

USING SOCIAL NETWORK SITES TO ENGAGE AND MOTIVATE  
UNIVERSITY ALUMNI

A Thesis  
Presented to the Faculty of the Graduate School  
of Cornell University  
in Partial Fulfillment of the Requirements for the Degree of  
Master of Science

by  
Harmonie A. Farrow  
May 2010

© 2010 Harmonie A. Farrow

## ABSTRACT

This research explores how frequent communication and emotional closeness, as fostered by the use of social network sites (SNSs) such as Facebook, influence alumni attitudes and behavior toward volunteering for and making charitable gifts to their alma mater. Research was conducted at a large Northeastern University. First, an exploratory study of interviews and participant observation was conducted in order to better understand how and why alumni currently use Facebook. This was followed by the collection of survey data from 3,085 University alumni. The data were analyzed using hierarchical linear regression, which revealed several significant findings. First, active participation in alumni groups on Facebook positively predicts strong social network ties to other alumni and the University along two dimensions: frequency of communication and emotional closeness. Second, these strong ties have an effect on alumni's attitude and actual behavior toward volunteering for and making charitable donations to the University.

## BIOGRAPHICAL SKETCH

Harmonie Farrow is from Watertown, Massachusetts. She holds her B.F.A. in Theatrical Production Arts from Ithaca College in Ithaca, NY. Prior to attending Cornell University for her graduate work in communication, Harmonie worked in Cornell's Division of Alumni Affairs and Development in Donor Relations. She now works in Texas Christian University's Division of University Advancement as the Director of Student and Young Alumni Programs.

This thesis is dedicated to my husband, Matthew, who has been my therapist, confidant and computer technician for the past two years. Thank you for your unwavering support; I could not have done this without you.

## ACKNOWLEDGEMENTS

I would like to acknowledge my special committee chair, Connie Yuan, for her never-ending supply of support, suggestions and hugs, and my special committee members, Lee Humphreys and Sue Fussell, for all of their feedback and words of encouragement. I would also like to thank Chris Marshall, Associate Vice President of Alumni Affairs, for his approval and support of this research project, and Beth Hamilton, Associate Director of Benefits and Services for Alumni Affairs, who perfected the art of sending an electronic survey to over 11,000 alumni.

## TABLE OF CONTENTS

Biographical Sketch	iii
Dedication	iv
Acknowledgements	v
List of Figures	vi
List of Tables	vii
Literature Review	1
Method	17
Results	21
Discussion	29
Conclusion	33
Appendix A	35
Appendix B	37
References	54

## LIST OF FIGURES

<b>Figure 1</b> Conceptual Model	17
<b>Figure 2</b> Results for the test of the conceptual model	29



## LIST OF TABLES

<b>Table 1</b> Summary of Bivariate Correlations	22
<b>Table 2 (a)</b> Regression Analysis on Frequency of Communication	23
<b>Table 2 (b)</b> Regression Analysis on Emotional Closeness to Alumni	24
<b>Table 2 (c)</b> Regression Analysis on Emotional Closeness to the University	25
<b>Table 2 (d)</b> Regression Analysis on Attitude Toward Volunteerism	26
<b>Table 2 (e)</b> Regression Analysis on Attitude Toward Charitable Giving	26
<b>Table 2 (f)</b> Regression Analysis on Actual Volunteer Behavior	27
<b>Table 2 (g)</b> Regression Analysis on Actual Charitable Giving Behavior	28

## USING SOCIAL NETWORK SITES TO ENGAGE AND MOTIVATE UNIVERSITY ALUMNI

American universities and non-profit institutions rely on a three-pronged system of support: money raised from services provided, government funding, and private donations (Young, 2003). As the cost of education continues to climb and the government appropriates more and more money away from education for welfare and medical programs (Elliot, 2006), private educational institutions increasingly have to rely on private donations. According to the Council for Aid to Education (2009), 27.5 percent of all private donations to higher education institutions in 2007 came from alumni, second only to donations made by charitable foundations at 28.8 percent, making it vitally important for private universities to implement a strategic method of routinely engaging and soliciting their alumni. In addition, it is also in the interest of private universities and non-profit organizations to recruit potential volunteers in addition to donors because people volunteering for non-profit organizations are also more likely to make charitable gifts to them (Freeman, 1997; Webb, 2002).

Past research shows that individuals are more likely to actively engage in volunteering for or giving to an organization if that organization is a part of their social network (Brady, Schlozman, & Verba, 1999; Wilson, 2000). This is because individuals are more likely to hear about volunteer or charitable giving opportunities through interpersonal channels than through the mass media (Klandermans & Oegema, 1987; Wilson, 2000) and such personal solicitations are more compelling (Brady et al., 1999; Wilson, 2000). Several

studies (Klandermans & Oegema, 1987; Schervish & Havens, 1997; Yeung, 2004) have also demonstrated the importance of developing a strong relationship between the non-profit organization and the individual in obtaining acquiescence to a solicitation. While social network ties are important for universities to solicit their alumni to give back to the alma mater through monetary donations or volunteer work, it is difficult for many private universities to maintain strong ties with the entirety of their large alumni populations through conventional high-cost methods of direct mailing, phone calls and face-to-face interactions. This research explores the role of new social media in overcoming these challenges to support strong connections with alumni.

A large body of research has been conducted on the ability to create or maintain social network ties through social network sites (SNSs). Though some have argued that Internet use leads to social isolation, alienation and a decrease in social capital (Green & Brock, 2008; Nie, 2001; Nie & Erbring, 2000; Sproull & Kiesler, 1986), other studies show that online social networks are low-cost tools for promoting stronger ties and the production of social capital by overcoming physical distances (Bargh & McKenna, 2004; Ellison, Steinfield, & Lampe, 2007; Quan-Haase, Wellman, & Witte, 2002), reaching large audiences (Bargh & McKenna, 2004), and increasing the frequency of communication (Ellison et al., 2007; Hampton & Wellman, 2003; Haythornthwaite, 2005). These network benefits are particularly strong when online social interactions supplement existing offline relationships (Boyd & Ellison, 2007; Hampton & Wellman, 2003; Quan-Haase et al., 2002). Unlike

with other forms of computer-mediated communication, such as email where information is pushed from an author to an audience, SNSs allow individuals to share and seek out information with people from a pre-existing offline community. As such, SNSs potentially provide a low-cost, supplemental means of communication for universities to maintain strong connections with their alumni network.

Building on research on strength of network ties, and on attitude and behavior, this study seeks to determine if belonging to university alumni groups on Facebook increases the creation and maintenance of strong social network ties among alumni and between alumni and the university. Additionally it explores whether strong ties have any influence on alumni's willingness to volunteer for and make charitable gifts to their alma mater, which would indicate potential practical applications of SNSs for non-profit organizations.

This research explores the use of Facebook among the alumni constituency of a large Northeastern University in two phases. First, an exploratory study, which consisted of interviews with 12 University alumni and participant observation in three University alumni groups on Facebook, was conducted in order to better understand how and why alumni currently use Facebook and how this affects their relationships to other alumni and the University. The results of this exploratory study were used to inform the second phase of research and are discussed throughout the following sections. The second phase of this research consisted of an electronic survey that was

sent out to 11,281 University alumni, which asked specific questions informed by the exploratory study and relevant literature.

### Social Network Sites

Social network sites (SNSs) such as Friendster, MySpace, LinkedIn and Facebook are low-cost tools that can promote the creation and maintenance of strong social network ties by increasing the frequency of communication with and the emotional closeness to other individuals. SNSs are “web-based services that allow individuals to 1) construct a public or semi-public profile within a bounded system, 2) articulate a list of other users with whom they share a connection, and 3) view and traverse their list of connections and those made by others within the system” (Boyd & Ellison, 2007, p. 211).

SixDegrees.com was the first website to combine these three characteristics in 1997, and since then over 40 other SNSs have been launched with varied success (Boyd & Ellison, 2007).<sup>1</sup> Some SNSs, such as MySpace, were designed to facilitate the formation of new online connections between individuals with similar interests, but many more, such as Friendster, LinkedIn and Facebook, are designed with the primary purpose of establishing or maintaining contact with members of offline networks in an online format (Boyd & Ellison, 2007; Ellison et al., 2007).

Several studies have suggested that despite its low social presence, online networking that can take place on SNSs supplement offline interactions through increased frequency of communication, increasing the strength of

---

<sup>1</sup> See Boyd and Ellison (2007) for a comprehensive history and timeline of SNSs

social network ties (Ellison et al., 2007; Hampton & Wellman, 2003; Haythornthwaite, 2005). This is in large part due to technological affordances that distinguish SNSs from other types of computer-mediated communication, such as email. Research on SNSs has shown that in contrast to email, where information is pushed out to audience members from a single author, users of SNSs actively seek out or pull in information about individuals with whom they share an offline connection (Boyd & Ellison, 2007; Ellison et al., 2007; Lampe, Ellison & Steinfield, 2006). Additionally, on SNSs like Facebook, individuals can peruse the messages posted by their friends and their friend's friends (Boyd & Ellison, 2007; Lampe et al., 2006), allowing instant access to a number of different opinions and authors. Finally, upon joining an SNS, users create a unique profile (Boyd & Ellison, 2007), which they use to keep in touch with friends. Unlike some modes of computer-mediated communication, which change as individuals move, such as telephone numbers or email addresses, individuals update, but do not usually completely change, their SNS profiles between various life stages (Ellison et al., 2007), making it easier to find old friends and maintain contact with existing ones.

Several of the alumni interviewed in the exploratory study highlighted these differences in technological affordances as a benefit to belonging to an alumni group on Facebook. One woman who is actively involved with her University's sorority chapter group on Facebook commented that after graduation, it is much easier to get in touch with sorority sisters via Facebook than email because many of them change their email addresses. Another alumna, active in both her sorority and class year alumni groups, exclaimed

over the ease with which she could uncover information about friends she hadn't seen in years. Because photos and information documenting changes in friends' lives are updated and shared on a regular basis and in a central place, SNSs provide a convenient way for friends to stay in touch despite differences in time and location.

SNSs have several technological affordances that differentiate them from other forms of computer-mediated communication. These affordances allow users to supplement their communication with individuals from existing offline networks, increasing the strength of social network ties along two dimensions: the frequency of communication and emotional closeness.

### Strength of Ties and Online Communities

Research has shown that strong ties are beneficial for individuals in a variety of ways: they have a strong motivation to help us or provide support (Granovetter, 1983; Haythornthwaite, 2005), give comfort (Krackhardt, 1992) and share their resources and contacts (Haythornthwaite, 2005). Granovetter originally defined the strength of a tie as a "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (Granovetter, 1973, p. 1361). Marsden and Campbell (1984) sought to disentangle these various concepts, and found that there are two distinct aspects or indicators of tie strength: time or frequency spent in a relationship, and the depth or closeness of the relationship. Subsequent research has suggested that there may be as many as seven different dimensions of tie strength (Gilbert & Karahalios, 2009), but

most of these additional suggested dimensions are considered by Marsden and Campbell (1984) to be predictors, or characteristics of a relationship that are associated with, but not dimensions of, tie strength.

SNSs can increase the strength of ties along both dimensions of tie strength. Studies of an undergraduate population (Ellison, et al., 2007) and a local community neighborhood (Hampton and Wellman, 2003) both showed that membership in an online social network associated with a pre-existing offline network lead to increases in the frequency of communication on- and offline. The same study of undergraduate students showed that intensity of Facebook usage had an effect on an individual's perception of emotional closeness to members of their pre-existing offline social network (Ellison, et al., 2007). Wu, DiMicco and Millen's (2010) study of IBM's internal SNS, Beehive, also concluded that active participation in a SNS increases the perception of emotional closeness between and among individuals. Based on the findings of these studies, we would anticipate that active participation in alumni groups on Facebook would increase the strength of ties within the University alumni network along both dimensions, such that:

Hypothesis 1: University alumni who are active members of alumni groups on Facebook will experience a greater frequency of communication with other alumni than alumni who are not active members of alumni groups on Facebook.



Hypothesis 2: University alumni who are active members of alumni groups on Facebook will have a stronger perception of emotional closeness to University alumni than alumni who are not active members of alumni groups on Facebook.

As two of the strongest indicators of tie strength, frequency of communication and emotional closeness are closely intertwined. However, when they attempted to better understand the various dimensions by operationalizing tie strength using multiple indicator techniques, Marsden and Campbell (1984) concluded that frequency of communication acts as a predictor of closeness because frequent communication breeds familiarity, which is fundamental for the development of trust and interpersonal closeness. Following this logic, we would expect to see an increase in emotional closeness to other University alumni with increases in frequency of communication between network actors, such that:

Hypothesis 3: University alumni with an increased frequency of communication within the alumni network will have a stronger perception of emotional closeness to other University alumni than alumni with less frequent communication within the alumni network.

Granovetter's (1973) emphasis on the measurement of tie strength derived from his desire to illustrate the relationship between micro-level ideas

about the interactions between and among individuals and macro-level concepts such as social mobility through network analysis. He argued that the analysis of social network interactions affords the most fruitful micro-macro bridge illustrating how small-scale interactions translate into large-scale patterns.

Online communities, groups of people who exhibit intense feelings of camaraderie, empathy and support in the online spaces (Preece & Maloney-Krichmar, 2005), can develop out of SNSs and often incorporate these micro- and macro-level concepts. Recent research has shown that relationships established between and among individuals with common interests online can form meaningful and enduring online communities (Fayard & DeSanctis, 2005) and that the individuals involved in these close relationships are more active in corresponding on- and offline communities (Hampton & Wellman, 2005; Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005).

During an interview conducted in the exploratory study, one active alumna described how friendships made while in school foster feelings of camaraderie and support for the University community on a higher level, and how Facebook highlights that impact by arraying each individual friendship. For this alumna, it is not a set of buildings on campus, but the relationships that she made, and maintains on Facebook, that defines the University. The closer the relationship with her friends from school, the closer she feels to the University community. Based on the relationship between micro-level social interactions among individuals and the macro-level social mobility demonstrated in online communities, and the importance of emotional

closeness between individuals in connecting with a community, we would expect that University alumni who share close emotional connections with one another are more likely to feel close to the University community:

Hypothesis 4: University alumni who have a stronger perception of emotional closeness to other University alumni will have a stronger perception of emotional closeness to the University than alumni with a weaker perception of emotional closeness to other University alumni.

The theory of the strength of ties and the empirical support for the increased frequency of communication on online networking sites indicate that SNSs are viable tools for individuals to maintain strong ties with one another. Research in this area has explored neighborhood communities (Hampton & Wellman, 2003), educational environments (Haythornthwaite, 2005; Ellison et al., 2007) and corporate settings (DiMaggio, Hargittai, Neuman & Robinson, 2001; Wu, DiMicco and Millen, 2010), but few have looked at the importance of SNSs and the strength of ties for non-profit institutions.

### The Impact of Tie Strength on Attitude and Behavior

Much of the literature on non-profit organizations suggests that social networks have an influence on an individual's volunteer and charitable giving behavior (Freeman, 1997; Schervish and Havens, 1997; Wilson, 2000; Wilson & Musick, 1999). Most of these studies, however, do not take into consideration

the importance of attitude as a potential mediating factor for behavior.

Literature on attitude and behavior can provide psychological explanations for why active alumni networks successfully promote volunteerism and charitable giving.

Attitude literature has identified three commonly accepted antecedents of attitude formation (Eagly & Chaiken, 1993; Greenwald, 1968; Zanna and Rempel, 1988): cognitive processes, affective processes and behavioral processes. In the cognitive process, individuals form attitudes about an object or behavior when they gain information either directly from experience with the object or behavior, or indirectly from information from others' experiences (Eagly & Chaiken, 1993). The information-processing paradigms, including the traditional information-processing approach, dual-information processing approach and elaboration likelihood model (ELM), examine how cognitive processes influence attitude formation. The traditional information-processing paradigms posit that a message has a direct influence on an individual through a three-step process: 1) attention to the message, 2) understanding of the message content, and 3) acknowledgement of the conclusion (McGuire, 1968). Both the dual-information processing model and the ELM, however, postulate that there are two possible routes of influence: the central route, where arguments are considered and processed thoughtfully and systematically, and the peripheral route, where heuristic cues of information (e.g. source credibility, number of arguments, etc.) can also influence attitude formation without careful consideration of message quality (Chen & Chaiken, 1999; Petty & Cacioppo, 1986). The peripheral route can be

used to explain why social ties strengthened via SNSs offer unique contributions to the formation of positive attitude toward volunteerism and charitable giving.

The frequency of communication dimension of tie strength should have an impact on such heuristic cues as the number of arguments heard and the repetition of messages. We would especially expect to see an impact from the frequent communication among alumni on an SNS like Facebook because they allow users to access information from a variety of sources and see a variety of posts or arguments about a particular topic in one location. The sheer number of posts, or messages exchanged on SNSs can provide sufficient heuristic cues to influence attitude formation. Additionally, to access to more pieces of information, frequent communication on Facebook implies a stronger reinforcement of an attitude because SNS is a technology that allows alumni actively participate in the discussion as well.

Posts about volunteer and charitable giving opportunities were noted during the observation of alumni groups on Facebook during the exploratory phase of this research. Though references to monetary donations were limited almost exclusively to the Class of 1974 alumni group dedicated to the upcoming 35<sup>th</sup> reunion, messages were posted about volunteer opportunities for all three alumni groups. Based on these theories of attitude formation and the technological affordances of SNSs, we can assume that University alumni with frequent communication in alumni groups on Facebook are more likely to learn about others' experiences volunteering and making charitable gifts and form attitudes about those volunteer and giving experiences:

Hypothesis 5a: University alumni with increased frequency of communication within the alumni network will have a stronger positive attitude toward volunteering for the University than alumni with less frequent communication.

Hypothesis 5b: University alumni with increased frequency of communication within the alumni network will have a stronger positive attitude toward charitable giving for the University than alumni with less frequent communication.

Persuasion research finds that the formation of attitude is not driven by cognition only. Affective processes interplay with cognitive processes in the formation of attitude.

Affective processes are based on repeated emotional conditioning and the reinforcement of feelings towards a behavior (Eagly & Chaiken, 1993). This reinforcement of feelings is often influenced by the strength of the relationship between the person who is conditioning and the person being conditioned (Johnson & Grayson, 2005). Therefore, the emotional closeness between the alumnus and the University should have an impact on the alumnus' receptivity to repeated emotional conditioning, especially if messages exchanged among alumni are affective as well as emotional. Again, we would expect this to be especially true with alumni communication on SNSs because of the public display of positive affect. Prior to SNSs, close

relationships between the University and alumni were maintained through alumni newsletters or emails. Most messages communicated via these communication channels are informational in nature, updating alumni on current events. In contrast, posts on Facebook alumni groups can be both informational and affective. Moreover, because the affective messages are exchanged among peers, they carry an authenticity that targeted emails sent from the University do not, and are hence more persuasive in shaping attitude. Finally, because all the posts are on public display, SNS members can reinforce each other's positive attitude toward the University.

Many of the message posts observed within the alumni groups on Facebook during the exploratory study showed positive affect. Many posts reminisced about the University (primarily seen in the reunion and sorority groups), and several posts (across all three alumni groups) discussed a specific desire to give back to the University. If alumni honestly exchange messages about the importance of volunteering for or giving to the University, we would expect to see that alumni with close relationships to the University would have a more positive attitude toward volunteering for and giving to the University:

Hypothesis 6a: University alumni with stronger perceptions of emotional closeness to the University will have a stronger positive attitude toward volunteering for the University than alumni with weak perceptions of emotional closeness to the University.

Hypothesis 6b: University alumni with stronger perceptions of emotional closeness to the University will have a stronger positive attitude toward charitable giving to the University than alumni with weak perceptions of emotional closeness to the University.

It is important to consider how the social ties that alumni can form via SNSs might influence alumni's attitudes toward volunteering for and making charitable gifts to the University. It is also in the best interest of the University to understand how, via fostering positive attitude toward volunteerism and charitable giving, strong social ties can translate into actual volunteering and charitable giving behavior.

Many studies have been conducted on the relationship between attitude and behavior. While some have argued that little evidence exists to link individuals' attitudes with the behaviors they exhibit (Deutscher, 1973; Wicker, 1969), others have highlighted the significance of attitude in predicting behavior, citing the importance of compatibility of the attitudinal and behavioral entities (Ajzen & Fishbein, 1977; Eagly & Chaiken, 1993). Ajzen and Fishbein (1980) argue that attitudes influence an individual's intentions, a psychological construct of motivation in the sense of a conscious plan to carry out a specific behavior, and these intentions are proximal causes of voluntary behaviors. While self-efficacy does influence the likelihood of whether a person will behave in ways that are consistent with his or her attitude, the



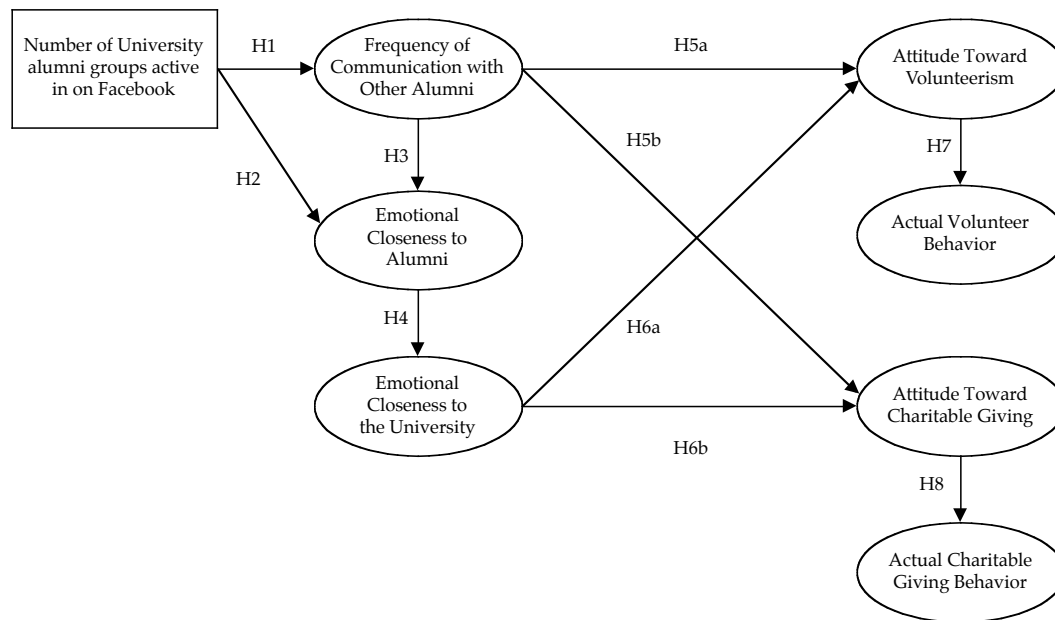
theory of reasoned action provides an inherent reasonableness that accounts for the correlation between attitude and behavior (Eagly & Chaiken, 1993). In the context of alumni volunteerism and charitable giving, we would expect to see a positive relationship between alumni who have a positive attitude toward volunteering their time or making a charitable gift and actually volunteering and making charitable contributions:

Hypothesis 7: University alumni with stronger positive attitudes toward volunteering for the University will be more likely to engage in actual volunteer behavior for the University than alumni with less positive attitudes toward volunteering for the University.

Hypothesis 8: University alumni with stronger positive attitudes toward charitable giving to the University will be more likely to engage in actual charitable giving behavior for the University than alumni with less positive attitudes toward charitable giving to the University.

Building on the literature on strength of ties, the psychology of attitudes, volunteerism and charitable giving, this research explores the effect of SNS use on social network ties in the context of university development. Specifically it looks to examine the effect of those ties on alumni's frequency of communication within the alumni network, emotional closeness to other

alumni and to the university, and willingness to volunteer and willingness to make charitable contributions to their alma mater as shown in Figure 1. The existence of such significant relationships would indicate potential practical applications for SNSs in the field of non-profit fundraising.



**Figure 1** Conceptual model of the impact of membership to University alumni groups on Facebook on the strength of social network ties, volunteerism and charitable giving.

## Method

### *Sample and Procedure*

In the second phase of the study, an electronic survey was sent out by the University office of alumni affairs and development as a follow-up to a

survey they conducted six-months earlier to all alumni. A sub-sample of the whole alumni population, 11,281 University alumni who responded to the first survey, was contacted for this study. The electronic survey remained open for responses for 34 days and one reminder email was sent 21 days after the survey opened. 3085 alumni completed the survey for a response rate of 27.3 percent. 1648 of the survey respondents were male, 1398 were female and 39 declined to identify. Survey respondents ages ranged from 22 to 97 and averaged 49.

### *Survey Measures*

To measure the key variables in this study, several scales were adapted from existing literature and derived from interviews with University alumni as described in the exploratory study and then pilot tested for validity (see Appendix B for full set of scales). The survey was pilot tested by 13 University alumni, five male and eight female, whose ages ranged from 23 to 54 and averaged 32. The scales used for each variable in the model are described in the subsequent paragraphs.

*Active membership in University alumni groups on Facebook* was measured by an item adapted from Ellison et al. (2007). Respondents were asked to identify how many University alumni groups on Facebook they are active in and the affiliation of those groups (ex. class year, athletic teams, etc.).

*Frequency of communication with other alumni* was measured by five items assessing individuals' rates of participation in various forms of communication with other University alumni. The items were adapted from

the 2005 PCUAD Alumni Attitude Study (Performance Enhancement Group, Ltd., 2005). An example of an item is “How often do you usually talk to other University alumni face-to-face?” The items were assessed on a seven-point scale where 1 = *never* and 7 = *almost every day*. The Cronbach’s alpha of the scale was .84.

*Emotional closeness to University alumni* was measured by ten items adapted from the Sense of Community Index 2 (Chavis, Lee, & Acosta, 2008) and interviews with University alumni. Examples of these items include “If he or she asked me, I would help another University alumnus.” Respondents’ level of agreement with all 10 statements were measured on a seven-point scale where 1 = *strongly disagree* and 7 = *strongly agree*. The Cronbach’s alpha of the *emotional closeness to University alumni* scale was .91.

*Emotional closeness to the University* was measured by five items adapted from the Sense of Community Index 2 (Chavis, Lee, & Acosta, 2008) and interviews with University alumni. An example of an item assessing an individual’s connection to the University includes “I am proud to have attended the University.” Responses were measured on a seven-point scale where 1 = *strongly disagree* and 7 = *strongly agree*. The Cronbach’s alpha of the *emotional closeness to the University* scale was .91.

*Attitude toward volunteerism* was assessed by four items adapted from the 2005 PCUAD Alumni Attitude Study (Performance Enhancement Group, Ltd., 2005) and alumni interviews. Attitudinal measures of volunteerism, such as “I think alumni should volunteer for the University if they have the time,”

were measured on a seven-point scale where 1 = *strongly disagree* and 7 = *strongly agree*. The Cronbach's alpha of this scale was .89.

*Actual volunteer behavior* was assessed by eight items adapted from the 1990 American Citizen Participation Survey (Verba, Schlozman, Brady, & Nie, 1990). Behavioral measures of volunteerism asked alumni to indicate how many hours they had volunteered for activities or clubs such as the "University Alumni Admissions Ambassador Network" over the past year. Responses were measured on a seven-point scale where 1 = 0 hours and 7 = 50 or more hours. The sum of the hours volunteered for all eight activities was used to measure actual volunteer behavior.

*Attitude toward charitable giving* was measured by six items adapted from the 1990 American Citizen Participation Survey (Verba, Schlozman, Brady, & Nie, 1990), the 2005 PCUAD Alumni Attitude Study (Performance Enhancement Group, Ltd., 2005) and alumni interviews. Attitudinal measures of charitable giving include "I think alumni should provide financial support for the University if they have the money" and were measured on a seven-point scale where 1 = *strongly disagree* and 7 = *strongly agree*. The Cronbach's alpha of this scale was .90.

*Actual charitable giving behavior* was assessed by seven items adapted from the 2005 PCUAD Alumni Attitude Study (Performance Enhancement Group, Ltd., 2005). Behavioral items asked University alumni to identify how much money they had given to the University in the past year, and to what areas of the University, including, "academic areas (ex. University Library,

student life).” The sum of the money given to all seven areas was used to measure actual charitable giving behavior.

## Results

The survey responses were analyzed using hierarchical linear regression. First, the extent to which the control variables (age, income and having family members who are alumni) predicted the dependent variables was tested. Next, the key research variables of the study (number of University alumni groups active in on Facebook, frequency of communication with other alumni, emotional closeness to other alumni and emotional closeness to the University) were added to models for each of the dependent variables. The  $R^2$  and  $\Delta R^2$  for each of these models are reported in Table 2 a – g. The standardized coefficients for the paths of the model are shown in Figure 2.

Hypothesis 1 predicted that increased activity in alumni groups on Facebook, as operationalized by the number of alumni groups an individual is an active member of, would positively predict frequency of communication with other University alumni. As shown in Table 2 (a), controlling for the impact of the control variables, the data were consistent with this prediction ( $\beta = .227, p = .000$ ), demonstrating that active membership in alumni groups on Facebook increases the frequency of communication with other University alumni. Therefore Hypothesis 1 was supported. The change in  $R^2$  indicates that Facebook membership explained 4.4 percent more variance in frequency of communication.

**Table 1** Summary of Bivariate Correlations Among Survey Respondents

	1	2	3	4	5	6	7	8	9	10	11	12
1. Amount given	-											
2. Actual charitable giving behavior	.59**	-										
3. Attitude toward charitable giving	.41**	.32**	-									
4. Actual volunteer behavior	.36**	.34**	.19**	-								
5. Attitude toward volunteering	.26**	.22**	.63**	.32**	-							
6. Age	.29**	.19**	.05**	.03	-.11**	-						
7. Income	.44**	.23**	.09**	.12**	.06**	.22**	-					
8. Family members are alumni	.17**	.17**	.06**	.10**	.05*	.18**	.10**	-				
9. Number of University alumni groups active in on Facebook	-.05**	.03	.10**	.16**	.18**	-.37**	-.13**	-.05**	-			
10. Frequency of communication with other alumni	.07**	.12**	.17**	.28**	.29**	-.38**	-.08**	.07**	.33**	-		
11. Emotional closeness to other alumni	.11**	.14**	.34**	.20**	.47**	-.26**	-.05*	.09**	.20**	.60**	-	
12. Emotional closeness to the University	.21**	.21**	.55**	.24**	.65**	-.18**	.03	.06**	.20**	.35**	.61**	-
M	2.49	.74	4.39	1.43	4.46	48.54	4.85	.73	.53	1.85	5.07	5.49
SD	1.49	.95	1.43	3.49	1.40	17.36	2.61	.97	1.18	1.31	1.51	1.32
Cronbach's $\alpha$	-	.42	.90	.71	-	-	-	-	-	.84	.91	.91

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

Hypothesis 2 proposed that increased activity in alumni groups on Facebook would positively predict a stronger perception of emotional closeness to University alumni. Hypothesis 3 proposed that the frequency of communication with other alumni would have a positive impact on emotional closeness to alumni. These hypotheses were tested simultaneously because they had the same dependent variable. As shown in Table 2 (b), there was no significant effect of increased activity in alumni groups on Facebook on perception of emotional closeness to University alumni ( $\beta = .008, p = .637$ ). Therefore Hypothesis 2 was not supported. There was, however, a significant positive relationship between frequent communication with University alumni and a stronger perception of emotional closeness to University alumni ( $\beta = .577, p = .000$ ). The change in  $R^2$  indicates that frequency of

**Table 2 (a)** Regression Analysis on Frequency of Communication with Other Alumni

	Frequency of Communication with Other Alumni	
1. Age	-.406**	-.325**
2. Income	.001	.010
3. Family members are alumni	.118**	.118**
4. Number of University alumni groups active in on Facebook		.227**
$R^2$	.163**	.207**
$\Delta R^2$		.044

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



**Table 2 (b)** Regression Analysis on Emotional Closeness to Alumni

	Emotional Closeness to Alumni		
1. Age	-.287**	-.237**	-.051**
2. Income	.002	.008	.002
3. Family members are alumni	.132**	.131**	.063**
4. Number of University alumni groups active in on Facebook		.139**	.008
5. Frequency of communication with alumni			.577**
R <sup>2</sup>	.087**	.103**	.368**
$\Delta R^2$		.016	.265

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

communication explains 26.5 percent more variance in emotional closeness to University alumni. Taken together, Hypothesis 1, Hypothesis 2 and Hypothesis 3 imply that increased activity in alumni groups on Facebook has a significant direct impact on the frequency dimension of tie strength and a significant indirect impact on the closeness dimension of tie strength.

Hypothesis 4 predicted that increased emotional closeness to alumni would positively predict emotional closeness to the University. As shown in Table 2 (c), the data were consistent with this prediction ( $\beta = .610$ ,  $p = .000$ ), providing support for Hypothesis 4. The change in  $R^2$  indicates that frequency of communication and emotional closeness to University alumni explain 30.1 percent more variance in emotional closeness to the University.

**Table 2 (c)** Regression Analysis on Emotional Closeness to the University

	Emotional Closeness to the University		
1. Age	-.203**	-.140**	-.017
2. Income	.065**	.073**	.069**
3. Family members are alumni	.081**	.080**	.008
4. Number of University alumni groups active in on Facebook		.173**	.103**
5. Frequency of communication with alumni			-.065
5. Emotional closeness to other alumni			.610** <sup>2</sup>
R <sup>2</sup>	.041**	.067**	.368**
$\Delta R^2$		.026	.301

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

Hypothesis 5a and 6a predicted that the frequency of communication and emotional closeness to the University, respectively, would be positively related to alumni attitudes toward volunteerism. These hypotheses were tested together because they had the same dependent variable. As shown in Table 2 (d), the data showed that attitude toward volunteerism was positively predicted by both frequency of communication ( $\beta = .068, p = .000$ ) and emotional closeness to the University ( $\beta = .614, p = .000$ ), supporting Hypotheses 5a and 6a. The change in  $R^2$  indicates that frequency of communication with alumni and emotional closeness to the University explain 37.5 percent more variance in attitude toward volunteerism.

<sup>2</sup> This correlation borders on multicollinearity, but given that the two variables are conceptually distinct and the wording of the survey items were different, they can still be treated as two separate concepts.

**Table 2 (d)** Regression Analysis on Attitude Toward Volunteerism

	Attitude Toward Volunteerism		
1. Age	-.135**	-.072**	.034
2. Income	.087**	.095**	.050**
3. Family members are alumni	.055**	.055**	-.002
4. Number of University alumni groups active in on Facebook		.176**	.054**
5. Frequency of communication with other alumni			.068**
6. Emotional closeness to the University			.614**
R <sup>2</sup>	.022**	.049**	.424**
$\Delta R^2$		.027	.375

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

**Table 2 (e)** Regression Analysis on Attitude Toward Charitable Giving

	Attitude Toward Charitable Giving		
1. Age	.041*	.095**	.179**
2. Income	.076**	.083**	.042*
3. Family members are alumni	.054**	.054**	.007
4. Number of University alumni groups active in on Facebook		.147**	.046*
5. Frequency of communication with other alumni			.026
6. Emotional closeness to the University			.552**
R <sup>2</sup>	.013**	.032**	.324**
$\Delta R^2$		.019	.292

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

Similar to volunteerism, Hypothesis 5b and 6b predicted that the frequency of communication and emotional closeness to the University, respectively, would be positively related to alumni attitudes toward charitable giving. These hypotheses were also tested simultaneously. As seen in Table 2 (e), the results showed that frequency of communication had no significant effect on alumni attitudes toward charitable giving ( $\beta = .026, p = .179$ ). Therefore Hypothesis 5b was not supported. Consistent with predictions, emotional closeness to the University did have a significant effect on attitude toward charitable giving ( $\beta = .552, p = .000$ ). Therefore Hypothesis 6b was supported. The change in  $R^2$  indicates that frequency of communication with other alumni and emotional closeness to the University explain 29.2 percent more variance in attitude toward charitable giving.

**Table 2 (f)** Regression Analysis on Actual Volunteer Behavior

	Actual Volunteer Behavior			
1. Age	.004	.081**	.183**	.174**
2. Income	.115**	.125**	.111**	.098**
3. Family members are alumni	.091**	.091**	.050*	.050**
4. Number of University alumni groups active in on Facebook		.211**	.130**	.116**
5. Frequency of communication with other alumni			.252**	.234**
6. Emotional closeness to the University			.143**	-.006
7. Attitude toward volunteerism				.242**
$R^2$	.024**	.063**	.148**	.182**
$\Delta R^2$		.039	.085	.034

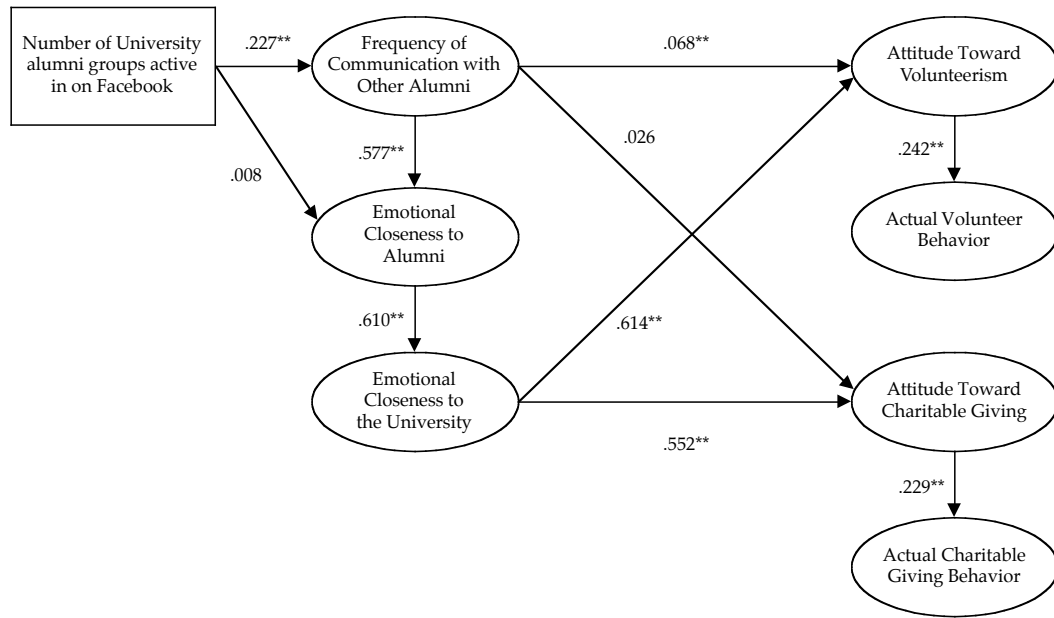
\* $p < .05$ . \*\* $p < .01$

**Table 2 (g)** Regression Analysis on Actual Charitable Giving Behavior

	Actual Charitable Giving Behavior			
1. Age	.122**	.171**	.235**	.194**
2. Income	.193**	.199**	.185**	.175**
3. Family members are alumni	.122**	.122**	.093**	.092**
4. Number of University alumni groups active in on Facebook		.135**	.077**	.066**
5. Frequency of communication with other alumni			.125**	.119**
6. Emotional closeness to the University			.172**	.046*
7. Attitude toward charitable giving				.229**
R <sup>2</sup>	.087**	.103**	.153**	.188**
$\Delta R^2$		.016	.050	.035

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

Finally, Hypotheses 7 and 8 addressed the relationship between attitude and behavior for volunteerism and charitable giving, respectively. As shown in Table 2 (f) and (g), the findings were consistent with predictions, attitude positively predicted behavior for volunteerism ( $\beta = .242, p = .000$ ) and charitable giving ( $\beta = .229, p = .000$ ), supporting Hypothesis 7 and Hypothesis 8. The changes in  $R^2$  indicate that attitude explains 3.4 percent more variance in actual volunteer behavior and 3.5 percent more variance in actual charitable giving behavior.



**Figure 2** Results for the test of the conceptual model.

## Discussion

This research showed how frequent communication and emotional closeness, as fostered by frequent alumni SNSs usage, influence alumni attitudes and behavior toward volunteering for and making charitable gifts to their alma mater. Building on previous research that focused on the relationship between SNSs and strength of ties (Ellison et al., 2007; Hampton & Wellman, 2003), this study empirically tested how SNSs affect the different dimensions of strong ties, which in turn influence attitude and behavior toward giving back to a non-profit organization.

Based on the theory of the strength of ties, several hypotheses were developed and tested regarding how SNS use among University alumni is

related to volunteerism and charitable giving. Consistent with the predicted model, level of active SNS usage increased tie strength along both the communication frequency and emotional closeness dimensions; but the effect was only direct along the frequency of communication dimension (Hypothesis 1) and was indirect along the closeness dimension (Hypothesis 2 and Hypothesis 3). These results support Marsden and Campbell's (1984) argument that the frequency of communication dimension of tie strength is a predictor of the emotional closeness dimension of tie strength. The hypothesis linking emotional closeness to University alumni and emotional closeness to the University (Hypothesis 4) was supported and consistent online community research (McMillan and Chavis, 1986; Sarason, 1977).

Hypotheses were also tested on the effects of both dimensions of tie strength on attitudes toward and actual behaviors of volunteerism and charitable giving. As predicted in the model, increased emotional closeness to the University leads to stronger positive attitudes toward volunteerism for the University and (Hypothesis 6a) and charitable giving to the University (Hypothesis 6b). Somewhat different from the predicted model, higher communication frequency predicted positive attitudes toward volunteerism (Hypothesis 5a), but not toward charitable giving (Hypothesis 5b). One possible explanation for this difference is the different frequencies with which these topics are discussed in the alumni network. In order for the indirect cognitive learning process to form an attitude toward a behavior, an individual must hear about other individuals' experiences with that behavior (Eagly & Chaiken, 1993). Since money is a sensitive topic for many

individuals, it is possible that charitable giving habits and experiences are discussed less frequently than volunteer experiences, therefore having less of an impact on attitude. In both cases, consistent with the theory of reasoned action, attitude predicted actual behavior for volunteerism (Hypothesis 7) and charitable giving (Hypothesis 8). Moreover, comparing the standardized regression coefficients measuring the impact of frequency of communication on the attitudes toward both volunteerism and charitable giving, and the coefficient measuring the impact of emotional closeness on the two attitude measures, the results showed that building emotional connections is much more important than the sheer number of contacts in fostering positive attitudes because the coefficients for the former were significantly bigger in magnitude.

SNSs have specific technological affordances that separate them from other types of computer-mediated communication used by university alumni affairs and development offices, such as email and electronic newsletters. Chief among these is the ability for alumni to gather information from various sources and actively participate in discussions with one another. Messages of positive affect toward the University among alumni reinforce an individual's positive attitude toward the University, strengthening the relationship with the University and increasing the likelihood of wanting to give back by volunteering or making a charitable gift. The consistent findings of the impact of attitude on behavior for both volunteerism and charitable giving in this study shows the power of tie strength in sustaining positive attitude and ensuring consistency between attitude-behavior.



### *Practical Implications*

The findings of this study indicate that active use of SNSs like Facebook may directly impact the frequency of communication among alumni (Hypothesis 1) and indirectly impact the relationship alumni have to the University (Hypothesis 3 and Hypothesis 4). Because 1) Facebook is free to use, 2) alumni groups can be set up in minutes, and 3) alumni can join without having to first be contacted by someone at the University, Facebook is a low-cost communication tool that can be used by university alumni affairs and development offices to engage alumni. Maximizing frequent communication and fostering a feeling of emotional closeness are extremely important for university alumni affairs and development offices because of their positive influence on the attitude toward volunteerism (Hypothesis 5a and Hypothesis 6a) and charitable giving (Hypothesis 6b) and corresponding behaviors (Hypothesis 7 and Hypothesis 8).

### *Limitations and Future Research*

One of the obvious limitations of this study is that it was conducted on a single SNS, Facebook, within a single alumni community. Therefore the generalizability of the results of this study to other SNSs or communities is yet to be established in future studies. To address this limitation, future research should focus on other SNSs. Studying sites whose popularity is on the rise, like Twitter, and community or organization specific sites, like Beehive (IBM) is important to determine if certain characteristics of the SNS have more or

less of an impact on the strength of ties. SNSs are beginning to focus on non-profit organizations (e.g. Jumo, which will launch in the Fall of 2010), however Facebook is currently one of the most popular SNSs for alumni to connect on. Unfortunately, Facebook does not allow the direct study of its content. Therefore it is impossible to study what has actually been posted systematically. As a result, positive attitudes shared among alumni cited in this research comes from anecdotal observation and self-reports.

Though more difficult because of the less well-defined nature of the community, future research should examine the influence of SNSs and the strength of ties on other types of non-profit organizations such as religious and environmental organizations. Additional research in this area would allow or disallow generalizations from university development to other non-profit advancement.

Finally, this research is based on a one-time survey, so it is difficult to firmly establish causality. In order to address concerns about causality, longitudinal studies should be conducted looking at the introduction of an SNS to a community surrounding a non-profit organization.

## Conclusion

Non-profit institutions and universities receive revenue from three sources: money for services provided, government funding, and private donations (Young, 2003). As government funding for non-profits becomes increasingly scarce, non-profit institutions are relying more heavily on private donations of time and money. These donations are given more readily by

individuals who are actively involved with and feel close to the organization in need. Through their ability to increase the frequency of communication and strengthen social ties, especially among individuals with existing offline relationships (Boyd & Ellison, 2007; Hampton & Wellman, 2003; Quan-Haase et al., 2002), social network sites provide a potential means for universities to maximize their donor potential.

## APPENDIX A

### *Interview Guide*

1. When did you graduate from the University?
2. Do you use Facebook?
  - a. Do you belong to any University alumni groups on Facebook?
3. How did you discover the \_\_\_\_\_ alumni group on Facebook?
  - a. How did you become involved with the \_\_\_\_\_ alumni group on Facebook?
4. Tell me about your use of the \_\_\_\_\_ alumni group on Facebook.
  - a. What kinds of things have you done on Facebook? Look at or tag photos? Look at profiles? Post to walls? “Friend” people?
  - b. What are these experiences like?
5. Tell me about your experience with “friending” individuals within the \_\_\_\_\_ alumni group on Facebook.
  - a. Tell me about a time you “friended” someone from the \_\_\_\_\_ alumni group on Facebook.
  - b. Tell me about a time someone from the \_\_\_\_\_ alumni group on Facebook “friended” you.
6. How does your association with the \_\_\_\_\_ alumni group on Facebook affect your interaction with other alumni?
  - a. How does your interaction with alumni affect your association with the \_\_\_\_\_ alumni group on Facebook?
7. Do you feel that your membership in the \_\_\_\_\_ alumni group on Facebook affects your connection with other alumni?
  - a. Does it affect your connection to the University?
8. What does “connectedness” mean to you? How would you measure it?

**Now I am going to ask you some questions about volunteering and charitable giving.**

9. What does the word “volunteerism” invoke for you?
10. Why do you choose to volunteer or not to volunteer for organizations?
  - a. Tell me about an organization you have chosen to volunteer for.
  - b. Tell me about an organization you chose not to volunteer for.
11. How does your connection to the organization influence your decision to volunteer?
12. What do the words “charitable donation” invoke for you?
13. Why do you choose to donate or not to donate to organizations?
  - a. Tell me about an organization you have given to.
  - b. Tell me about an organization you chose not to give to.
14. How does your connection to the organization influence your decision to donate?
15. I am interested in the relationship between alumni use of Facebook and their willingness to volunteer and/or donate to their alma mater (describe theoretical model). What do you think of this model?
  - a. Does this model describe your experience or the experience of anyone you know?
16. If you were in my position, what sort of questions would you ask the people you were interviewing about the role of social networking technology among non-profit institutions?
17. Is there anything I didn't ask about the \_\_\_\_\_ alumni group, volunteerism or charitable giving that you would like to share?
18. Do you have any questions for me?

## APPENDIX B

### *Survey Instrument*

#### Facebook Usage

This section asks questions about your use of Facebook to connect with University alumni.

1. I am a member of a University alumni group on Facebook
  1. Yes (*continue to question 2*)
  2. No (*skip to question 4*)
2. How many University alumni groups (including groups with alumni and student members) do you belong to on Facebook?
3. What type of University alumni Facebook groups do you belong to?  
(Please select all that apply)
  1. Class year
  2. Geographic region
  3. Department, School or College
  4. Affinity group (ex. sorority, fraternity, sport's team, club, etc.)
  5. Other (please specify) \_\_\_\_\_

#### Frequency of Contact

The following questions ask you about how often you connect with other University Alumni.

4. How often do you get in touch with other alumni?
  1. Never
  2. Once every few years
  3. Once or twice a year
  4. Less than once a month
  5. At least once a month
  6. At least once a week
  7. Almost every day

5. How often do you attend local alumni events?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

6. How often do you attend University sporting events?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

7. How often do you socialize (ex. have lunch with, attend parties or events, etc.) with other alumni outside of University organized events?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

### Emotional Closeness

This section asks questions about your relationships with other University alumni and the University itself.

On a scale of 1 – 7 (1 = strongly disagree, 7 = strongly agree), please indicate how much you agree with the following statements about your close friends from the University and other University alumni:

8. I enjoy spending time with my close friends from the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

9. I have shared important events (ex. holidays, celebrations, disasters, etc.) with my close friends from the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

10. I care about my close friends from the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree



11. If he or she asked me, I would help one of my close friends from the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

12. I want to stay informed about what is going on in the lives of my close friends from the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

13. I enjoy spending time with other University alumni

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

14. I have shared important events (ex. holidays, celebrations, disasters, etc.) with other University alumni

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6

7 Strongly agree

15. I care about other University alumni

1 Strongly disagree

2

3

4

5

6

7 Strongly agree

16. If he or she asked me, I would help another University alumnus

1 Strongly disagree

2

3

4

5

6

7 Strongly agree

17. I want to stay informed about what is going on in the lives of other University alumni

1 Strongly disagree

2

3

4

5

6

7 Strongly agree

On a scale of 1 – 7 (1 = strongly disagree, 7 = strongly agree), please indicate how much you agree with the following statements about the University:

18. I am proud to have attended the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

19. It is very important to me to be a part of the University community

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

20. I expect to be an active member of this community for a long time

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

21. I feel hopeful about the increased prestige and influence of the University community

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

22. I want to stay informed about what is going on in the University community

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

### Volunteerism

Alumni volunteer for the University in a number of ways and for a number of different reasons. These questions ask about your experience of and attitude towards volunteering for the University.

On a scale of 1 – 7 (1 = strongly disagree, 7 = strongly agree), please indicate how much you agree with the following statements:

23. I am motivated to volunteer for the University because I feel good when I do it

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

24. I think alumni should volunteer for the University if someone asks them to

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

25. I think alumni should volunteer for the University if they have the time

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

26. I believe that the work of volunteers is crucial for the University to achieve its goals.

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

27. Over the past year, how many hours have you volunteered for the University for each of the following volunteer opportunities?

A. University Alumni Admissions Ambassador Network

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

B. Class Volunteer

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

C. University Club Volunteer

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

D. College Advisory Group

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

E. Fundraising Volunteer

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

F. Event Planning Volunteer

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

G. Affinity Group (Greek, minority, etc.) Volunteer

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

H. Other \_\_\_\_\_

1. 0 hours
2. 1 – 9 hours
3. 10 – 19 hours
4. 20 – 29 hours
5. 30 – 39 hours
6. 40 – 49 hours
7. 50 or more hours

### Charitable Donations

Charitable gifts can be designated to the University in a number of ways and for a number of different reasons. These questions ask about your experience of and attitude towards donating to the University.

On a scale of 1 – 7 (1 = strongly disagree, 7 = strongly agree), please indicate how much you agree with the following statements:

28. I am motivated to provide financial support to the University because I feel good when I do it

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

29. I think alumni should provide financial support for the University if a University representative asks them to

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

30. I think alumni should provide financial support for the University if they have the money

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree



31. It is important for alumni to continuously give money to the University

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

32. It is important for alumni to increase the size of their gifts to the University as they earn more money

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

33. Without charitable donations, the University will not have enough money to achieve its goals

- 1 Strongly disagree
- 2
- 3
- 4
- 5
- 6
- 7 Strongly agree

34. Did you provide financial support for the University over the past year?

- 1. Yes
- 2. No

35. If yes, to which of the following areas have you provided financial support for the University? *(Please check all that apply)*

1. General gift to the University
2. Gift to a School or College (ex. College of Engineering)
3. Gift to another academic area (ex. University Library, student life)
4. Gift to an affinity group (ex. Athletics, Fraternity)
5. Scholarship gift
6. Reunion campaign gift
7. Other \_\_\_\_\_

36. In your best estimate, about how much did you donate to the University in the past year?

1. \$0
2. \$1 - \$99
3. \$100 – \$499
4. \$500 – \$999
5. \$1,000 - \$4,999
6. \$5,000 - \$9,999
7. \$10,000 or more

#### Other Forms of Communication

This section asks questions about how often you use different means of communication to connect with your close friends from the University and other University Alumni.

37. How often do you usually talk to your close friends from the University face-to-face?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

38. How often do you usually talk to your close friends from the University on the phone?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

39. How often do you usually talk to your close friends from the University via email?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

40. How often do you usually talk to your close friends from the University via synchronized chat (ex. chat rooms, AIM, GChat, Facebook Chat)?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

41. How often do you usually talk to your close friends from the University on other social network sites (ex. LinkedIn, MySpace)?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

42. How often do you usually talk to other University alumni face-to-face?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

43. How often do you usually talk to other University alumni on the phone?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

44. How often do you usually talk to other University alumni via email?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

45. How often do you usually talk to other University alumni via synchronized chat (ex. chat rooms, AIM, GChat, Facebook Chat)?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

46. How often do you usually talk to other University alumni on other social network sites (ex. LinkedIn, MySpace)?

1. Never
2. Once every few years
3. Once or twice a year
4. Less than once a month
5. At least once a month
6. At least once a week
7. Almost every day

#### About You

The University's alumni population is diverse. These questions tell us a little bit more about you. All of your responses are strictly confidential; none of the answers you provide will be associated with your name and the information will not be made available to anyone other than the researcher.

47. What is your gender?

1. Male
2. Female

48. What is your age?

49. Are any of the following members of your family University alumni? *(Please check all that apply)*

1. Spouse
2. Parent
3. Grandparent
4. Child
5. Sibling
6. Other \_\_\_\_\_

50. When did you graduate from the University?

51. What college did you graduate from?

52. What was your major?

53. What is your current occupation?

54. Do you currently work for the University?

1. Yes
2. No

55. What is the total combined income of your household?

1. Less than \$30,000
2. \$30,000 - \$59,999
3. \$60,000 - \$89,999
4. \$90,000 - \$119,999
5. \$120,000 - \$149,999
6. \$150,000 - \$179,999
7. \$180,000 - \$209,999
8. \$210,000 - \$239,999
9. \$240,000 or more

56. How many hours a week do you work?

1. 0 – 19
2. 20 – 39
3. 40 – 59
4. 60 or more

57. If there is anything else you would like to add or any comments you have, please use the space provided below.

## REFERENCES

- Ajzen, I. & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888-918.
- Ajzen, I. & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Bargh, J. A., & McKenna, K. Y. A. (2004). The Internet and social life. *Annual Review of Psychology*, 55, 573-590.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.
- Brady, H. E., Schlozman, K. L., & Verba, S. (1999). Prospecting for participants: Rational expectations and the recruitment of political activists. *The American Political Science Review*, 93(1), 153-168.
- Chavis, D. M., Lee, K. S., & Acosta, J. D. (2008). *The Sense of Community (SCI) Revised: The Reliability and Validity of the SCI-2*. Paper presented at the 2<sup>nd</sup> annual International Community Psychology Conference, Lisbon, Portugal.
- Chen, S. & Chaiken, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-Process Theories in Social Psychology*. New York: The Guilford Press.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- Council for Aid to Education. (2009). *Voluntary Support of Education*. New York, NY.
- Deutscher, I. (1973). *What we Say/What we do: Sentiments and Acts*. Glenview, IL: Scott, Foresman.

- DiMaggio, P., Hargittai, E., Neuman, W. R., & Robinson, J. P. (2001). Social implications of the Internet. *Annual Review of Sociology*, 27, 307-336.
- Eagly, A. H. & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace College Publishers.
- Elliot, D. (2006). *The Kindness of Strangers: Philanthropy and Higher Education*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- Fayard, A-L., and DeSanctis, G. (2005). Evolution of an online forum for knowledge management professionals: A language game analysis. *Journal of Computer-Mediated Communication*, 10(4), article 2.
- Freeman, R. B. (1997). Working for nothing: The supply of volunteer labor. *Journal of Labor Economics*, 15(1), S140-S166.
- Gilbert, E. & Karahalios, K. (2009). Predicting tie strength with social media. Proceedings of the 2009 Computer Human Interaction conference, USA.
- Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360.
- Granovetter, M. S. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1, 201-233.
- Green, M. C., & Brock, T. C. (2008). Antecedents and civic consequences of choosing real versus ersatz social activities. *Media Psychology*, 11(4), 566-592.



- Greenwald, A. G. (1986). Cognitive learning, cognitive response to persuasion and attitude to change. In A. G. Greenwald, T. C. Brock & T. M. Ostrand (Eds.), *Psychological Foundations of Attitudes*. San Diego: Academic Press.
- Hampton, K., & Wellman, B. (2003). Neighboring in Netville: How the Internet supports community and social capital in a wired suburb. *City & Community*, 2(4), 277-311.
- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information Communication and Society*, 8(2), 125-147.
- Homer, P. M. & Kahle, L. R. (1988). A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and Social Psychology*, 54(4), 638-646.
- Johnson, D. & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research*, 58, 500-507.
- Kavanaugh, A., Carroll, J. M., Rosson, M. B., Zin, T. T., and Reese, D. D. (2005). Community networks: Where offline communities meet online. *Journal of Computer-Mediated Communication*, 10(4), article 3.
- Klandermans, B., & Oegema, D. (1987). Potentials, networks, motivations, and barriers - steps towards participation in social movements. *American Sociological Review*, 52(4), 519-531.
- Krackhardt, D. (1992). The Strength of strong ties: The importance of philos in organizations. In N. Nohria & R. Eccles (Eds.), *Networks and Organizations: Structure, Form, and Action* (pp. 216-239). Boston, MA: Harvard Business School Press.
- Lampe, C., Ellison, N. B., & Steinfield, C., (2006). A Face(book) in the crowd: Social searching vs. social browsing. Proceedings of the 2006 Association for Computing Machinery conference, USA.
- Marsden, P. V., & Campbell, K. E. (1984). Measuring tie strength. *Social Forces*, 63(2), 482-501.

- McGuire, W. J. (1968). Personality and attitude change: An information-processing theory. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological Foundations of Attitudes*. San Diego: Academic Press.
- McMillan, D., & Chavis, D. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14, 6-23.
- Nie, N. H. (2001). Sociability, interpersonal relations, and the Internet: Reconciling conflicting findings. *American Behavioral Scientist*, 45(3), 420-435.
- Nie, N. H., & Erbring, L. (2000). Internet and society: A preliminary report. *IT & Society*, 1(1), 275-283.
- Obst, P. L., Smith, S. G., & Zinkiewicz, L. (2001). An exploration of sense of community, part 3: Dimensions and predictors of psychological sense of community in geographical communities. *Journal of Community Psychology*, 30(1), 119-133.
- Performance Enhancement Group, Ltd. (2005). *PCUAD Alumni Attitude Study*. Unpublished document.
- Petty, R. E. & Cacioppo, T. J. (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag.
- Preece, J., and Maloney-Krichmar, D. (2005). Online communities: Design, theory, and practice. *Journal of Computer-Mediated Communication*, 10(4), article 1.
- Quan-Haase, A., Wellman, B., & Witte, J. (2002). Capitalizing on the Internet: Network capital, participatory capital, and sense of community. In B. Wellman & C. Haythornthwaite (Eds.), *The Internet in Everyday Life* (pp. 291-324). Oxford: Blackwell.
- Sarason, S. B. (1977). *The Psychological Sense of Community: Prospects for a Community Psychology*. London: Jossey-Bass.

- Schervish, P. G., & Havens, J. J. (1997). Social participation and charitable giving: A multivariate analysis. *Voluntas*, 8(3), 235 – 260.
- Short, J., Williams, E., & Christie, B. (1976). *The Social Psychology of Telecommunications*. New York: John Wiley & Sons, Ltd.
- Snow, D. A., Zurcher, L. A., Jr., & Sheldon, E. O. (1980). Social networks and social movements: A microstructural approach to differential recruitment. *American Sociological Review*, 45(5), 787-801.
- Spears, R., Postmes, T., Lea, M., & Wolbert, A. (2002). When are net effects gross products? The power of influence and the influence of power in computer-mediated communication. *Journal of Social Issues*, 58(1), 91-107.
- Sproull, L., & Kiesler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. *Management Science*, 32(11), 1492-1512.
- Verba, S., Schlozman, K. L., Brady, H. E., & Nie, N. (1990). *American Citizen Participation Study Data Collection Instrument*. (Available from the Inter-university Consortium for Political and Social Research, P. O. Box 1248, Ann Arbor, Michigan 48106)
- Webb, C. H. (2002). The role of alumni relations in fund raising. In M. J. Worth (Ed.), *New Strategies for Educational Fund Raising*. Westport, CT: American Council on Education and Praeger Publishing.
- Wellman, B. (1979). The community question: The intimate networks of East Yorkers. *American Journal of Sociology*, 84(5), 1201- 1231.
- Wicker, A. W. (1969). Attitude versus actions: The relationship of verbal and overt behavioral responses to attitude objects. *Journal of Social Issues*, 25(4), 41-78.
- Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26(1), 215-240.
- Wilson, J. & Musick, M. A. (1999). Attachment to volunteering. *Sociological Forum*, 14(2), 243-272.

Young, D. R. (2003). New trends in the U.S. non-profit sector: Towards market integration? In A. Noya & C. Nativel (Eds.), *The Non-profit Sector in a Changing Economy*. Paris: Organisation for Economic Co-operation and Development.

Zanna, M. P. & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In D. Bar-Tal and A. W. Kruglanski (Eds.), *The Social Psychology of Knowledge*. Cambridge: Cambridge University Press.