this study. Prior to arriving at the university, he was the Executive Director of Alumni Strategic Initiatives at the University of California, Los Angeles. His 14 year career in higher education fundraising has included oversight of several projects related to the proposed study. At UCLA, the
researcher developed alumni profiles using self-report surveys that optimized alumni engagement through enhanced marketing and segmentation efforts. In his Director of Alumni Engagement role, the researcher envisioned and led alumni focus groups in Beijing, Shanghai, Hong Kong, and Jakarta that resulted in the creation of the university’s first ever international alumni fundraising strategy.

The researcher has been a member of the Council for Advancement and Support of Education (CASE) since 2005. He has served on the faculty of the CASE Senior Alumni Relations Institute and been twice featured in the organization’s Currents magazine for his work in higher education advancement, specifically in the areas of business development and online alumni communities. He is also a member of the Higher Education Research Consortium and the Association for the Study of Higher Education. The researcher hold a bachelor’s and master’s degree in music from UCLA. He is a native of Riverside, California.
CHAPTER IV

RESULTS

The purpose of this study was to determine the factors and characteristics that influence alumni role identity, an alumni attribute known to be associated positively with alumni donations (McDearmon, 2011). Four research questions were developed and investigated. Results are presented in this chapter by research question and method of analysis. The final section of this chapter includes additional findings on the relative accuracy of self-report and institutional data, and the post-survey behaviors of study participants. Prior to analysis, alumni role identity scores were calculated for all study participants by summing the scales of the three dimensions of the revised alumni role identity questionnaire ($M=50.18, SD=13.83, \text{Min}=15, \text{Max}=90, \text{Skew}=0.006$). The alpha level of statistical significance established for this study was \( p<.05 \).

Research Questions

Two methods of analysis were employed to examine the research questions. First, multiple regression procedures were used to determine how much variance each set of alumni attributes contributed to alumni role identity score. Regression was chosen as the method of analysis in order to determine if alumni role identity scores could be predicted as a function of alumni communications and social media use, behavioral, demographic, and giving attributes. Second, a series of independent samples t-tests were conducted to compare the mean difference of alumni role identity score between groups according to the dichotomous variables operationalized in the research questions.
RQ1: What is the relationship of alumni role identity to alumni communications and social media attributes, including e-newsletter opens, Facebook activity, and LinkedIn participation?

Simultaneous multiple regression

A simultaneous multiple regression was run with alumni role identity score as the criterion, or dependent variable, and e-newsletter opener, number of e-newsletters opened, Facebook liker, LinkedIn public profile, and LinkedIn network member as the predictors, or independent variables. These five predictor variables were grouped together for analysis because they represented alumni attributes related to communications and social media that are known to be positively associated with alumni participation in giving (Burt & Taylor, 2000; Olsen et al., 2000; Reddick & Ponomariov, 2013; Shadoian, 1989). As a technique, simultaneous multiple regression controls for the interactions among predictors by removing the shared variance of all predictors on the criterion before reporting the unique variance that each predictor contributes towards the criterion (Heppner & Heppner, 2004, p. 261). Simultaneous multiple regression was chosen as the method of analysis in order to determine the independent influence of each predictor on alumni role identity, the criterion.

Results shown in Table 10 indicated that the regression model was significant and that eight of the nine predictors accounted for 4% of the variance in alumni role identity score (adjusted $R^2 = .0399$, $F(5, 4088) = 34.98$, $p < .0001$). E-newsletter opener ($\beta = .060$, $p = .000$) and number of e-newsletters opened ($\beta = .123$, $p = .000$); LinkedIn public profile ($\beta = .089$, $p = .000$) and LinkedIn network member ($\beta = .044$, $p = .007$); and Facebook liker
(β=.059, p=.000) were each found to be significant unique predictors of alumni role identity score.

Table 10

Predictors of Alumni Role Identity: Regression Results of Alumni Role Identity Score on Alumni Communications and Social Media Use Attributes

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-newsletter opener</td>
<td>2.236</td>
<td>0.624</td>
<td>3.590</td>
<td>.000</td>
<td>0.060</td>
</tr>
<tr>
<td>Number of e-newsletters opened</td>
<td>0.156</td>
<td>0.021</td>
<td>7.290</td>
<td>.000</td>
<td>0.123</td>
</tr>
<tr>
<td>LinkedIn public profile</td>
<td>4.070</td>
<td>0.710</td>
<td>5.740</td>
<td>.000</td>
<td>0.089</td>
</tr>
<tr>
<td>LinkedIn network member</td>
<td>1.253</td>
<td>0.468</td>
<td>2.680</td>
<td>.007</td>
<td>0.044</td>
</tr>
<tr>
<td>Facebook Liker</td>
<td>3.388</td>
<td>0.929</td>
<td>3.650</td>
<td>.000</td>
<td>0.059</td>
</tr>
</tbody>
</table>

*Note:* Regression Coefficients (B), Standard Error (SE B), t Values (t), Alpha Levels of Statistical Significance (p), and Beta Values (β). n=4,094.

Independent samples t-tests

Independent samples t-tests were conducted on alumni behavioral attributes that were operationalized as dichotomous predictors in the regression model. Results shown in Table 11 indicated that the mean difference of alumni role identity scores between groups was significant at the *p*<.01 level. Participants who had a LinkedIn public profile, opened an e-newsletter, had “liked” the university’s official Facebook page, or were members of the university’s official alumni networking group on LinkedIn reported higher levels of alumni role identity than participants that did not demonstrate these alumni behavioral attributes.

Alumni role identity scores were highest among participants who were members of the university’s official alumni networking group on LinkedIn (*n*=257, *M*=54.84, *SD*=13.17) and lowest among participants who had never opened an alumni e-newsletter
from the university \((n=682, M=46.71, SD=13.87)\). Alumni role identity scores were higher for participants who had a public profile on LinkedIn as compared to those who did not \((\Delta=1.81)\), who had opened an e-newsletter as compared to those who had not \((\Delta=4.16)\), who had liked the university’s official Facebook page as compared to those who had not \((\Delta=4.59)\), and were members of the university’s official alumni networking group on LinkedIn as compared to those who were not \((\Delta=4.97)\).

Table 11

*Independent Samples t-test Results of Alumni Role Identity Score and Alumni Communications and Social Media Use Attributes*

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Yes</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>(t)</td>
<td>(\Delta\text{Mean})</td>
<td></td>
</tr>
<tr>
<td>LinkedIn public profile</td>
<td>51.30</td>
<td>13.69</td>
<td>49.49</td>
<td>13.87</td>
<td>-4.09</td>
<td>1.81</td>
<td></td>
</tr>
<tr>
<td>E-newsletter opener</td>
<td>50.87</td>
<td>13.72</td>
<td>46.71</td>
<td>13.87</td>
<td>-7.21</td>
<td>4.16</td>
<td></td>
</tr>
<tr>
<td>Facebook liker</td>
<td>54.30</td>
<td>13.45</td>
<td>49.71</td>
<td>13.79</td>
<td>-6.49</td>
<td>4.59</td>
<td></td>
</tr>
<tr>
<td>LinkedIn network member</td>
<td>54.84</td>
<td>13.17</td>
<td>49.87</td>
<td>13.81</td>
<td>-6.71</td>
<td>4.97</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Values presented beneath the Yes column spanner represent the mean score of participants that demonstrated the attribute. Values presented beneath the No column spanner represent the mean score participants that did not demonstrate the attribute. All means were significant at the \(p<.01\) level. Standard Deviation (SD), \(t\) values (\(t\)), and difference between means of the Yes and No groups \((\Delta\text{Mean})\). \(n= 4,904\).

**RQ2: What is the relationship of alumni role identity to alumni behavioral attributes, including event attendance and volunteering?**

**Simultaneous multiple regression**

A simultaneous multiple regression was run with alumni role identity score as the criterion, or dependent variable, and event attendee, number of events attended, volunteer, and number of volunteer opportunities completed as the predictors, or independent variables. These four predictor variables were grouped together for analysis.
because they represented alumni attributes that were behavioral in nature and known to be positively associated with alumni participation in giving (Bruggnik & Siddiqui, 1995; Holmes, 2009, Olsen et al., 2000; Sun et al., 2007; Weerts & Ronca 2007, 2009). For reasons akin to those outlined in research question one, simultaneous multiple regression was chosen as the method of analysis in order to determine the independent influence of each predictor on alumni role identity, the criterion.

Results shown in Table 12 indicated that the regression model was significant and that three of the four predictors accounted for 6.8% of the variance in alumni role identity score (adjusted $R^2=.0679$, $F(4,4089)=75.51$, $p<.0001$). Event attendee ($\beta=.149$, $p=.000$), number of events attended ($\beta=.107$, $p=.000$), and volunteer ($\beta=.094$, $p=.000$) were each found to be significant unique predictors of alumni role identity score. Number of volunteer opportunities completed ($\beta=-.005$, $p=.815$) was found to be outside the level of significance set for this study ($p<.05$) and was therefore determined not to be a significant unique predictor of alumni role identity score.

Table 12

*Predictors of Alumni Role Identity: Regression Results of Alumni Role Identity Score on Alumni Behavioral Attributes*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event attendee</td>
<td>4.329</td>
<td>0.489</td>
<td>8.860</td>
<td>.000</td>
<td>0.149</td>
</tr>
<tr>
<td>Number of events attended</td>
<td>0.266</td>
<td>0.053</td>
<td>5.040</td>
<td>.000</td>
<td>0.107</td>
</tr>
<tr>
<td>Volunteer</td>
<td>4.869</td>
<td>1.014</td>
<td>4.800</td>
<td>.000</td>
<td>0.094</td>
</tr>
<tr>
<td>Number of volunteer opportunities</td>
<td>-0.042</td>
<td>0.181</td>
<td>-0.230</td>
<td>.815</td>
<td>-0.005</td>
</tr>
</tbody>
</table>

*Note:* Regression Coefficients ($B$), Standard Error ($SE B$), $t$ Values ($t$), Alpha Levels of Statistical Significance ($p$), and Beta Values ($\beta$). $n=4,094$. 
Independent samples t-tests

Independent samples t-tests were conducted on alumni behavioral attributes that were operationalized as dichotomous predictors in the regression model. Results shown in Table 13 indicated that the mean difference of alumni role identity scores between groups was significant at the $p<.01$ level. Participants who had attended an event or volunteered for the university reported higher levels of alumni role identity than participants that did not demonstrate these alumni behavioral attributes. Alumni role identity scores were highest among participants who had volunteered for the university ($n=314, M=58.67, SD=13.60$) and lowest among participants who had never attended a university event ($n=2,693, M=48.03, SD=13.51$). Alumni role identity scores were higher for participants who attended an event as compared to those who had not ($\Delta=6.28$), and for participants who had volunteered as compared to those who had not ($\Delta=9.20$).

Table 13

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Yes</th>
<th>No</th>
<th>$t$</th>
<th>$\Delta$Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event attendee</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Event attendee</td>
<td>54.31</td>
<td>13.50</td>
<td>48.03</td>
<td>13.51</td>
</tr>
<tr>
<td>Volunteer</td>
<td>58.67</td>
<td>13.60</td>
<td>49.47</td>
<td>13.61</td>
</tr>
</tbody>
</table>

Note: Values presented beneath the Yes column spanner represent the mean score of participants that demonstrated the attribute. Values presented beneath the No column spanner represent the mean score participants that did not demonstrate the attribute. All means were significant at the $p<.01$ level. Standard Deviation ($SD$), $t$ values ($t$), and difference between means of the Yes and No groups ($\Delta$Mean). $n=4,904$. 
RQ3: What is the relationship of alumni role identity to alumni demographic attributes, including age, years from degree, distance from campus, and status as a traditional or non-traditional undergraduate alumnus(a)?

Simultaneous multiple regression

A simultaneous multiple regression was run with alumni role identity score as the criterion, or dependent, variable and age, years from degree, distance from campus, and traditional undergrad as the predictors, or independent variables. These four predictor variables were grouped together for analysis because they represented alumni attributes that were demographic in nature and known to be positively associated with alumni participation in giving (Bruggnik & Siddiqui, 1995; Clotfelter, 2003; Holmes, 2009; Weerts & Ronca, 2007). For reasons similar to those outlined in the investigation of research question one, simultaneous multiple regression was chosen as the method of analysis in order to control for any possible shared variance among predictors on the criterion.

Results shown in Table 14 indicated that the regression model was significant and that one of the four predictors accounted for 1.7% of the variance in alumni role identity score (adjusted $R^2=.0167$, $F(4,4809)=18.38$, $p<.0001$). Traditional undergrad ($\beta=.146$, $p=.000$) was found to be a significant unique predictor of alumni role identity score. Age ($\beta=.077$, $p=.217$), years from degree ($\beta=-.113$, $p=.057$), and distance from campus ($\beta=.017$, $p=.270$) were found to be outside the level of significance set for this study ($p<.05$) and were therefore determined not to be significant unique predictors of alumni role identity score.
Table 14

Predictors of Alumni Role Identity: Regression Results of Alumni Role Identity Score on Alumni Demographic Attributes

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Alumni role identity score</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>t</td>
<td>p</td>
<td>β</td>
</tr>
<tr>
<td>Age</td>
<td>0.060</td>
<td>0.048</td>
<td>1.23</td>
<td>.217</td>
<td>.077</td>
</tr>
<tr>
<td>Years from degree</td>
<td>-0.095</td>
<td>0.050</td>
<td>-1.90</td>
<td>.057</td>
<td>-.113</td>
</tr>
<tr>
<td>Distance from campus</td>
<td>0.000</td>
<td>0.000</td>
<td>1.10</td>
<td>.270</td>
<td>.017</td>
</tr>
<tr>
<td>Traditional undergrad</td>
<td>5.265</td>
<td>0.891</td>
<td>5.91</td>
<td>.000</td>
<td>.146</td>
</tr>
</tbody>
</table>

*Note*: Regression Coefficients (B), Standard Error (SE B), t Values (t), Alpha Levels of Statistical Significance (p), and Beta Values (β). n=4,094.

**Independent samples t-test**

An independent samples t-test was conducted on the sole alumni demographic attribute that was operationalized as a dichotomous predictor in research question three. Results shown in Table 15 indicated that the mean alumni role identity score of participants who were traditional undergraduates (n=3,363, M=50.97, SD=13.62) was higher than the mean alumni role identity score of participants who were non-traditional undergraduates (n=731, M=46.52, SD=14.22). The mean difference between the two groups was significant at the p<.0001 level (Δ=4.45).

Table 15

Independent Samples t-test Results of Alumni Role Identity Score by Traditional and Non-Traditional Undergraduates

<table>
<thead>
<tr>
<th></th>
<th>Traditional undergraduates</th>
<th>Non-traditional undergraduates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Alumni role identity score</td>
<td>50.97</td>
<td>13.62</td>
</tr>
</tbody>
</table>

*Note*: Standard Deviation (SD), t values (t), and difference between means of the two groups (ΔMean). n= 4,904. All means were significant at the p<.0001 level.
RQ4: What is the relationship of alumni role identity to alumni giving attributes, including donating, number of gifts, total lifetime giving, largest gift, and total years of giving?

Stepwise multiple regression

A stepwise multiple regression was run with alumni role identity score as the criterion, or dependent, variable and donor, number of gifts, total lifetime giving, largest gift, and total years of giving as the predictors, or independent variables. These five predictor variables were grouped together for analysis because study participants who were donors to the university had a value greater than zero for each variable. Participants who were not donors had a value of zero for all five variables. Stepwise multiple regression was chosen as the method of analysis due the interrelated nature of these five predictors (for a complete list of intercorrelations see Table 9 in the section Description of Variables in Chapter III of this paper). As a technique, stepwise multiple regression identifies which predictor or predictors account for the most overall variance in the criterion while discarding the predictor or predictors that do not account for any significant variance (Heppner & Heppner, 2004, p. 263).

The alpha level of statistical significance for removing predictors from the regression model was set at $p>.05$. Total years of giving ($p=.847$), largest gift ($p=.702$), and donor ($p=.455$) were removed as predictors because they did not meet the alpha level set for the procedure and were therefore determined not to be a significant predictors of alumni role identity score. Results shown in Table 16 indicated that the model was significant and that two of the predictors accounted for 4.8% of the variance in alumni role identity score (adjusted $R^2 = .048$, $F(2,4091) = 104.18$, $p<.0001$). Total lifetime giving
(β=.166, p=.000) and number of gifts (β=.078, p=.000) were found to be significant predictors of alumni role identity score.

Table 16

Predictors of Alumni Role Identity: Stepwise Regression Results of Alumni Role Identity Score on Alumni Giving Attributes

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total lifetime giving</td>
<td>1.654</td>
<td>.185</td>
<td>8.95</td>
<td>.000</td>
<td>.166</td>
</tr>
<tr>
<td>Number of gifts</td>
<td>.067</td>
<td>.016</td>
<td>4.24</td>
<td>.000</td>
<td>.078</td>
</tr>
</tbody>
</table>

Note: Regression Coefficients (B), Standard Error (SE B), t Values (t), Alpha Levels of Statistical Significance (p), and Beta Values (β). n=4,094.

Independent samples t-test

An independent samples t-test was conducted on the sole alumni giving attribute that was operationalized as a dichotomous predictor in research question four. Results shown in Table 17 indicated that the mean alumni role identity score of participants who were donors (n=2,091, M=52.48, SD=13.40) was greater than the mean alumni role identity score of participants who were not donors (n=2,003, M=47.78.52, SD=13.86). The mean difference between the two groups was significant at the p<.0001 level (Δ=4.70).

Table 17

Independent Samples t-test Results of Alumni Role Identity Score by Donors and Non-Donors

<table>
<thead>
<tr>
<th></th>
<th>Donors</th>
<th></th>
<th>Non-donors</th>
<th></th>
<th>t</th>
<th>ΔMean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>52.48</td>
<td>13.40</td>
<td>47.78</td>
<td>13.86</td>
<td>-11.02</td>
<td>4.70</td>
</tr>
</tbody>
</table>

Note: Standard Deviation (SD), t values (t), and difference between means of the two groups (ΔMean). n= 4,904. All means were significant at the p<.0001 level.
Principal Component Analysis

Investigation of the four research questions produced discrete regression results that, while statistically significant and interpretable within each question, could not be easily compared due to intercorrelation among the 18 predictor variables (see Table 9 in Chapter III of this paper for a complete correlation matrix). A secondary analysis was required in order to provide an unambiguous assessment of which of the four alumni attribute type groups embodied in the research questions exerted the greatest influence on alumni role identity. Principal component analysis was chosen as the method to facilitate this comparison. Principal component analysis is a data reduction procedure that summarizes patterns of correlation by extracting linearly uncorrelated components representative of the underlying structure within a set of variables (Cone & Foster, 2010, p. 212).

Procedure

A principal component analysis was performed on the 18 predictor variables in this study and five components, or factors, with an eigenvalue greater than 1 were extracted. A review of the scree plot and the variables loading on to each of the five factors indicated that the number of factors could be reduced to four without comprising the uniqueness or variance of the principal components. The total variance explained by the four factors retained was 57.9%. The four factor solution was examined using an orthogonal rotation on the 18 predictor variables. Only variables with factor loadings of an absolute value of .30 or higher were retained (see Table 18). Based upon this criteria and the moderate intercorrelations among the variables (nearly half of intervariable correlations exceeded .25), the four factor orthogonal rotation with Kaiser normalization
(i.e. varimax) was determined to be the most conceptually and statistically appropriate method for extracting principal components from the 18 predictor variables in this study (Heppner, P. P. & Heppner, M. J., 2004, p. 286).

Table 18

*Rotated Factor Loadings of the 18 Predictor Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-newsletter opener</td>
<td></td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of e-newsletters opened</td>
<td></td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook liker</td>
<td></td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LinkedIn public profile</td>
<td></td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LinkedIn network member</td>
<td></td>
<td>.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event attendee</td>
<td>.34</td>
<td>.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of events attended</td>
<td></td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer</td>
<td></td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of volunteer opportunities</td>
<td></td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.48</td>
<td>- .70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years from degree</td>
<td>.54</td>
<td>- .60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance from campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional undergrad</td>
<td></td>
<td>.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donor</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of gifts</td>
<td>.55</td>
<td>.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total lifetime giving</td>
<td>.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest gift</td>
<td>.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total years of giving</td>
<td>.76</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Blanks represent factor loadings of an absolute value <.30. The variable “distance from campus” was the only predictor that did not load onto any of the four factors.

A review of the rotated factor loadings revealed that the extracted components were analogous to the four alumni attribute type groups inherent in the research.
questions. Factor 1 was named “Alumni Giving Attributes” because the four variables with the largest loadings reflected a participant’s cumulative lifetime giving, largest gift amount, status as a donor, and total years of giving. This factor account for 23.8% of the variance explained by the four principal components. Factor 2 was named “Alumni Behavioral Attributes” because the three variables with the largest loadings reflected a participant’s number of volunteer opportunities completed, number of events attended, and status as a volunteer. This factor accounted for 14% of the variance. Factor 3 was named “Alumni Demographic and Social Media Use Attributes” because the three variables with the largest loadings reflected a participant’s age, whether or not the participant had a public profile on LinkedIn with their university degree listed, and years from degree. This factor accounted for 11.4% of the variance. Factor 4 was named “Alumni Communications” because the two variables that loaded highest on this factor reflected a participant’s status as an e-newsletter opener and the number of e-newsletters opened. This factor accounted for 8.7% of the variance.

Factor scores were generated for each of the four components using linear regression models. These scores were uncorrelated, one hundred percent determinate and not estimated (see Table 19).

Table 19

Correlation Matrix of Factor Scores Generated for Principal Components

<table>
<thead>
<tr>
<th>Factor scores</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1. Alumni giving attributes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2. Alumni behavioral attributes</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3. Alumni demographic and social media use attributes</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>F4. Alumni communication attributes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Results

The purpose of the principal component analysis was to facilitate a comparison of the relative influence of the alumni attribute type groups represented in the research questions on alumni role identity. To conduct this comparison, a simultaneous multiple regression was run with alumni role identity score as the criterion, or dependent, variable and the four uncorrelated factor scores as the predictors, or independent variables. Results shown in Table 20 indicated that the regression model was significant and that the four factors accounted for 11.6% of the variance in alumni role identity score (adjusted $R^2=0.1164, F(4,4089)=135.74, p<.0001$). Alumni behavioral attributes (factor 3) accounted for 4.4% of the variance, followed by alumni demographic and social media use attributes (factor 2) at 3.2%, alumni giving attributes (factor 1) at 2.9%, and alumni communication attributes (factor 4) at 1.1%. The factor representative of alumni behavioral attributes, including event attendance, number of events attended, volunteering, and number of volunteer opportunities completed, was found to be the most significant predictor of alumni role identity score among the four factors (see figure 5).

Table 20

Regression Results of Alumni Role Identity Score on Uncorrelated Factor Scores

<table>
<thead>
<tr>
<th>Factor scores</th>
<th>Alumni role identity score</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F1. Alumni Giving Attributes</td>
<td>2.634</td>
<td>.2031</td>
<td>11.63</td>
<td>.000</td>
<td>.1709</td>
</tr>
<tr>
<td>F2. Alumni Behavioral Attributes</td>
<td>4.489</td>
<td>.2031</td>
<td>12.25</td>
<td>.000</td>
<td>.1800</td>
</tr>
<tr>
<td>F3. Alumni Demographic and Social Media Use Attributes</td>
<td>2.899</td>
<td>.2031</td>
<td>14.27</td>
<td>.000</td>
<td>.2096</td>
</tr>
<tr>
<td>F4. Alumni Communication Attributes</td>
<td>1.494</td>
<td>.2031</td>
<td>7.35</td>
<td>.000</td>
<td>.1080</td>
</tr>
</tbody>
</table>
Additional Results

This study produced two additional findings not related to the research questions.

The first finding was that institutionally sourced data on participant status as a donor produced results that differed significantly from results those in McDearmon’s 2011 study, in which donor status was collected via self-report survey. The second additional finding was that over half of study participants actively sought access to review the aggregate responses to the revised alumni role identity questionnaire after completing the survey instrument.
Both McDearmon’s 2011 study and this study operationalized a dichotomous variable to represent participant status as a donor to their alma mater, where donor=1 and non-donor=0. In McDearmon’s research, information on participant donation history was collected via self-report. In addition to completing the alumni role identity questionnaire, participants in McDearmon’s study were asked to report if they had ever donated to their alma mater. Conversely, in this study, information on participant donation history was collected from institutional data recorded in the university’s alumni database.

For ease of comparison with McDearmon’s 2011 findings, independent samples t-tests were also conducted for each scale of the revised alumni role identity questionnaire by participant status as a donor to the university. Results shown in table 21 indicated that the mean scale response scores for participants who were donors \((n=2,091)\) were greater than the mean scale response scores of participants who were not donors \((n=2,003)\) across all three scales of the questionnaire. These results confirmed McDearmon’s finding that participants who were donors responded more favorably to alumni role identity questionnaire scale items as compared to participants who were not donors (McDearmon, 2013, p. 294). While the mean scale response scores achieved in this study were similar to those reported by McDearmon (2011), the difference in mean scale response scores between donor and nod-donor participants was less pronounced in this study. The researcher suspected that the reduced delta between these two groups could be related to the difference in method by which information on participant donation history was sourced in this study and McDearmon’s 2011 study.
Table 21

**Independent Samples t-test Results by Donor and Non-Donor Respondents for the Three Scales of the Alumni Role Identity Questionnaire in This Study and the McDearmon (2011) Study**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Donors</th>
<th>Non-Donors</th>
<th>ΔMean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>This Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salience</td>
<td>4.00</td>
<td>3.59</td>
<td>.41</td>
</tr>
<tr>
<td>Social perceptions</td>
<td>3.44</td>
<td>3.25</td>
<td>.19</td>
</tr>
<tr>
<td>Role expectations</td>
<td>3.05</td>
<td>2.71</td>
<td>.34</td>
</tr>
<tr>
<td><strong>McDearmon’s 2011 study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salience</td>
<td>4.11</td>
<td>3.58</td>
<td>.53</td>
</tr>
<tr>
<td>Social perceptions</td>
<td>3.49</td>
<td>3.10</td>
<td>.29</td>
</tr>
<tr>
<td>Role expectations</td>
<td>3.02</td>
<td>2.40</td>
<td>.62</td>
</tr>
</tbody>
</table>

*Note:* Means and difference between means (ΔMean) of the two groups. All means were significant at the $p<.05$ level.

McDearmon’s 2011 study and this study produced near identical means, standard deviations, intercorrelations, and Cronbach alpha reliability estimates across the three dimensions of the survey instrument (for summary statistics see Table 6 in the Data Analysis Procedures section of Chapter III of this paper). The performance of the alumni role identity questionnaire (McDearmon, 2011) and the revised alumni role identity questionnaire was consistent between the two studies. This provided an opportunity for a methodological comparison of the relative accuracy of data collected via self-report and data sourced from an institutional database. If self-reported and institutionally held information on donations were accurate to the same degree, a comparison of regression results of participant status as a donor on individual alumni role identity questionnaire items would be expected to yield similar results.
In his 2011 study, McDearmon conducted a stepwise logistic regression of participant status as a donor on all 15 items of the alumni role identity questionnaire. McDearmon (2011) found that six questionnaire items predicted participant status as a donor at the $p<.05$ level of significance. Three of these six items (salience4, social5, and role1) remained completely unchanged between the original alumni role identity questionnaire, used by McDearmon in 2011, and the revised alumni role identity questionnaire used in this study. In order to investigate the relative accuracy of self-reported versus institutionally held information on donations, an identical stepwise logistic regression analysis of donor was carried out on all 15 items of the revised alumni role identity questionnaire to determine if the likelihood, reported by odds-ratio, of a participant being a donor to their alma mater was equal to, above, or below the odds-ratios reported by McDearmon (2011). In stepwise logistic regression, odds-ratio results represent the constant effect of a predictor on the likelihood that one outcome of the criterion will occur. In this comparison, odds-ratio results demonstrated the likelihood that a participant was a donor based upon their responses to scale items salience4, social5, and role1 of the questionnaire. Odd-ratio results from both studies are shown in table 22.
Table 22

Comparison of Stepwise Logistic Regression Odds-Ratios (OR) of Donor on Select Alumni Role Identity Questionnaire Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>This study OR</th>
<th>McDearmon (2011) OR</th>
<th>ΔOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being a &lt;universityname&gt; alumnus(a) is an important part of who I am. [salience4]</td>
<td>-</td>
<td>1.215</td>
<td>-</td>
</tr>
<tr>
<td>Many people I know are not aware that I am a &lt;universityname&gt; alumnus. [social5]</td>
<td>.878</td>
<td>1.163</td>
<td>.285</td>
</tr>
<tr>
<td>As an alumnus(a), it is my duty to support &lt;universityname&gt; through financial contributions. [role1]</td>
<td>2.291</td>
<td>3.067</td>
<td>.776</td>
</tr>
</tbody>
</table>

Note: All results significant at the $p<.05$ level.

A comparison of the logistic regression odds-ratios reported between the two studies revealed inconsistencies for the three items in question. Salience item 4 “Being a <universityname> alumnus(a) is an important part of who I am,” was reported by McDearmon as a significant predictor ($p<.05$) of donor, but did not achieve the same level of significance in this study. A stepwise logistic regression of donor on salience item 4 in this study resulted in a p-value of .0745. As a result, it was determined that salience item 4 was not a significant predictor of a participant’s likelihood of being a donor.

Social item 5 “Many people I know are not aware that I am a <universityname> alumnus” and role item 1 “As an alumnus(a), it is my duty to support <universityname> through financial contributions” were found to be significant predictors ($p<.05$) of donor in both studies. However, odds-ratio results were substantially different. The odds-ratio for social item 5 was 1.163 in McDearmon’s study and .878 in this study, a difference of .285. The odds-ratio for role item 1 was 3.067 in McDearmon’s study and 2.291 in this study, a difference of .776. The difference in odd-ratios between the two studies, and the
inability of this study to reproduce results for salience item 4 at the $p<.05$ level suggests that the source of the donor criterion had an effect on the stepwise logistic regression model. Even though the analytical approach was the same, this research produced more conservative results in predicting participant status as a donor using questionnaire items that were identical in both studies. This finding implies that use of an institutionally sourced donor variable, as in this study, is preferred to a self-reported donor variable, as was used in McDearmon’s 2011 study.

Post-survey behaviors of study participants

In the survey invitation and reminders, invitees were informed that upon completing the revised alumni role identity questionnaire they would be directed to a thank you Web page that included a live link to an online report of aggregate survey results. This link allowed participants the opportunity to view and compare their own responses with those of all respondents. A total 2,253 (or 55%) of the 4,094 study participants clicked on the link to view the survey summary data report after completing their own survey.

Summary of Results

Data analysis procedures carried out in this study revealed that certain alumni attributes were significant predictors of alumni role identity score. Regression and independent samples t-test results showed that several communications, social media use, behavioral, demographic, and giving factors and characteristics of study participants were associated positively with increased alumni role identity. Effect-size results demonstrated that these predictors exerted a measurable and statistically significant level of influence on alumni role identity.
Regression results across the four questions, however, could not be compared very well due to intercorrelations among the predictors. To address this concern, a principal component analysis of the 18 predictor variables was conducted, wherein four uncorrelated factors were extracted. A regression of alumni role identity score on these four factors revealed that alumni behavioral attributes exerted the greatest influence on alumni role identity, followed by demographics and social media use attributes, giving attributes, and communication attributes.

Additionally, a comparison of results between this study and McDearmon’s 2011 study suggested that institutionally sourced data on participant donation history may be more exact than donor information collected from participants via self-report survey. Finally, over half of study participants were found to have reviewed the aggregate results of the alumni role identity survey when given opportunity after completing the instrument.
CHAPTER V
SUMMARY, KEY FINDINGS AND IMPLICATIONS, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Summary of the Study

This study examined the factors and characteristics that influence alumni role identity. The study addressed the following four research questions:

1. What is the relationship of alumni role identity to alumni communications and social media attributes, including e-newsletter opens, Facebook activity, and LinkedIn participation?
2. What is the relationship of alumni role identity to alumni behavioral attributes, including event attendance and volunteering?
3. What is the relationship of alumni role identity to alumni demographic attributes, including age, years from degree, distance from campus, and status as a traditional or non-traditional undergraduate alumnus(a)?
4. What is the relationship of alumni role identity to alumni giving attributes, including donating, number of gifts, total lifetime giving, largest gift, and total years of giving?

The research questions were investigated by fielding an alumni role identity survey to graduates of a mid-size, Jesuit university on the West coast. A total of 4,094 alumni completed the survey. Responses were operationalized as an alumni role identity score, which served as the criterion, or dependent variable, in this study. Data on the communications, social media use, behaviors, demographics, and giving history of study participants were sourced from the university’s alumni database and operationalized as
the predictors, or independent variables, in this study. Statistical techniques including correlation, regression, independent samples t-tests, and principal component analysis were used to determine which of these predictors were related to alumni role identity score. Predictors that were associated positively with alumni role identity score were determined to be among those factors and characteristics that influence alumni role identity.

This chapter reviews the study’s key findings, implications, and conclusions, and presents a discussion of the contributions of the study to role identity theory, the use of institutional data in fundraising research, and the generalizability of findings. Additionally, this chapter provides a recommendations for future research and recommendations to the higher education fundraising profession.

**Key Findings and Implications**

Analysis of the data collected in this research revealed that alumni role identity was influenced by 11 of the 18 alumni attributes studied. Key findings and implications are summarized in this section according to attribute type, and then by each attribute individually according to the strength of its relationship to alumni role identity. Attributes found to influence alumni role identity the most are discussed first, followed by those attributes that showed less influence, and, finally, those attributes that demonstrated none.

Alumni role identity was highest among participants who had volunteered for the university and lowest among those who were graduates of the university’s non-traditional undergraduate degree completion program. The act of volunteering for the university or attending a university event was by far the best indicator of increased alumni role identity among study participants. This implies that alumni who volunteer for or attend an event...
produced by their alma mater are likely to exhibit increased levels of alumni role identity. This finding is supported by the research of Bruggnik and Siddiqui (1995), Clotfelter (2003), and Holmes (2009), which demonstrated that alumni volunteering and event attendance were predictors of alumni participation in giving.

Among participants who had attended a university event, the number of events attended demonstrated a positive influence on alumni role identity above and beyond the act of attendance itself. However, the number of volunteer opportunities completed did not have an additional effect on a participant alumni role identity beyond the act of volunteering itself. This implies that the number of times, beyond once, that a graduate volunteers for his or her alma mater does not have any bearing on that graduate’s alumni role identity, whereas attendance at multiple university events is a good predictor of increased alumni role identity.

Attributes representative of alumni social media use were found to be good indicators of increased alumni role identity. Participants who were members of the university’s official alumni networking group on LinkedIn or who had “liked” the university official Facebook page reported higher levels of alumni role identity. The social media use of participants was a consistent predictor of alumni role identity score. This implies that alumni who interact with their alma mater via social media are likely to have high levels of alumni role identity. This finding is supported by the work of Reddick and Ponomariov (2013), which showed that online identification with an alumni association was related to increased donations.

An examination of the relationship between e-newsletter opens and alumni role identity produced mixed findings. Alumni role identity was higher among alumni e-
newsletter openers as compared to participants who had not opened a single e-newsletter, however t-test results showed that the average alumni role identity score of e-newsletter openers was nearly identical to the mean score of all study participants. This implies that act of opening at least one university e-newsletters is positively associated with alumni role identity, but only at the level of increasing it among alumni whose salience with their role identity as an alumnus(a) was already below average.

The number of e-newsletters opened was found to have an additive influence on the alumni role identity among participants. Alumni role identity scores of participants increased steadily accordingly to the number of e-newsletters opened. This implies that opening multiple editions of the university’s e-newsletter is a good indicator of increased alumni role identity among graduates. This finding is supported by the research of Shadoian (1989), which illustrated that alumni participation in giving was positively correlated with readership of university publications.

Participants who were donors to the university reported higher levels of alumni role identity than participants who had never made a gift to the school. However, regression results showed that status as a donor was not a significant unique predictor of alumni role identity score. This implies that while alumni role identity is associated positively with alumni participation in giving, a graduate’s self-identification with his or her role identity as an alumnus(a) is not influenced by whether or not they had made a donation to their alma mater.

Results were mixed for participants who were traditional undergraduate degree holders. Though traditional undergraduate degree holders reported higher levels of alumni role identity than non-traditional undergraduates, status as a traditional
undergraduate was shown only to increase a participant’s alumni role identity score to near or just above the mean of all participants. This implies that status as a traditional or non-traditional undergraduate is not a particularly good indicator of increased alumni role identity.

In another mixed finding, participants who had a public profile on LinkedIn that listed the university in the profile’s education section reported higher levels of alumni role identity than participants who did not have such a profile, however t-test results showed that the mean difference between these two groups was the lowest among all of the alumni attributes operationalized as predictors in this research. This finding implies that whether or not a graduate has a LinkedIn public profile is not a good predictor of increased alumni role identity.

Seven of the predictors examined in this study did not achieve the level of statistical significance required to be considered as factors and characteristics that influence alumni role identity. Participant status as a donor, largest gift made and total years of giving to the university, along with age, years from degree, and distance from campus, and number of volunteer opportunities completed were not significant unique predictors of alumni role identity score. This finding suggest that these seven attributes, all of which have been shown to be predictors of alumni participation in giving (Bruggink & Siddiqui, 1995; Clotfelter, 2003; Holmes, 2009; Weerts & Ronca, 2007, 2009), are not related to alumni role identity, even though alumni role identity itself is associated positively with alumni giving (McDearmon, 2011). These results imply that these alumni attributes do not increase alumni role identity, and should not be used by higher education
fundraising professionals as criteria in efforts aimed at increasing the alumni role identity of graduates.

Considered comparatively attribute type group, the principal component factor representative of alumni behavioral variables – an analog to research question 2 – contributed most to the variance in alumni role identity score, followed by factors representative of alumni demographics and social media use, alumni giving, and alumni communications. This finding indicated that of the 18 predictor variables examined in this study, those that stood for alumni behaviors, including event attendance and volunteering, were superior at predicting the alumni role identity score of participants. These results imply that colleges and universities could best influence the alumni role identity of graduates by deploying strategies to increase the number of alumni who volunteer or attend events.

In summary, this research described 11 factors and characteristics that influenced alumni role identity and seven that did not. Alumni volunteering, attendance at events and number of events attended; the number of gifts made and total amount of lifetime giving to the university; readership of the university’s alumni e-newsletter and number of e-newsletters read, having a LinkedIn public profile with the university degree listed, joining the university’s official LinkedIn group, and “liking” the university’s official Facebook page; and status as a traditional undergraduate were each found to influence alumni role identity. When compared by attribute type, alumni behavioral factors and characteristics, such as attending events or volunteering, were found to exert the greatest influence on alumni role identity.
Conclusions

This study employed correlation, principal component analysis, independent samples t-tests, and multiple regression techniques to determine the factors and characteristics that influence alumni role identity. Due to the absence of literature on the antecedents of alumni role identity, the researcher examined the literature on alumni participation in giving for possible predictors of alumni role identity. As a result, no hypothesis was formulated as to the effect of these predictors on the variance of alumni role identity score, the criterion in this study.

While some of the alumni communications, social media use, behavioral, demographic, and giving attributes investigated in this research were shown to be significant unique predictors of alumni role identity score, effect-size results indicated that no one group of predictors accounted for more than 6.8% of the variance in the alumni role identity scores of study participants. Additionally, correlation results revealed that none of the 18 alumni attributes operationalized as predictors in this study demonstrated a correlation greater than .22 with alumni role identity score. Taken together, the low effect-size results of the regression models and low correlations of the predictors with alumni role identity score suggest that alumni role identity is predominantly influenced by factors and characteristics beyond those described in this study.

With these findings in mind, the researcher suspects that alumni role identity itself might be difficult to describe according to observable alumni attributes. Netzer et al. (2008) suggested that the decision of a graduate to donate to his or her alma mater was too personal in nature to predict. In the study that coined alumni role identity,
McDearmon (2013) himself acknowledged that contemporary models of forecasting alumni participation in giving used only surface indicators of a graduate’s inclination to donate. Based on the effect-size and correlation results produced in this study and the observations of Netzer et al. (2008) and McDearmon (2013), the researcher postulates that the nature of alumni role identity is not easily described using observable alumni attributes.

**Discussion**

This study contributed several findings to the literature on alumni giving. By describing the factors and characteristics that influence alumni role identity, a known correlate of alumni giving (McDearmon, 2011), this research equips college and university fundraising offices with new leverage in soliciting donations from alumni. This section includes a discussion of contributions to role identity theory, comments on the effectiveness of institutionally sourced data in fundraising research, and an argument for the generalizability of the study findings.

*Contributions to role identity theory*

An additional finding of this study was the unexpected post-survey behavior of study participants. Over half of the participants took advantage of the option to view the summary results of the revised alumni role identity questionnaire after completing it. This suggests that salience with the role identity of alumnus(a) was high enough among these participants that they sought to compare themselves with their alumni peers. Role identity theory holds that the individual behavior of role players is acquired in social contexts, often through interacting with others that occupy the same role (Stryker, 1980; Turner, 2001). Viewed through the lens of role identity theory, the interest shown by the majority
of study participants in viewing the summary results of the survey implies that these participants were seeking to clarify their own set of expectations about how they are to interact with their alma mater by comparing themselves to other alumni respondents. This finding suggests that this post-survey behavior itself was an indicator of increased alumni role identity.

Unfortunately, the identity of participants that clicked on the online link to view aggregate survey results could not be tracked or confirmed. The researcher recommends that further research into the construct of alumni role identity consider designs that allow for tracking participant behavior outside of the completion of a quantitative instrument or qualitative interview. A design such as this would allow a researcher to determine the overall effect of the study itself on the alumni role identity of participants. This was, however, not possible given the design of this study.

**Effectiveness of institutional data in fundraising research**

McDearmon’s (2011) study of alumni role identity used self-report as a method to gather information on the attributes of participants, including donations history. In this study, information on the giving histories of participants was collected from the university’s alumni database. This study and McDearmon’s study employed a near identical alumni role identity survey instrument, which demonstrated comparable levels of internal reliability and produced consistent mean scale response scores among donor and non-donor participants across both studies. This allowed for a methodological examination of the efficacy of self-report and institutionally sourced data on donations between the two studies. This investigation was carried out by comparing logistic regression odd-ratios reported by McDearmon (2011) to those found in this study.
Analysis revealed that the regression models run in this research were more conservative in predicting whether or not a participant was a donor when compared to McDearmon’s (2011) results. Respondent bias in self-reporting desired behavior (in this case, making a donation to one’s alma mater) is a known concern in the literature on surveys of college students (Kelly, Hareel, Fontes, Walters, & Murrhy, 2017) and of electronic surveys in general (Brenner & DeLamater, 2016). An additional finding of this study is that institutionally sourced data on participant donations performed more conservatively in predictive models than data collected via self-report. This implies that higher education researchers should, whenever possible, default to this use of institutionally-held data on desired alumni behaviors, such as giving.

Generalizability of findings

The population studied in this research was all living undergraduate degree holders from the university (n=63,124). Investigation of research question one required all study participants to have had equal chance to read electronic communications sent by the university. Therefore the sampling frame was narrowed to included only those alumni to whom the university could send email (n=38,905). As a result, the generalizability of findings to alumni in the study population who did not have an email address on file with the university must be considered. In order to examine the generalizability of findings beyond the sampling frame, demographic summary statistics were generated for both the study population and study participants (see Table 23).
Table 23

*Location, Sex, Age, and Race of the Study Population (n=61,324) and Study Participants (n=4,094)*

<table>
<thead>
<tr>
<th></th>
<th>Study population %</th>
<th>Study participants %</th>
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<tbody>
<tr>
<td><strong>Location</strong></td>
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<tr>
<td>San Francisco bay area</td>
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<td>50</td>
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<tr>
<td>Other California</td>
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<td>Other U.S. states</td>
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<td>International</td>
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<td><strong>Sex</strong></td>
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<td>Female</td>
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<td>Male</td>
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<td><strong>Age</strong></td>
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<td>40 to 49</td>
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<td>50 to 59</td>
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<td>60 to 69</td>
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<td>70 and older</td>
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<td><strong>Race</strong></td>
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<td>White/Caucasian</td>
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<td>Asian/Pacific Islander</td>
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<td>Hispanic/Latino</td>
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<td>Black/African American</td>
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<td>5</td>
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<td>American Indian/Alaska Native</td>
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A comparison of demographic attributes across the study population and study participants revealed a moderately high degree of similarity between the two groups, which suggests that this study’s findings can be generalized beyond the sampling frame to the entire population of all living undergraduate alumni. Location, sex, and race of the study population and study participants were comparable, with a deviation of less than 3% within any given attribute. One notable difference was in the age of the two groups. Even though the participant group skewed slightly younger, alumni age 40 and older were well represented in the study dataset (45% of participants were age 20-39 and 54% of participants were age 40 or older). The researcher concluded that the demographics of study participants resembled those of the study population at a level that justified the generalizability of this study’s findings to all alumni within the study population, including those without an email address in the university’s database.

**Recommendations for Future Research**

Alumni role identity offers higher education fundraising professionals new capability in fundraising efforts by characterizing graduates according to their level of salience for their role as an alumnus(a). However, more research is needed into the nature and application of alumni role identity as a predictor of alumni participation in giving.

Discussion in the literature (Durango-Cohen et al., 2013; Netzer et al., 2008; McDearmon, 2013; Stephenson & Bell, 2014) has called into question the usefulness of long standing predictors of alumni giving, such as alumni behaviors and demographics. This study’s findings contributed to that discussion by demonstrating that alumni role identity, while influenced by behavioral and demographic factors and characteristics to a degree, is not behavioral nor demographic in nature.
Future research into the antecedents of alumni role identity should include factors and characteristics beyond observable alumni attributes. The research of Netzer et al. (2008) and Weerts and Ronca (2009) suggest alumni perceptions of or feelings of connection towards their alma mater might also be predictors of alumni giving. Psychometric measures of alumni connectedness should be investigated for convergent construct validity with alumni role identity and to determine the relationship of such measures to alumni donations.

**Recommendations to the Fundraising Profession**

This study suggests that higher education fundraising professionals can influence alumni role identity at the level of individual graduates through strategies that leverage the factors and characteristics described in this paper. The researcher acknowledges that the findings cannot be generalized beyond the living undergraduate alumni population of the university that served as the research setting. The implications of this study, however, are important for all college and university fundraising offices. By providing a thick description of the research setting and the demographics of the study population and study participants (see chapters III and V of this paper), the researcher hopes that higher education fundraising professionals will find points of parity between this study and the institutions serve and alumni populations they solicit.

The most important recommendation of this research comes from the finding that certain alumni behavioral and demographic attributes known to be predictors of alumni giving (Bruggink & Siddiqui, 1995; Clotfelter, 2003; Holmes, 2009; Weerts & Ronca, 2007, 2009) are not, in fact, related to alumni role identity. This finding is supported by the work of Netzer et al. (2008), Durango-Cohen et al. (2013), and Stephenson and Bell
(2014), which called into question the effectiveness of such attributes in predicting alumni giving. This study found that the number of volunteer opportunities completed; age, years from degree, and distance from campus; status as a donor, largest gift, and total years of giving of study participants were not effective predictors of alumni role identity. The findings of this study imply that colleges and universities should avoid operationalizing attributes such as these in any strategy aimed at increasing the alumni role identity of graduates.

The second recommendation of this research comes from the finding that alumni role identity is influenced by the university’s online interactions with graduates via social media. The impact of social media on donations to non-profits is not well understood in the literature (Ingenhoff & Koelling, 2009). This study provides a framework for considering how college and university fundraising offices could increase alumni role identity through strategies aimed at getting more alumni to “like” the institution’s official Facebook page or join the institution’s official alumni networking group on LinkedIn. If a college or university does not have an actively managed presence on these social media platforms, the results of this study make a strong case for such a presence to become an institutional priority.

In this research, participants who had “liked” the university’s Facebook page or joined the university’s LinkedIn group reported levels of alumni role identity that were comparable to those reported by participants who had attended a university event. University sponsored events are costly endeavors that can only impact the alumni role identity of those alumni who are invited and choose to attend. When considering the allocation of fundraising resources, colleges and universities would be advised to shift
some resources from alumni event strategies to operations that engage alumni via social media. The results of this study indicate that social media interactions exert the same amount of influence on alumni role identity as event attendance. The implication is that colleges and universities would have a far greater number of engaged graduates (those with higher levels of alumni role identity) to solicit for donations if the number of alumni who demonstrated social media interactions with the school was increased. This study suggests that higher education fundraising professionals could boost alumni giving by implementing social media strategies that increase the alumni role identity of graduates.

**Closing Thoughts**

Although the literature on higher education includes some studies on alumni giving, there remains a great deal about fundraising from university graduates that is not well understood. As an industry, higher education is under tremendous pressure to both expand the number of students it serves and reduce the cost of doing so. Caught in the middle is the higher education fundraising professional, whose success in raising revenue from alumni is critical to both these aims.

This study helped provide college and university fundraising offices with new leverage in predicting alumni donations by describing the factors and characteristics that influence alumni role identity – an alumni attribute that is a known correlate of alumni giving. At the same time, the results of this research showed that several of the long-established indicators of alumni participation in giving, such as age and distance from campus, were not related to a graduate’s self-identification with his or her role identity as an alumnus or alumna. This discordant finding alone is indication enough of the need for serious inquiry into what motivates alumni to donate to their alma mater.
The researcher is of the opinion that the lack of academic investigation into the higher education fundraising industry is due to the absence of competition within the space. Unlike other industries where competition between companies leads to new and improved strategies for customer acquisition, each of the 4,000+ four-year colleges in the United States has a unique customer base of undergraduate alumni that does not overlap with any other school. Whereas there exists fierce competition between institutions to enroll high school graduates as freshman, there is next to no competition between colleges when it comes to fundraising from undergraduate alumni. For instance, UCLA does not try to solicit donations from Stanford alumni any more than Stanford would attempt the inverse. Industry-driven improvements in fundraising strategy are rare because schools are content to rest on the laurels of those stalwart fundraising tactics that just seem to work with their alumni. Understandably, this has turned college and university fundraising offices into risk-adverse operations. There is no need to innovate because no one else is doing any better at raising revenue from their alumni population than they are. Ralph Amos, former CEO of the UCLA Alumni Association, referred to this situation as a “culture of sameness,” and the researcher agrees.

A revolution is needed to upend the culture of sameness among higher education fundraising professionals, and the linchpin of that revolution can already be found in the work of those few researchers who have brought the methods of social science to bear on the question “why do alumni give?” Innovation in fundraising strategy across the industry is necessary if higher education is to succeed in serving greater numbers of students while also controlling costs. It is the hope of this researcher that this study will be counted among those efforts.
REFERENCES


APPENDIX A

Permission from Dr. McDearmon to use his Alumni Role Identity Questionnaire

9/1/2016

Request for Permission - Alumni Role Identity Questionnaire

Jay Dillon <jldillon@usfca.edu>

9/14/2016 3:10 PM

Subject: Request for Permission - Alumni Role Identity Questionnaire

To: McDearmon, James Travis <jim mcdearmon@wsu.edu>

September 14, 2016

Dr. J. T. McDearmon
Adjunct Faculty
Indiana University Lilly Family School of Philanthropy
301 University Blvd. Indianapolis, IN 46202

Dear Dr. McDearmon,

I am a doctoral student at the University of San Francisco, School of Education enrolled in a dissertation seminar course. I am in the process of developing my dissertation proposal, tentatively titled "Antecedents of Alumni Role Identity: Implications for Practice in Higher Education Fundraising and Alumni Engagement" under the direction of my Faculty Advisor, Dr. Patricia Mitchell.

I am requesting your permission to reproduce your Alumni Role Identity Questionnaire survey instrument as a methodological component of my research study. My use of the survey would be under the following conditions:

- I will use this survey only for educational purposes in my research study and will not sell or use it for any compensation or curriculum development activities.
- I will include the copyright statement on all copies of the instrument and cite you as the author of the survey.
- I will send my research study and copy of any reports, articles, etc. that make use of my survey data, promptly to your attention.

Should you have any questions or concerns, or if there are other entities I may need to consult concerning the use of the survey, please feel free to contact me by email at jldillon@usfca.edu or by phone at 310-405-5650.

If these terms and conditions are acceptable, please sign one copy of this letter and return it by reply to this email.

Sincerely,

Jay LeRoux Dillon
Doctoral Student, Organization & Leadership
University of San Francisco

https://mail.iu.edu/iowa/viewsmodel=ReadMessageItem&itemID=AAMkADQ4M2ViYiM1LuyvZuQnM2ZjZC1hMzI3LjIyMTh1NdxAYj1NgBGAAAAAADAuk...
APPENDIX B

Content Validity Survey

Introduction

CONTENT VALIDITY STUDY PURPOSE
The purpose of this content validity study is to gather constructive feedback from a panel of experts on the quality of the Alumni Role Identity Questionnaire developed by McDearmon (2011). As an expert in the field of higher education research and a member of the panel, you are requested to complete a survey designed to evaluate the content validity of the Alumni Role Identity Questionnaire instrument. The following paragraphs provide a brief background on alumni role identity, a description of the instrument to be studied, and instructions for the survey.

ALUMNI ROLE IDENTITY
First proposed by McDearmon (2011) and based in Stryker’s (1988, 1980, 2002) role identity theory and Callero’s (1985) study of role identity salience, alumni role identity is an alumni attribute defined according to dimensions of “salience, social and institutional expectations, and alumni involvement behaviors” (McDearmon, 2013, p. 285). Alumni role identity is the degree to which an individual self-identifies and is known to others as an alumnus(a) of a college or university, and that individual’s inclination to exhibit alumni support behaviors towards the same. In a study of alumni of a large public research university in the Midwest, McDearmon (2013) found that found that graduates with high alumni role identity were more likely to be active donors to their alma mater than graduates with low alumni role identity (p. 299).

INSTRUMENT DESCRIPTION
The purpose of the Alumni Role Identity Questionnaire is to determine the respondent’s role identity as a college or university graduate - their “alumni role identity.” This instrument was developed for and deployed in McDearmon’s 2011 study. The questionnaire is comprised of three sections containing five items each. Each section is intended to measure a particular dimension of alumni role identity: (1) Identity Salience, (2) Social Perceptions, and (3) Role Expectations. Each section and its corresponding items will be presented separately for your review. A theoretical definition will be provided for the dimension of alumni role identity that each section is designed to measure.

INSTRUCTIONS
Please read the theoretical definition presented for each questionnaire section and rate the representativeness and clarity of the individual questionnaire items in relation to the definition. Rate each item using the following scales:

Representativeness
1 = item is not representative
2 = item needs major revisions to be representative
3 = item needs minor revisions to be representative
4 = item is representative

Clarity
1 = item is not clear
2 = item needs major revisions to be clear
3 = item needs minor revisions to be clear
4 = item is clear
NOTE: The word "University" is used as a generic placeholder in questionnaire item wording to represent the name of the college or university where respondents earned their degree. When deployed in research use, this placeholder will be replaced with the proper name of the university being studied.

After rating the five items of a section, please evaluate the comprehensiveness of the entire section by providing your thoughts on items that should be revised, added, or deleted.

After rating the three sections of the Alumni Role Identity Questionnaire, you will be asked to rate three additional items that are under consideration for addition to the existing instrument.

This survey should take no more than 45 minutes to complete. If you have questions or concerns regarding this survey or the content validity study itself, please contact the principal investigator Jay Le Roux Dillon at jayldillon@gmail.com.

Please click "Next >>" to begin the survey.

Identity Salience

THEORETICAL DEFINITION - Identity Salience
This section of the Alumni Role Identity Questionnaire is a measure of identity salience. Identity salience refers to the willingness of an individual to act out the expected behavior associated with a particular role definition (Stryker & Serpe, 1994). In this case, the role definition to be studied is that of being a college or university graduate. Based upon the work of Callero (1985), this section is designed to assess the degree to which the role of alumnus(a) is associated with the respondent's individual self-concept.

In this section, respondents are presented with five statements/items and asked to rate their agreement with each statement/item along a six-point Likert scale from Strongly Disagree (1) to Strongly Agree (6).
Please rate the **Representativeness** and **Clarity** of each statement/item below in relation to the theoretical definition of identity salience.

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<thead>
<tr>
<th>Representativeness</th>
<th>Clarity</th>
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<tr>
<td>1 - item is not representative</td>
<td>1 - item is not clear</td>
</tr>
<tr>
<td>2 - needs major revisions</td>
<td>2 - needs major revisions</td>
</tr>
<tr>
<td>3 - needs minor revisions</td>
<td>3 - needs minor revisions</td>
</tr>
<tr>
<td>4 - item is representative</td>
<td>4 - item is clear</td>
</tr>
</tbody>
</table>

| Being a University alumnus(a) is something I often think about. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I really don't have any clear feelings about being a University alumnus(a). | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| For me, being a University alumnus(a) means more than just contributing money or time. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Being a University alumnus(a) is an important part of who I am. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I would feel lost if I were not a University alumnus(a). | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

This section of the Alumni Role Identity Questionnaire is designed to assess the degree to which the role of alumnus(a) is associated with the respondent's individual self-concept. Are the five items of this section sufficient to represent identity salience with the role of alumnus(a)?

- ○ Yes
- ○ No

Please evaluate the comprehensiveness of this entire section and provide any thoughts you may have on items that should be revised, added, or deleted.
Social Expectations

THEORETICAL DEFINITION - Social Perceptions
This section of the Alumni Role Identity Questionnaire is a measure of social perceptions. Social perceptions refers to the perceptions of others regarding an individual's role identity. According to Callero (1985), "salient role identities have implications for social relations in that they announce to others who we are" (p. 205). This section is designed to examine the degree to which the respondent is known to others as being an alumnus(a) of a college or university.

In this section, respondents are presented with five statements/items and asked to rate their agreement with each statement/item along a six-point Likert scale from Strongly Disagree (1) to Strongly Agree (6).

Please rate the **Representativeness** and **Clarity** of each statement/item below in relation to the theoretical definition of social perceptions.

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<th></th>
<th>Representativeness</th>
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<tbody>
<tr>
<td></td>
<td>1 - item is not representative</td>
<td>2 - needs major revisions</td>
<td>3 - needs minor revisions</td>
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<tr>
<td>Many people think of me as being a University alumnus(a).</td>
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<tr>
<td>Other people think that being a University alumnus(a) is important to me.</td>
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<tr>
<td>It is important to my friends and family that I am a University alumnus(a).</td>
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<tr>
<td>It does not matter to most people that I am a University alumnus(a).</td>
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<td>Many people I know are not aware that I am a University alumnus(a).</td>
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</table>
This section of the Alumni Role Identity Questionnaire is designed to assess the degree to which the respondent is known to others as being an alumnus(a) of a college or university. Are the five items of this section sufficient to represent the social perceptions associated with the role of alumnus(a)?

☐ Yes
☐ No

Please evaluate the comprehensiveness of this entire section and provide any thoughts you may have on items that should be revised, added, or deleted.

Role Expectations

THEORETICAL DEFINITION - Role Expectations
This section of the Alumni Role Identity Questionnaire is a measure of role expectations. Role expectations refers to the support behaviors that alumni exhibit towards their alma mater. Weerts and Ronca (2007) argue that "alumni have expectations about future events and that their giving and volunteer behavior reflects these expectations" (p. 23). Role expectations is one of the main tenets of Stryker’s (2002) role identity theory, which states that role expectations will determine how individuals perceive the roles they occupy. This section is designed to examine the expectations that the respondent has about their own role as an alumnus(a).

In this section, respondents are presented with five statements/items and asked to rate their agreement with each statement/item along a six-point Likert scale from Strongly Disagree (1) to Strongly Agree (6).
Please rate the **Representativeness** and **Clarity** of each statement/item below in relation to the theoretical definition of role expectations.

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<th>Representativeness</th>
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<td>4 - item is representative</td>
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**As an alumnus(a), it is my duty to support the University through financial contributions.**

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**As an alumnus(a), it is my duty to support the University through volunteering.**

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**As an alumnus(a), I am expected to attend alumni events.**

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**As an alumnus(a), it is my duty to serve on a University board or committee.**

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**As an alumnus(a), I am expected to attend athletic events.**

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This section of the Alumni Role Identity Questionnaire is designed to examine the expectations that the respondent has about their own role as an alumnus(a). Are the five items of this section sufficient to represent the expectations associated with the role of alumnus(a)?

☐ Yes
☐ No

Please evaluate the comprehensiveness of this entire section and provide any thoughts you may have on items that should be revised, added, or deleted.
APPENDIX C

Revised Alumni Role Identity Questionnaire

Thank you for agreeing to complete this short alumni survey. Your participation will help ensure a representative response from the entire population of USF graduates.

Please rate your agreement with the following statements on the scale provided:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being a USF alumnus(a) is something I often think about.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I have clear feelings about being a USF alumnus(a).</td>
<td>○</td>
<td>○</td>
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<td>○</td>
</tr>
<tr>
<td>For me, being a USF alumnus(a) means more than just contributing money or time.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Being a USF alumnus(a) is an important part of who I am.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I would feel incomplete if I were not a USF alumnus(a).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Please rate your agreement with the following statements on the scale provided:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>People I am closest to know I am a USF alumnus(a).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>People who know me think that being a USF alumnus(a) is important to me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>It is important to my friends and family that I am a USF alumnus(a).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Being a USF alumnus(a) is one of the first things I share about me when I meet someone new.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Many people I know are not aware that I am a USF alumnus(a).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Please rate your agreement with the following statements on the scale provided:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Slightly Agree</th>
<th>Somewhat agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>As an alumnus(a), it is my duty to support USF through financial contributions.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>As an alumnus(a), it is my duty to support USF through volunteering.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>As an alumnus(a), I am expected to attend alumni events.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>As an alumnus(a), it is my duty to serve on a USF board or committee.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>As an alumnus(a), I am expected to help current students.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Thank You

Thank you for completing the alumni identity survey. Your meaningful response will help advance the work of my dissertation project. I really appreciate it!

Click here to see a preview of aggregate survey results

If you have any questions about this project, please contact me directly.

With gratitude,

Jay Le Roux Dillon
Doctoral Candidate, Organization & Leadership
University of San Francisco, School of Education
JDillon@dons.usfca.edu

This project (IRB Protocol #728) with the title Alumni Role Identity has been approved by the University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRB) as Exempt according to 45CFR46.101(b). The exemption has been verified because this project involves minimal risk to subjects as reviewed by the IRB on 10/23/2016.
APPENDIX D

Request for and Permission to Access and Use University Alumni Information

Dec. 14, 2015

Mr. Peter J. Wilch
Vice President for Development
University of San Francisco
2150 Fulton Street
San Francisco, CA 94117

Dear Vice President Wilch,

I am a doctoral candidate at the University of San Francisco, School of Education. I am in the process of developing my dissertation, titled "Alumni Role Identity and Participation in Giving: Implications for practice in higher education fundraising and alumni engagement" under the direction of my Faculty Advisor, Dr. Patricia Mitchell. My dissertation proposal has been reviewed and approved by the faculty of the School of Education and my research protocol has been reviewed and approved by the Institutional Review Board of the university.

I write to ask for your permission to field a questionnaire to graduates of the University of San Francisco in January and February of 2017. The Alumni Role Identity Questionnaire survey instrument, developed by Dr. J. Travis McDearmon of the Indiana University Lilly Family School of Philanthropy, is the primary methodological component of my research study. In a 2011 study of graduates of the Indiana University, Dr. McDearmon found that alumni with high levels of role identity were positively associated with participation in giving.

To complete my research, I will require access to information contained in the university's database, including demographic, behavioral, and giving history information on all living alumni with email, approximately 70,000 individuals.

My use of this alumni information would be under the following conditions:

- I will use this alumni information only to send the questionnaire and for educational purposes in my research study. I will not sell or use it for any compensation.
- I will send my research study and copy of any reports, articles, etc. that make use of this alumni information, promptly to your attention.

Should you have any questions or concerns, or if there are other entities I may need to consult concerning the use of the requested information, please feel free to contact me by email at jldillon@usfc.edu or by phone at 510-405-5658.

If these terms and conditions are acceptable, please respond by reply to this letter. Thank you for your time and consideration.

Sincerely,

Jay Le Roux Dillon
Doctoral Candidate, University of San Francisco
Timely request as a student re: my dissertation

Peter Wilch <pwilch@usfca.edu>
To: Jay Dillon <jdillon@usfca.edu>
Cc: Leslie Theodore <ltheodore@usfca.edu>

Jay,

Thank you for your thoughtful request to access the University of San Francisco's alumni database as part of your doctoral dissertation project. As the Chief Advancement and Development Officer for USF, you have my blessing to proceed provided you keep the specific identities of alumni surveyed anonymous. Good luck on the final stretch.

Peter

[Quoted text hidden]
APPENDIX E

Text of Survey Invitations and Reminders

Here below is the survey invitation sent by email to all members of the study sample; sent on day 1 or 2 of the survey period.

Subject line: Your Advice and a Favor on USF Alumni

Dear <firstname>,

Greetings from the University of San Francisco!

My name is Jay Dillon and I am a Doctoral student at USF. I am conducting a survey of USF alumni identity as part of my dissertation project. You are one of a small sample of graduates who have been selected to represent the alumni population as a whole. I write to ask for the favor of your participation.

Take the 4-minute Alumni Identity Survey

This simple, 7-question survey will take fewer than 4 minutes to complete. It is designed to assess the degree to which you identify with being a graduate of USF. Participation is completely voluntary. Broad and complete participation will greatly improve the usefulness of the survey data. Your personal information will not be collected as part of the survey. Individual responses will remain confidential.

As a special thank you for participating, you will receive access to a summary of results immediately after completing the survey. If you have questions or thoughts about this project, please contact me directly.

With gratitude,

Jay Le Roux Dillon
Doctoral Candidate, Organization & Leadership
University of San Francisco, School of Education
jldillon@dons.usfca.edu

This project (IRB Protocol #728) with the title Alumni Role Identity has been approved by the University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRB) as Exempt according to 45CFR46.101(b). This exemption has been verified because this project involves minimal risk to subjects as reviewed by the IRB on 10/23/2016. Click here to unsubscribe from project emails.
Here below is the survey reminder invitation sent by email to members of the study sample that had not yet completed the survey or opted-out of receiving project emails; sent on day 5 of the survey period.

Subject line: <firstname>, I need your thoughts on USF alumni

Dear <firstname>,

A few days ago I invited you to participate in a survey on USF alumni identity. As a doctoral student at USF, it would help me a great deal if you could complete this short and simple survey by Monday evening.

**Complete the 4-minute Alumni Identity Survey**  
*Or copy and paste this link into your internet browser: <surveyURLtext>*

This survey is designed to assess the degree to which you identify with being a graduate of USF. You are one of a small sample of alumni chosen for this important part of my dissertation project. Your personal information will not be collected as part of the survey. Individual responses will remain confidential.

Thank you, <firstname>.

With appreciation,

Jay Le Roux Dillon  
Doctoral Candidate, Organization & Leadership  
University of San Francisco, School of Education  
jldillon@dons.usfca.edu

This project (IRB Protocol #728) with the title Alumni Role Identity has been approved by the University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRB) as Exempt according to 45CFR46.101(b). This exemption has been verified because this project involves minimal risk to subjects as reviewed by the IRB on 10/23/2016. [Click here to unsubscribe from project emails.](#)
Here below is the survey reminder invitation sent by email to members of the study sample that had not yet completed the survey or opted-out of receiving project emails; sent on day 10 or 13 of the survey period.

Subject line: If you can assist a USF student

Hi <firstname>,

This is Jay Dillon, a doctoral student at USF. Last week I asked if you might complete a short and simple survey on alumni identity that is a part of my dissertation project:

Take the Alumni Identity Survey (4 mins)

Because you are one of a small sample of alumni chosen for this survey, your participation is requested in order to ensure a representative response. The survey is designed to assess the degree to which you identify with being a graduate of USF. Your personal information will not be collected as part of the survey. Individual responses will remain confidential.

This survey will close within one week of this invitation. If you have time to complete it before then, I would really appreciate it.

With sincere thanks,

Jay Le Roux Dillon
Doctoral Candidate, Organization & Leadership
University of San Francisco, School of Education
jldillon@dons.usfca.edu

This project (IRB Protocol #728) with the title Alumni Role Identity has been approved by the University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRB) as Exempt according to 45CFR46.101(b). This exemption has been verified because this project involves minimal risk to subjects as reviewed by the IRB on 10/23/2016. Click here to unsubscribe from project emails.
APPENDIX F

IRB Protocol Exemption Verification

To: Jay Dillon  
From: Terence Patterson, IRB Chair  
Subject: Protocol #728  
Date: 10/23/2016

The Institutional Review Board for the Protection of Human Subjects (IRBPHS) at the University of San Francisco (USF) has reviewed your request for human subjects approval regarding your study.

Your project (IRB Protocol #728) with the title Alumni Role Identity has been approved by the University of San Francisco IRBPHS as Exempt according to 45CFR46.101(b). Your application for exemption has been verified because your project involves minimal risk to subjects as reviewed by the IRB on 10/23/2016.

Please note that changes to your protocol may affect its exempt status. Please submit a modification application within ten working days, indicating any changes to your research. Please include the Protocol number assigned to your application in your correspondence.

On behalf of the IRBPHS committee, I wish you much success in your endeavors.

Sincerely,

Terence Patterson, EdD, ABPP  
Professor & Chair, Institutional Review Board for the Protection of Human Subjects  
University of San Francisco  
irbphs@usfca.edu