FACEBOOK AS A FACILITATOR OF ORGANIZATIONAL IDENTIFICATION IN COLLEGES AND UNIVERSITIES: EXPLORING RELATIONSHIPS AMONG EDUCATIONAL INSTITUTIONS, STUDENT TENURE, AND INTERACTION WITH MULTIPLE ORGANIZATIONAL TARGETS

by

Aimee R. Lau

A Dissertation Submitted

in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

in Communication

at

The University of Wisconsin-Milwaukee

May 2013

ABSTRACT
FACEBOOK AS A FACILITATOR OF ORGANIZATIONAL IDENTIFICATION IN COLLEGES AND UNIVERSITIES: EXPLORING RELATIONSHIPS AMONG EDUCATIONAL INSTITUTIONS, STUDENT TENURE, AND INTERACTION WITH MULTIPLE ORGANIZATIONAL TARGETS

by

Aimee R. Lau

The University of Wisconsin-Milwaukee, 2013
Under the Supervision of Professor C. Erik Timmerman

Potential uses for Facebook are frequently studied in scholarly literature. To date, much of this research focuses on varied social uses available to Facebook members. More recently, scholars have turned to potential academic uses of Facebook, and more generally, how Facebook might be used in educational institutions such as colleges and universities. Each college and university is a unique organization and it is likely that each one uses Facebook in a variety of different ways. However, consistent to all colleges and universities is the goal of creating strong levels of identification between the student and the school so as to form connections between institutional members. This dissertation provides an exploratory investigation to examine how students' interactions with universities on Facebook efforts might facilitate identification with the school as well as with various subgroups or targets (i.e. students, faculty, staff, major, alumni) within the institution. The researcher collected data from 343 participants. Frequency of Facebook access was not linked to identification; rather, data indicated that the number of Facebook friends also present at the same school was a useful predictor of student levels of

identification. The institution at which a student was enrolled moderated the relationship between several predictor variables and identification. Specifically, institution moderated a positive relationship between one type of information sought on Facebook (religious communication) and identification and a negative relationship between two types of information sought on Facebook (student-to-student communication, student-to-faculty communication) and identification. Further, results indicate that students identify differently with various college and university targets, as the type of information sought on Facebook ranged across institutional targets. Facebook is a powerful tool for connecting with students, but additional longitudinal research is necessary to better understand how Facebook helps develop identification at colleges and universities.

© Copyright by Aimee R. Lau, 2013
All Rights Reserved

TABLE OF CONTENTS

CHAPTER ONE PAGE

Introduction 1
Literature Review 4
Social Media and Social Networking 4
Facebook and Education Research 5
Student-to-Student Academic Interaction 6
Faculty on Facebook 8
Organizational Identification 10
Organizational Identification and Communication Technology 12
Organizational Identification in Educational Contexts 16
Facebook, Socialization and Facilitating Identification 19
Facebook, Identification, and University Characteristics 22
Facebook, Identification, and Student Tenure at College/University 25
Facebook, Identification, and Multiple Targets 26

CHAPTER TWO

Method 30
Pilot Study Methods 31
Participants 31
Procedures 32
Instruments 33
Results 34
Pilot Study Discussion and Implication for Dissertation 35
Dissertation Methods 38
Participants 38
School A 38
School B 39
School C 40
Instruments 40
Organizational Type 41
Institutional Tenure 41
Facebook Use 41
Patterns of Behaviors on Facebook 43
Types of Facebook Information Sought 44
Organizational Identification 48
Multiple Targets 50
Procedures 52
Primary Statistical Analyses 53
Hypothesis One 53
Hypothesis Two 53
Hypothesis Three 54
Research Question 1 55

CHAPTER 3

Results 57
Hypothesis One 57
Hypothesis Two 59
Hypothesis Three 63
Research Question One 67
Identification with Students 67
Institution as Moderator 68
Student Tenure as Moderator 68
Identification with Faculty 72
Institution as Moderator 72
Student Tenure as Moderator 73
Identification with Staff 77
Institution as Moderator 77
Student Tenure as Moderator 78
Identification with Major Department 82
Institution as Moderator 82
Student Tenure as Moderator 83
Identification with Alumni 87
Institution as Moderator 87
Student Tenure as Moderator 88
Research Question One Findings: Summary 92

CHAPTER 4

Discussion 93
Conclusions 94
Proportion of Facebook Network at Same School 94
Using Technology to Enhance Identification 95
Impact of Institution on Identification 97
Student-to-Student Relationships on Facebook 98
Student-to-Faculty Relationships on Facebook 99
Connecting Students with Alumni 102
Importance of Identification 102
Implications for Practice 104
Limitations 106
Future Research 108
Final Thoughts 110

References 111

Curriculum Vitae 133

LIST OF TABLES

Table 1: Facebook Educational Use Scale Factor Loadings 34
Table 2: Regression Results From Participant Demographics, Facebook Membership and Facebook Survey Use Factors 36
Table 3: Correlation Matrix for All Study Variables 42
Table 4: Sample Demographics 43
Table 5: Facebook Educational Use Scale Factor Loadings 45
Table 6: Descriptive Statistics and Survey Items: Facebook Educational Use Survey Factors 48
Table 7: Descriptive Statistics and Survey Items: Identification and Multiple Targets 50
Table 8: Factor Correlations With Identification 58
Table 9: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With University 62
Table 10: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With University 63
Table 11: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With University 66
Table 12: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with University 66
Table 13: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With Students 69
Table 14: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With Students 70
Table 15: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With Students 71
Table 16: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with Students 71
Table 17: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With Faculty 74
Table 18: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With Faculty 75
Table 19: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With Faculty 76
Table 20: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with Faculty 76
Table 21: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With Staff 79
Table 22: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With Staff 80
Table 23: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With Staff 81
Table 24: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with Staff 81

Table 25: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With Major 84
Table 26: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With Major 85
Table 27: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With Major 86
Table 28: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with Major 86
Table 29: Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification With Alumni 89
Table 30: Regression Results for Institution as Moderator of Type of Facebook Information Sought and Identification With Alumni 90
Table 31: Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification With Alumni 91
Table 32: Regression Results for Tenure as Moderator of Type of Facebook Information Sought and Identification with Alumni 91

ACKNOWLEDGEMENTS

The journey through writing a dissertation and completing a Ph.D. program is one that is attempted by few, but would not be possible without many individuals standing behind the few, offering support and encouragement. To begin, I must give honor, thanks, and praise to God for his unfailing love and strength when I needed it most. In those quiet moments when I was alone with my own thoughts, doubts, and fears, I am thankful to my Lord for reminding me that He would never give me more than I could handle. "I can do all things through him who give me strength" (Philippians 4:13).

To my committee – Erik, Kathryn, Renee, Ed, Hayeon, and Katy – thank you for your support throughout my program. You constantly challenged me to be better and to work harder, even when I didn't think I could give anymore. To my advisers Erik (years 3, 4, & 5) and Kathryn (years 1 and 2) – your guidance and support has been invaluable. I owe much of my success to both of you, and could not have finished this dissertation without both of you. When I thought I might crumble under family issues and personal struggles, you listened and understood, yet never let me give up. Erik – your direction and guidance especially during this last year was invaluable. Thank you for your consistent, constructive feedback on countless drafts of this dissertation. Kathryn – you helped me formulate the beginnings of this dissertation, set me on the right path, and helped facilitate the transition to working with Erik when it became clear that you would retire before I was done. Thanks for staying with me through this whole process, even though you retired from teaching! To Renee – I think about you daily and still cannot believe that you are not here for the completion of this degree. Cancer may have taken your life, but it will never dull your incredible influence on so many graduate students,

including me. Your love of students and learning was amazing – and I wouldn't be the teacher that I am today without you. I will miss your smile, your contagious laugh, and your uncanny ability to ask pointed questions to get straight to the heart of the issue. To Ed and Hayeon – thank you for challenging the choices that I made, forcing me to justify the directions I took, making me a much stronger scholar along the way. You kept me on my toes! To Katy – you stepped in when we lost Renee, and I can't think of a better person to have joined my committee in the "eleventh hour." Your compassion was much needed in those difficult days following Renee's death, and your feedback and advice was always helpful.

To my parents – without you I wouldn't be here. Thanks for your incredible love and support throughout my entire graduate program, even though I know at times you questioned my sanity in pursuing this degree. I always knew that you were behind me 100%. To my sister Rachael – sometimes I think you know me better than I know myself. You were my roommate, my closest confidant, and knew all my insecurities and fears about grad school and life in general. You always knew when I needed an "HP" night. To my brother Seth and my sister Amber – thanks for reminding me to have fun every once in a while, despite the insane amounts of work a Ph.D. requires. I can't even begin to count the number of times I heard "Geez Aimee….take a break!"...from one or both of you!

To Deb – my mentor, my friend, my "academic mom" – it was you who first inspired me to become a college professor. It was your passion for the discipline that encouraged me to pursue graduate work in Communication. Along the way, you've witnessed many of the ups and downs so characteristic of grad school. Your consistent

presence and support in the last days leading up to the dissertation defense helped me to make it through those last critical deadlines! As your "third daughter," it meant so much to have you present at several of my "defenses." It was your love and support that helped transform my dream into a reality…I love you, my friend!

To my wonderful WLC colleagues past and present (Diane, Mary, Jerralyn, Amanda, Karen, Rebecca, Kristi, and Leanne) – thank you for your constant, unfailing support throughout the process. Your prayers, hugs, and encouragement kept me going, especially on those days when I just wanted to quit. To the fellow PhDers – I'll admit that the "PhD war stories" were a bit intimidating – but the advice that you provided based on your individual experiences was so helpful! Only those who have "been there" truly understand how taxing and how rewarding the experience is…and how you can experience both sides of that coin on the same day!

To Neva – my friend who is so much more like family – I can never thank you enough for your love and support through the "bumps and bruises" of my graduate program. Through family struggles, unexpected deaths, and the general trials of graduate school, you were an unfailing source of strength. During the good times, we celebrated! I couldn't think of a better person to be with when I found out that I had received the full-time call to WLC….my goal for so many years.

To my dear Aunt Carolyn – you are my hero and my rock. You always seemed to know just what to say. Your incredible optimism amidst life's most difficult times is something I seek to demonstrate in my own life. Thanks for your shoulder when I needed to shed a few tears and your wise words when I just didn't know what to do. You are more important to me than you know. To my grandfather Robert – you witnessed some of

the graduate school chaos firsthand during those 15 or so months when you so graciously allowed me to share your home. Your faith in God, love of family, and 100% dedication to whatever you do has left an indelible mark on my life and provided an incredible example for my future.

To Ali – two graduate degrees and almost ten years later, we are still standing. We never could have anticipated the challenges we would experience during our doctoral program. If I wouldn't have had you to struggle with, vent to, and generally complain about the stress of it all, I don't know that I would have made it through. My friend – you are invaluable.

To Polly – my "sister," my friend, my "partner in crime" – thanks for helping me to recognize how far I had come and how much I had accomplished, despite other expectations that people had for me. I think that you, more than most, knew how deep and difficult that struggle was. To Deb H. – for your love, support, and hugs (!) whenever our busy schedules would allow us to get together, I am so very thankful! During some of the most trying times of this degree, I would call you…you were always willing to listen and always knew just what to say. Thanks for helping me to maintain my sanity! ☺

To Kristen – we are so much alike, so you know my attempts for "perfection" in my studies. Thanks for reminding me that it didn't need to be perfect – but to give 100% and let God take care of the rest. To Jess, Beth, Becky, and Amy – friends of my heart, we have truly "grown up together." Though none of us could have foreseen in our teen years where life would take us, we all knew that God would walk with us along the way. I look forward to continuing that journey with you for many years to come, celebrating

our triumphs and holding each other up during whatever difficult times may come our way.

Finally, to Connie – I think that you, more than almost anyone else, saw me several times each week during the this degree, and witnessed firsthand the high points and low points, the struggles, and the triumphs. Though I jokingly sometimes asked you to say "Aimee, you have come too far to stop now," I knew that you really meant it through the encouragement you so regularly offered. You were always there with a hug and support when I needed it most! Thank you so much, my friend – I owe a lot to you for helping to keep me on the "road to Dr. Lauism." ☺

CHAPTER ONE – INTRODUCTION

Since its inception in 2004, Facebook has been a focus for a range of organizational and educational studies as scholars grapple with the varied tools and opportunities Facebook offers for communication (Ahlqvist, Back, Heinonen, & Halonen, 2010; Kirkpatrick, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010). One organizational context gaining considerable scholarly attention is the educational setting with much of the research focus directed towards how colleges and universities are utilizing Facebook (Madge, Meek, Wellens, & Hooley, 2009; Mazer, Murphy, & Simonds, 2009; Selwyn, 2009). Indeed, Facebook saturation levels among college students are at an all-time high, with numerous institutions reporting upwards of 90% of their student population claiming membership (Selwyn, 2009). Farrow and Yuan (2011) argue that Facebook interactions influence charitable giving and volunteer behaviors among college alumni, suggesting that connections to colleges and universities via Facebook are not only maintained while attending classes, but also post-graduation as students pursue their varied careers. What is yet unknown is how the initial connections to Facebook are made as students are researching and attempting to gain entrance into post-secondary educational institutions. It is clear, however, that social media connections through Facebook are being forged while attending college, and being maintained as students leave the university (Farrow & Yuan, 2011; Selwyn, 2009).

Organizational identification is a concept that describes how individuals experience connections to, and belonging with, another person, group, or organization (Cheney, 1983). Numerous researchers (Brown, 1969; Kelman, 1958; Mael & Ashforth,

1992) argue that a sense of belonging is necessary for organizational identification to develop and increase. Additional research suggests online communication can contribute to organizational identification (Postmes, Lea, & Spears, 1998; Rock, Pratt, & Northcraft, 2002; Scott & Timmerman, 1999). Thatcher and Zhu (2006) assert that a combination of interaction styles (online and face-to-face) contribute to a more effective development of organizational identity. As previous research suggests that combinations of media promote increased levels of identification, organizational media choices become even more important factors in creating and maintaining individuals' levels of organizational connectedness.

Organizational socialization provides the connection from Facebook to organizational identification, allowing educational institutions to reach out to students through a popular medium already immersed in students' day-to-day lives. Socialization is the process by which an individual learns how to become a part of and function within a particular organization (Elkin & Handel, 1989; Van Maanen & Schein, 1979). Facebook, which is highly integrated into students' day-to-day communication, is well positioned as a potential tool of socialization (Barkhuus & Tashiro, 2010). Educational institutions, recognizing the value of Facebook as a tool for interaction with students, are now offering more information, encouraging communication among newly admitted freshmen prior to arriving on campus, coordinating activities, and generally conducting more interactions via Facebook (Damast, 2008; Farrell, 2006; Halter, 2010; Rizenthaler, Stanton, & Rickard, 2009).

The goal of this dissertation is to understand how the use of Facebook contributes to students' level of identification with their college/university. The remainder of this

first chapter begins with a review of extant literature focusing on Facebook, educational institutions, organizational identification, and organizational socialization. Organizational variables including type of educational institution and length of tenure at the school are discussed as potential moderators of relationship between Facebook use and student identification. Specifically, this study examines how behavioral patterns of Facebook use and types of information sought on Facebook predict student identification as well as how student tenure at a school and type of the institution moderate those relationships. Lastly, this study also attempts to determine whether these relationships and moderators may be more closely tied with organizational identification with certain identification targets.

The second chapter describes the methods used for completing the current study. To obtain a representative sample of student Facebook users, the researcher collected data at three schools including a small, private liberal arts college, a medium-sized public comprehensive university, and a large public research university. Participants received an email with a link to an online survey that included measures of Facebook to assess patterns of behavior and information sought on Facebook, organizational identification (Mael & Ashforth, 1992), organizational socialization, student tenure, and institution. The dissertation concludes with discussion of the findings from the investigation to situate the results within the extant literature and highlight implications for theory and practice.

LITERATURE REVIEW

Social Media and Social Networking

Popularized in part due to the initial widespread adoption of MySpace and Facebook, social media and social networking continue to grow in use and functionality. Social networking sites are sites that include three key elements – a constructed profile in a contained system, the ability to indicate other users/members with whom an individual maintains a connection, and the ability to look at connections between others (Boyd & Ellison, 2007). In addition to the three elements comprising a social networking site, there are three essential components necessary to the success of a social networking site including content, community, and Web 2.0 (Ahlqvist et al., 2000). Of vital relevance to social media is the capability to create communities around user-created content and to be able to share content with other individuals. Web 2.0 is a term used to describe the development of digital technologies for social media to be effective.

Current statistics about Facebook indicate that there are over one billion active users, more than doubling active membership numbers of 400 million users from 2010, with 50% of these members checking their Facebook accounts on a daily basis (Corbett, 2008; Facebook statistics, 2012; Kirkpatrick, 2010; Sheldon, 2008; Stein & Taylor, 2007). A study conducted by the Educause Center for Applied Research (ECAR) indicated 95.1% of 18-19 year olds and 92.8% of 20-24 year olds use social networking sites (Salaway, Caruso, & Nelson, 2008). Overall, 85.2% of student respondents ages 18 to 30 and older used social networking sites, and of that 85.2%, nine of ten individuals chose to utilize Facebook as their main social networking site. In the general population, there has been a 276% increase in Facebook users between the ages of 35 and 54

(Corbett, 2009). The exponential growth of individual membership on Facebook in eight years of existence is significant and shows little sign of slowing down.

Much of the previous research that has focused on Facebook explores the social nature of this particular social networking site. Scholars are beginning to acknowledge additional Facebook functionalities of and motivations for use, including the potential for enhancing educational experiences. Madge et al. (2009) found most students used Facebook for social reasons, though some academic exchanges emerged as students attempted to settle themselves into their courses and everyday college life. Participants report that they use Facebook for informal academic interactions, such as coordinating group project work, assignment revisions, class work questions, and setting up study group times Similarly, Roblyer et al. (2010) found that social uses were more prevalent, yet faculty and students were beginning to utilize Facebook for educational purposes such as communicating about course projects. Although Facebook touts itself merely as "a social utility that connects you with the people around you," colleges and universities are beginning to discover and make the most of the social functions for educational and organizational purposes (Kirkpatrick, 2010, p. 312).

Facebook and education research. Facebook has been studied in the educational context (Mazer et al., 2009; Mazer, Murphy, & Simonds, 2007; Roblyer et al., 2010; Sturgeon & Walker, 2009). Recently, researchers are focused on two important kinds of academic interactions: student-to-student and student-to-faculty. Previous research in face-to-face settings suggests college student peer interaction as well as support obtained from other individuals significant to the college environment (i.e. teachers) influences student persistence and retention (Braxton, 2000b). Knowing this, and understanding

Facebook's value for facilitating the integration of online/offline interactions (Ledbetter, Mazer, DeGroot, Meyer, Mao, & Swafford, 2011), it is important to study and evaluate the potential effectiveness of Facebook to positively influence student-to-student and student-to-faculty academic interactions.

***Student-to-student academic interaction*.** A first category of extant research that focuses on the effects of Facebook in educational settings is oriented toward understanding student-to-student communication. Selwyn (2009) conducted a content analysis of 909 undergraduate student Facebook pages, and found five major academic themes emerging in daily wall postings. First, students regularly employed Facebook to reflect on university experiences such as lectures, library visits, or interactions with teaching staff. Second, students exchanged practical information including scheduling, class locations, and assignment deadlines. A third major theme focused on sharing academic information such as intellectual expectations in class, exam content speculations, and posting bibliographic database search results on another student's page. Within this theme, Selwyn highlighted two graduate students successfully utilizing Facebook to recruit participants for dissertation research. Fourth, students often sought moral support from fellow classmates with respect to course-related demands. Finally, banter emerged as the fifth theme, where students often exchanged sarcastic course-related comments or engaged in self-deprecating humor. Selwyn's study provides a valuable springboard for future academic Facebook research, demonstrating students' willingness to take advantage of Facebook functions for academic purposes.

Madge et al. (2009) found that although most students still use Facebook for social reasons, some academic exchanges emerged as students attempted to settle

themselves into their courses and everyday college life. Participants indicated utilizing Facebook for informal academic interactions, such as coordinating group project work, assignment revisions, class work questions, and setting up study group times. When asked about employing Facebook for formal classroom teaching purposes, 43% disagreed, indicating Facebook is a *social* networking site, and should be utilized for social purposes. However, 53% viewed academic Facebook use more positively, even making suggestions about methods by which teachers could engage students. Student suggestions included posting college notices on Facebook, setting up a Facebook group page to assist students with exams or revisions, and creating a Facebook page for each individual degree area. Seemingly, students view academic exchanges on Facebook as acceptable, provided strict boundaries are maintained between social and academic purposes.

Prior to Selwyn (2009) and Madge et al.'s (2009) research, Karlin (2007) documented students utilizing Facebook to discuss specific assignments with other Facebook friends. In her discussion of a National School Board Association study, Karlin pointed to results indicating nearly 60% of students converse about education in general and more than 50% talk about specific homework assignments in online environments. Indeed, already in 2007, the NSBA suggested use of social networking sites was an emerging trend, as data indicated approximately 20% of school districts create and maintain wikis for classroom use. In a more recent study, Roblyer et al. (2010) admits that although social uses remain more common, students continue to demonstrate an open mind regarding instructional Facebook use.

***Faculty on Facebook*.** Faculty also use Facebook and studies have examined how this impacts professor-student relationships. Mazer et al. (2009) suggest professors gain credibility and increased levels of immediacy by interacting with students through Facebook. Mazer et al. (2007) argue Facebook serves stronger affective, not instrumental, purposes in educational settings, providing needed emotional support to students. However, Hewitt and Forte (2006) argue that not all students appreciate faculty presence on Facebook, expressing expectations of profile privacy and concern regarding potential academic retribution if faculty members observe student social activities (i.e. drinking, partying) outside the classroom. All three studies utilized undergraduate research participants, though participants in Hewitt and Forte's (2006) study attended a mid-sized research university as compared to Mazer et al.'s two samples drawn from a large Midwestern research university. Institution may influence results, as Facebook may facilitate building of relational connections at a large university, reducing student perceptions of being simply a number among thousands of other students. Alternatively, it is possible students at smaller institutions view faculty presence on Facebook as a way of tracking student behavior outside classroom walls.

Academic Facebook use between students and faculty may influence overall perceptions of classroom climate. Sturgeon and Walker (2009) discovered a connection between faculty Facebook use and student academic performance, suggesting "relationships built on Facebook between students and faculty can make for a more open line of communication, resulting in a better learning environment and more student engagement in the classroom" (p. 11). Results from Mazer et al.'s (2007) study indicated higher levels of faculty disclosure could facilitate a more positive classroom climate as

well as potential for increased levels of motivation. These findings led Mazer and colleagues to assert more disclosures may result in students perceiving similarities between themselves and the instructor, and potentially impact classroom immediacy.

Faculty disclosures on Facebook may not always positively influence the learning environment. Young (2009) cites an example of a professor disclosing "she had just consulted an online encyclopedia (Wikipedia) entry to prepare for her class the next day" and wondered "if parents would be upset…if they knew that certain professors were looking up stuff on Wikipedia" (p. 55). This status update, intended for a small group of friends, was actually posted at a privacy setting where anyone at the college could view the entry. Faculty Facebook disclosures may improve classroom climate and immediacy, but the potential for unintended disclosures may lead to damage to personal reputations and loss of credibility.

Although previous studies indicate that Facebook usage is chiefly social in nature, recent efforts signal a migration towards educational uses of Facebook (Madge et al., 2009; Roblyer et al., 2010). Both faculty and students are beginning to explore potential educational options on Facebook, despite the tendency of higher education faculty to lag behind in the adoption of technological innovations (Allen & Seaman, 2008). Previous research suggests there are some drawbacks to interacting on Facebook, such as questions of credibility (Young, 2009) and student perception of faculty intrusion into their personal lives (Hewitt & Forte, 2006). As is important with any new technology, scholars need to consider potential shortcomings as well as appraise overall organizational contributions of Facebook to the educational environment.

Organizational Identification

Facebook is a tool that allows individuals to connect with one another, groups, and organizations. Identification is a concept describing how people associate themselves with other persons, groups, or organizations (Cheney, 1983). Origins of the concept of identification stem from works of Kenneth Burke, potentially as early as 1931 (Day, 1960). At times referred to as the "rhetoric of identification," Burke suggests participation in a group cannot be obtained any other way than through identification (Burke, 1937). Cheney (1983) adapts Burke's ideas for the study of organizational communication, explaining how organizations use various communicative tactics to encourage members to adopt institutional interests, goals, and/or values. Contributions from both scholars factor into development of the organizational identification construct.

Kelman (1958) argues organizational identification occurs when individuals accept "influence from an organization because he/she wants to establish or maintain a satisfying self-defining relationship to another person or group" (p. 53). To achieve identification, individuals adopt specific behaviors because those behaviors are associated with the institution. Continued adoption results in continued or increased levels of identification. Withdrawal or rejection of values and behaviors leads to decreasing levels of identification.

Identification has four defining characteristics (Brown, 1969; Kelman, 1958). First, organizational identification is associated with notions of institutional membership. An individual must feel a sense of belonging to an institution. Next, an individual's role within an institution impacts identification. In other words, the position an individual holds is relevant to how he/she experiences organizational identification. Third, Brown

highlights a “predictive potential,” suggesting “certain aspects of performance, motivation to work, spontaneous contribution, and other related outcomes” are linked to level of identification (p. 364). Finally, organizational identification researchers suggest that certain assumptions can be made regarding individual motivating factors. Level of identification with an organization relates to personal values and goals.

It is important to differentiate organizational identification from organizational commitment. Mael and Ashforth (1992) maintain identification relates to individual perceptions of being linked with an organization. Accordingly, they define organizational identification as “the perception of oneness with or belongingness to an organization in which the individual defines himself or herself in terms of the organization in which he or she is a member” (p. 105). Although they provide this definition, Mael and Ashforth caution against confusing organizational identification with organizational commitment, arguing the former often propagates the latter. Both organizational identification and organizational commitment relate to individual attitudes toward an organization (Gautam, Dick, & Wagner, 2004); however, organizational identification is a feeling of connection to an institution while organizational commitment relates to institutional dedication. For example, a student may attend an undergraduate institution and because of their positive experiences at that school, decide to continue additional educational pursuits (e.g. graduate studies) at another institution. This student could perceive and maintain a strong connection to the first school while being fully dedicated to studies at the second school. The first school would be an example of organizational identification; the second school would be an example of organizational commitment.

Additionally, formation of organizational identification and organizational commitment depend on different sources to develop. Identification is based on personal perceptions of one's perceived similarity to an organization. Individuals who identify with their respective organizations have self-images similar to organizational image and value (Cheney, 1983). Commitment is indicative of an individual's desire to maintain membership in a particular organization (Gautam et al., 2004). For example, a student may choose a college because of perceived similarities in personal and institutional educational goals (identification) and then choose to stay to complete a degree for a variety of other reasons, such interactions with fellow organizational members, academic rigor, and ability of graduates to obtain jobs after graduation. Organizational identification and organizational commitment are often inextricably linked, but remain separate concepts.

Consistent across all aforementioned definitions of organizational identification is the sense of belonging to an institution. In order to identify with an organization, an individual must perceive a connection to individuals within and/or the overall organization. For this study, Mael and Ashforth's (1992) definition is utilized. Their definition provides a general classification of organizational identification, allowing for parsimonious application across organizational contexts.

Organizational Identification and Communication Technology

The application of organizational identification to communication technologies such as Facebook creates new questions for organizational scholars. Do online technologies used by organizations enhance identification? Do online technologies detract from the development of identification? Evolving organizational and online

environments can influence communication structures previously created to facilitate identification among organizational members (Thatcher & Zhu, 2006). Currently, communication scholars are divided on the influence of virtual communication on organizational identification (Postmes et al., 1998; Rock & Pratt, 2002; Scott, 2007).

Some scholars have expressed concern about increased virtual communication in a variety of organization types, suggesting that fewer opportunities for face-to-face contact can result in lower levels of identification. Daft and Lengel's (1986) theory of media richness implies that virtual media are less-suited for facilitating feelings of personal connection that are vital to identification. Rock and Pratt (2002) suggest employees who work remotely may feel more isolated than employees who are collocated. Additionally, scholars cite concern regarding distance education students, questioning the level of identification students experience fully separate of the physical campus (White, 2009). Concerns about presence and face-to-face contact are legitimate issues for organizations to consider as they move forward to integrate more opportunities for virtual communication.

Not all scholars agree that online media reduce identification, however, as some suggest that virtual communication can enhance individual levels of organizational identification. Postmes et al. (1998) assert online communication in purely virtual teams facilitates higher levels of identification. A lack of nonverbal cues, which would otherwise make individuating characteristics more visible, contributes to more rapid deindividuation for group members, and resulting in quicker identification. Rock, Pratt, and Northcraft (2002) found more advantages for virtual groups using leaner media than collocated groups utilizing richer and varied media channels. Scott (2007), however,

argues the necessity of additional scholarship investigating virtual groups, as many studies arbitrarily put participants into groups to evaluate interactions with little consideration for the impact of a lack of interaction history among group members. Timmerman and Madhavapeddi (2008) agree, asserting that the more knowledge individuals have about their communication partners, the richer the perception of shared interactions.

Recent scholarship focusing on telework highlights the advantages and disadvantages of virtual and face-to-face communication for identification levels between individuals. Telework is a work arrangement that allows employees to spend part of the time collocated and part of the time working at a remote location via communicative media and technologies (Baruch, 2001). Scott and Timmerman (1999) found participants who engaged in part-time telework demonstrated higher levels of organizational identification than did individuals who spent a majority of their time teleworking or a majority of their time not teleworking at all. Fonner and Roloff (2012) studied the ‘paradox of connectivity’ afforded by communicative media, which simultaneously allows for increased social presence, but also increases potential for interruptions from coworkers. Findings indicated that perceptions of social presence increased levels of identification, but interruptions from coworkers resulted in a negative relationship with identification. Results from both studies suggest that there are benefits to utilizing online communication technologies, but there are also disadvantages to engaging virtually as well.

As new and updated communication technologies emerge, organizations are tasked with the challenges of adopting, adapting to, and embracing these new ways of

communicating. One of these technologies, Facebook, changed the speed with which relationships could be formed and facilitated over vast distances. In a matter of hours, hundreds of individuals can go online, identify with a cause, connect with other like-minded individuals, and mobilize members to act (Kirkpatrick, 2010). Many organizations are capitalizing on these new communication technologies. However, changing communicative environments can influence identification among organizational members (Thatcher & Zhu, 2006). Like many organizations, educational institutions are confronted with these issues, maintaining pace with advancing technologies and working to maintain identification with current members as well as creating identification with hundreds of new students who are continuously joining the institution at the beginning of each school year.

Educational institutions must discover ways to effectively navigate the virtuality continuum, evaluating how much mediated communication will successfully enhance student levels of identification. Choosing Facebook as a communicative tool to supplement face-to-face communication and potentially improve student levels of identification seems a highly relevant choice, as previous research demonstrates Facebook saturation levels upwards of 90% in recent descriptions of participant demographics (Selwyn, 2009). Selecting Facebook, however, is only the first step, as there are many other organizational variables present that have the potential to influence levels of identification. In order to fully capitalize on newer technologies, educational institutions need to consider factors that may contribute to or detract from levels of organizational identification.

Organizational Identification in Educational Contexts

Extant research addressing organizational identification in educational contexts highlights several variables contributing to levels of identification among individuals associated with the college/university (Bullis & Bach, 1989; Caboni & Eiseman, 2003; Drezner, 2009; Mael & Ashforth, 1992; Porter, Hartman, and Johnson, 2011). Faculty dedication, student socialization, and alumni donations to an educational institution are just three examples of variables impacting identification and variables demonstrative of the fact that identification is present among organizational members. To date, no research incorporates Facebook as a variable influencing level of identification with or within a college or university.

Many studies of identification in educational contexts highlight alumni donations as evidence of institutional attachment. Mael and Ashforth (1992) found a positive relationship between levels of identification and continued communication with the school as well as monetary support through donations and recommendations to others to enroll. Similarly, Caboni and Eiseman (2003) investigated levels of identification and individual choice to support higher education with monetary gifts. Utilizing several elements of Mael and Ashforth's (1992) model of organizational identification, Caboni and Eiseman sampled 234 alumni from a small, Catholic, liberal arts college to ascertain relationships between perceived organizational prestige, perceived organizational effectiveness, and institutional involvement in voluntary monetary support and willingness to enroll one's child at said institution. Results demonstrated that the number of years since graduation and perceived organizational prestige impacted alumni donations. Additionally, years since graduation, organizational prestige and

organizational identification influence the choice to send one's child to the parents' alma mater.

Alumni relationships and maintained levels of identification are vital to many educational institutions' welfare and continued existence. Porter et al. (2011) discovered level of college identification mediated experiences while attending and decisions to donate as an alumnus. Most significantly, level of involvement in student organizations influenced choices to give and to participate in university sponsored promotions. Drezner (2009) found student feelings of reciprocity, triggered by college scholarships or other financial help, contributed to alumni choice to give back to the school through monetary donations. Alumni indicated feeling responsibility to contribute to the legacy they had experienced in order to help ensure that continued experience for future students.

Similar to undergraduate experiences, level of student identification is important to positive graduate student experiences. White (2009) compared graduate student and graduate assistant experiences to understand possible factors influencing socialization and identification. Findings indicated students attending an institution for a bachelor's degree and a master's degree demonstrated higher levels of identification than students attending for only a master's degree. Levels of identification did not differ for graduate students and graduate assistants who had participated in a similar amount of socialization experiences. Surprisingly, distance education students reported higher levels of identification than students present on the physical campus. White suggests a sense of disillusionment experienced by low identifiers, as highlighted by Bullis and Bach's (1989) study, may explain differences in level of identification. Distance education

students spend less time on the physical campus, and may therefore be less exposed to departmental issues and negative socialization experiences.

Bullis and Bach (1989) interviewed 28 masters' and doctoral students in three communication departments to determine turning points in graduate student identification processes. Participants disclosed tasks such as moving into offices, socializing (department sponsored activities or informal opportunities to interact), feeling a sense of community, and informal and formal recognition were among contributory factors, or turning points, to increasing levels of identification. Alternatively, White (2009) found that disappointment regarding departmental issues as well as differences in institutional perceptions versus institutional realities contributed to student disillusionment and lower levels of identification. Overall, results indicated opportunities for disclosure, or socializing as Bullis and Bach characterize it, represented one of the most substantial changes in levels of departmental identification.

Levels of identification among faculty and staff at colleges and universities can additionally impact student experiences. Bedeian (2007) studied levels of faculty cynicism as it relates to faculty identification and overall job satisfaction and found that higher levels of faculty cynicism contribute to decreased faculty identification as well as job satisfaction, affective commitment to the institution, and job turnover rate. The overall health of a college/university depends on institutional abilities to attract and retain talented faculty members (Hensel, 1991). Moreover, Bedeian (2007) cites the potential for a trickledown effect, in which faculty feelings of cynicism can spread among other faculty and students on campus. In this particular context, levels of organizational

identification are crucial to the overall health of a college campus, including both its faculty and its students.

Organizational image and reputation can also influence student levels of identification. Sung and Yang (2008) evaluated the impact of institutional image on students' supportive attitudes, which were represented by levels of organizational identification and organizational commitment. Researchers recruited 1,678 students to complete questionnaires assessing perceived university traits, perceived reputation, perceived external prestige, and personal supportive attitudes toward the university. Results indicated university personality, reputation, and external prestige all positively influence student supportive attitudes such as organizational commitment and organizational identification.

In summary, various factors influence organizational identification in educational contexts. Institutional variables such as organizational prestige and reputation impact current student identification levels and alumni attitudes and choices to make donations. Socialization experiences at the undergraduate and graduate levels shape student identification. Additionally, faculty attitudes related to organizational cynicism can affect not only faculty job satisfaction, job turnover rates, and identification, but can also trickledown to other organizational members such as students. In general, the overall health of an organization is influenced by member levels of organizational identification.

Facebook, Socialization, and Facilitating Identification

One vital organizational process that may provide the link from student Facebook use to organizational identification is organizational socialization. The socialization choices made by educational institutions regarding how Facebook is utilized with the

student population may influence students' general feelings of connection to their college/university. Organizational socialization choices are likely to be different for each organization, as institutional differences will impact institutional needs (Dennis, Valacich, & Nunnamaker, 1990; Kessler, 2011; Kirkpatrick, 2010). Additionally, student tenure at the college/university (number years attended) is likely to influence continued socialization choices (Cheney, 1983; March & Simon, 1958). Finally, socialization conducted through interactions with other institutional members such as fellow students, faculty, and staff is likely to influence overall student levels of identification (Hogg & Terry, 2001; Johnson, Morgeson, Ilgen, Meyer, & Lloyd, 2006; Pratt & Rafaeli, 1997; Scott & Stephens, 2009).

Socialization is the process by which an individual is acculturated into an organization (Van Maanen & Schein, 1979). Effective organizational socialization is dependent on several key factors, including introductory socialization as the individual joins the organization and continuance of socialization tactics as levels of familiarity with the organization grow. Prior to entering any organization, most individuals anticipate that there will be a set of expectations regarding how individuals communicate and interact in that particular setting (Jablin, 2001). Otherwise stated, the process of socialization teaches a person how to be a potentially effective organizational member, and ideally, facilitates increasing levels of identification between an individual and an organization.

Although the body of socialization research is relatively large, there has always been a lack of a predominant theory of organizational socialization, which promotes some fragmentation among the literature base (Saks & Ashforth, 1997). Socialization research is not without some fundamental frameworks, but the consequence of lacking a

unifying perspective has been more focus on stage models and use of several pre-existing theories which argue the importance of socialization rather than providing a clearer definition and framework for the construct (Wanous, 1992). As a result, four main perspectives have emerged, including Van Maanen and Schein's socialization tactics model, research utilizing uncertainty reduction theory (Berger & Calabrese, 1975), social cognitive theory (Bandura, 1986), and cognitive and sense-making theory (Saks & Ashforth, 1997).

Regardless of the absence of a formal theory of organizational socialization, researchers agree that socialization is important to identification among organizational members and prevention of member turnover (Van Dick, Christ, Stellmacher, Wagner, Ahlswede, Grubba et al., 2004). Although each organization is likely to select different tactics specific to company mission and needs, the general necessity of socialization remains constant across organizational type. Effective and appropriate socialization tactics help to reduce levels of uncertainty among new organizational members (Miller & Jablin, 1991), assist in making sense of new organizational experiences (Louis, 1980), and generally facilitate adaptation to the new organizational setting (Saks, 1995).

The current study builds upon these bodies of literature to suggest that socialization is related to organizational identification and that, upon further investigation, Facebook may be a tool through which educational institutions can partially socialize organizational members. Member identification is very important to retaining and growing student enrollment levels in colleges and universities, and therefore, is valuable in terms of maintaining organizational success (Van Dick et al., 2004). Because of the significance of successful member socialization in educational

institutions and potential for it to influence identification, the following sections are devoted to further attention to elements that factor into successful socialization including institutional differences (Farrow & Yuan, 2011; Kessler, 2011), interaction with various organizational targets (individuals) (Pratt & Rafaeli, 1997; Scott & Stephens, 2009), and student tenure with the organization (Hall, Schneider, & Nygren, 1970; Hall & Schneider, 1972; Kiernan, 2011). Following the explication of each of these factors, a hypothesis and/or research question is proposed.

Before discussing the individual factors influencing organizational identification, one hypothesis is posited to establish the overall relationship between level of identification and student use of Facebook at educational institutions:

H1: There is a positive relationship between student use of Facebook with an educational institution and their level of identification with the institution.

Facebook, Identification and University Characteristics

Educational institutions of every size and shape are turning to Facebook as a way to connect with potential, current, and previous students (Farrow & Yuan, 2001; Roblyer et al., 2010). From small private colleges to large state sponsored universities, educational institutions are utilizing Facebook for functions such as virtual school tours, reaching out to prospective students, promoting school pride, and housing departmental content (Kessler, 2011). Educational choices regarding Facebook use should match institutional needs. Extant research provides examples of various functional choices for educational Facebook use, but does not identify trends regarding institutional choices as dictated by type of institution (Farrow & Yuan, 2011).

Existing social networking research tends to focus on the impact of network size on organizational communication efficiency rather than organizational Facebook choices influenced by the size of educational institution using Facebook (Rains & Young, 2009). Rains and Young (2009) suggest the number of members increases the amount of resources available to individuals participating in an online group. Brandon and Hollingshead (2008) argue similarly, asserting that the individual learning taking place is a direct result of the members involved. Others scholars disagree, suggesting there is a threshold for productivity that organizations must consider. For a non-technically supported group, the threshold may be as low as three to five members (Hare, 1981). In a computer-mediated context, Valacich, Dennis, and Nunnamaker (1992) found larger groups to be more productive than smaller groups, as groups with approximately 19 members produced more ideas than ten member groups. A previous study (Dennis et al., 1990) found 18 member groups to be more effective than nine member groups, and nine to be more effective than three. However, their results did not provide any suggestions regarding an optimal number of individuals interacting in an online interface.

Facebook allows small numbers of people to communicate online, but also facilitates communication among massive numbers of people on a scale never seen before (Kirkpatrick, 2010). Prior to Facebook and social networking in general, there was no technological device that could afford such a range of interaction among groups of people. Most of the previous research in this area has focused on the efficiency of interactions with certain numbers of people because most technologies have had a threshold for what is effective and ineffective (Dennis et al., 1990; Valacich et al., 1992).

The size of a group and size of an organization is important to social networking, as each institution will need to make specific decisions relevant to organizational needs. However, although previous research tells us that different functional choices are being made relevant to a particular organization, it is not yet apparent how size influences those choices. As a result, scholars know there is an impact, but do not yet know how organization size shapes Facebook use.

In addition to size of an educational institution (i.e. small, medium, large), there may be other types of diversity that may influence organizational use of Facebook. Some of the possibilities could include whether the college is public or private, if the college or university student population is characterized as more residential or commuter-based, or whether the college is located in suburban areas as compared to rural and urban. Several further considerations would also include whether or not the college or university is religiously-affiliated and types of programs offered (undergraduate/graduate). Although there is no current research exploring how these potential organizational differences impact how educational institutions chose to utilize Facebook, there is much literature that focuses on how these institutional differences influence organizational choices in general (Hall & Schneider, 1972; Calcagno, Bailey, Jenkins, Kienzl, & Leinbach, 2008; Mael & Ashforth, 1992). Therefore, a hypothesis is posited to suggest that there is a difference in how educational institutions utilize Facebook to facilitate identification.

H2: The institution at which a student enrolled is a significant moderator of the relationship between students' Facebook use and level of identification.

Facebook, Identification, and Student Tenure at College/University

One of the outcomes of successful organizational socialization and higher levels of identification is often measured by an individual's intent to leave or maintain membership with an organization (Cheney, 1983). Specifically, organizational tenure or maintenance of current organizational membership refers to the amount of time an individual remains associated with an organization (Hall & Schneider, 1972). According to March and Simon (1958), as a person's identification with an organization increases, the feelings of belongingness and loyalty generally increase, and thereby decrease the propensity to search for a new organization in which to establish membership. Thus, an organizational member with a long tenure in an organization should be more identified than an organizational member who has recently joined the organization.

Several previous studies confirm March and Simon's (1958) assertion, demonstrating positive relationships between length of tenure and level of individual identification. Hall, Schneider, and Nygren (1970) studied the U.S. Forest Service, and found levels of identification increased with length of tenure, independent of organizational promotions. Hall and Schneider (1972) demonstrated similar results with a participant sample of Catholic priests. In a study of college alumni, Mael and Ashforth (1992) found a positive, significant relationship between identification and tenure, suggesting that perceptions of organizational tenure are not necessarily linked to employment and can result from general association with an institution. In addition, Wan-Huggins, Riordan, and Griffeth (1998) surveyed 198 electrical workers and found levels of identification were positively related with employee intent to remain with their current organization.

Beyond significant positive relationships, this study suggests it is possible that tenure will moderate the relationship between Facebook and identification. Typically, individuals who have a longer tenure with an organization feel more at ease utilizing the systems embedded within the organization (March & Simon, 1958). Because Facebook is so popular and widely used by college students, it is likely that most students will have a baseline comfort level with social media technologies that does not need to be taught. However, the specific uses per organization are likely to be somewhat different. Therefore, students with a longer tenure with a college/university are likely to feel more comfortable with and connected to an educational institution through Facebook than the student who recently started attending the college/university.

To test the proposed relationship between Facebook and identification as influenced by tenure, the following hypothesis is posited:

H3: Student tenure is a significant moderator of the relationship between students' Facebook use and level of identification.

Facebook Use and Multiple Targets of Identification

In addition to identifying with an organization as a whole, individuals may identify with a range of organizational targets, which may be individuals, groups, and other subgroups associated with an organization. Scott and Stephens (2009) state that targets with which organizational members may identify can include occupations (i.e. teachers), unions, departments (i.e. communication department), task groups, communities, and individual persons. Interactions with one or more of these targets assist in increasing levels of organizational identification. The targets most relevant to increasing identification depend on the organizational setting. In other words,

organizational targets most likely to contribute to higher levels of identification may change from organization to organization based on the different targets with which the individual is most likely to interact. For the current study, the targets of interest are students interacting with fellow students, faculty, staff, alumni, students pursuing the same major, and the university as a whole.

Expectations of college/university attendance are that students will interact with multiple organizational groups in order to achieve necessary tasks. Scott and Stephens (2009) suggest that although each different target might have specific goals that are not necessarily aligned with other targets, effective interactions with each target are a necessity, and may influence overall feelings of connection with the organization. In their study, Scott and Stephens (2009) evaluated levels of organizational identification with different organizational targets, and found that identification scores across all of the targets were moderately strong, although participants identified more highly with some targets than others. Additionally, level of identification with different targets appears to be linked to frequency of interactions, such that participants tend to be more highly identified with those individuals with whom they interact more regularly.

Additional studies confirm the potential variation in organizational members' identification with different targets (Hogg & Terry, 2001; Johnson et al., 2006; Pratt & Rafaeli, 1997). Pratt and Rafaeli (1997) studied medical professionals in a rehabilitation unit in a large Midwestern university hospital, and found that although participants identified with several targets in the organization, target identifications within the participants' work unit tended to be stronger. Similarly, Hogg and Terry (2001) discovered multiple identifications, but found some identifications to be more salient than

others. Finally, Johnson et al. (2006) surveyed 1,750 veterinarians and observed higher identification levels with their organization and their particular workgroup than with an overall group of veterinary professionals.

Although there are several of the aforementioned examples give evidence of varied levels of identification across targets, Scott and Stephens (2009) suggest that the majority of previous research focuses on communication activities that create identification rather than communication targets that can influence identification. Several additional studies focus on the influence of organizational targets on organizational identification in such settings as interaction between geographically dispersed workers (Scott, 1997) and a comparison of conventional and computer-supported team meetings (Scott and Fontenot, 1999). In general, results suggest that target of identification is important to level identification, and multiple target identification reduces member intent to leave an organization.

Based on some of the previous evidence indicating different levels of identification with different targets as well as the potential for multiple identifications, this study seeks to understand the different targets which may have a greater association with Facebook use as well as the kind of Facebook interactions taking place with each separate target. If, for example, findings suggest that identification with faculty is stronger when student use Facebook with faculty, target specific recommendations can be provided to colleges and universities as to which targets are most important for students to engage with on Facebook. Understanding the individual relationships with each target is important better explicating the type of identification linked with Facebook use. As a result, the following research question is posed:

RQ1: What is the relationship between students' use of Facebook (both direct and moderated by tenure and organizational size) and identification with various organizational targets (faculty, staff, students, major department, alumni)?

CHAPTER TWO - METHOD

The purpose of this study is to examine how Facebook use influences student levels of organizational identification with their respective schools. In order to do this, the researcher evaluated several organizational variables including institution, student tenure with the school, and interaction with multiple organizational targets to determine the impact of each on the relationship between student use of Facebook and identification. The main reason for the focus of the current study is to begin offering practical suggestions to college faculty and staff for effectively using Facebook with students for educational purposes. In addition, this study should yield important findings for scholar continuing to investigate social media use in educational contexts.

Because of the originality of the current research, few measures exist to test the aforementioned concepts. In order to assess the validity, reliability, and functionality of preexisting instruments previously used in face-to-face contexts as well as measures created specifically for this study, a pilot study evaluated student Facebook use and organizational identification in the context of one school prior to data collection at three different institutions. The results of the pilot study demonstrated need for change in certain measures as well as additional variables for consideration.

The description of methods for this study is divided into two parts. First, an explanation of pilot study methods and results is included. Next, implications for use of preexisting instruments as well as created measures for full dissertation data collection is discussed with a specific focus on changes made as a result of pilot study findings. The second part of the methods section describes procedures used for complete dissertation data collection at three separate educational institutions.

Pilot Study Methods

A pilot study assessed the methods to be used for data collection, properties of the various existing and developed measures, and analysis strategy. First, there is scattered literature devoting attention to educational uses of Facebook (Selwyn, 2009). This pilot study sought to initially determine the extent to which Facebook is used for educational purposes by universities and students. Additionally, it was necessary to assess potential instruments to evaluate Facebook use and identification. Currently, a number of Facebook instruments are designed to measure concepts such as privacy or online self-disclosure rather than specific contextual uses such as the educational setting (e.g. Ledbetter, 2009b). Additionally, several scholars have previously cited concerns regarding existing instruments to measure organizational identification (Miller, Allen, Casey, & Johnson, 2000), so one goal was to assess the properties of these measures with a smaller data set before embarking on the full-scale data collection. Finally, the integration of Facebook as a tool to facilitate identification has potential to elicit additional independent variables influencing levels of identification. As such, this pilot study provided an opportunity to make sure that the analysis strategy for the proposed full study was appropriate.

Participants. One-hundred-forty undergraduate students enrolled in communication courses at a large, Midwestern university participated in the pilot study. Fifty-eight males and 81 females comprised the sample. The majority of participants were upper-level students, including 57.9% seniors, 25% juniors, 11.4% sophomores, and 2.9% freshman. One person was a first year PhD student and three additional participants indicated “other,” suggesting they held degrees other than a bachelor’s degree, masters’

degree, or PhD. One hundred thirty-two of 140 participants (94%) indicated having an active Facebook account.

Approximately 70 percent of participants reported using Facebook for four or more years. Eighteen percent (26 participants) used Facebook for two to three years, 4.3% (6 participants) for one year, and 5.7% (8 participants) for less than one year. Most participants indicated either always being logged on to Facebook (12.1%) or checking several times a day (48.6%), comprising almost 60% of the overall participant sample. Fifteen percent indicated accessing Facebook once a day, 7.1% once every other day, 3.6% several times a week, 3.6% once a week, 1.4% once a month, and 2.1% couldn't remember the last time they had logged on. 6.4% (9 participants) did not specify how regularly they accessed Facebook.

Procedures. Following IRB approval, a recruitment email with a short study description and a link to the online survey (Qualtrics Labs Inc., Provo, UT) was sent to instructors who then forwarded the email to their students. Participants first accessed an informed consent page and, upon giving approval, were taken to the first survey question which asked participants whether or not they had a current Facebook account, and based on answers, participants completed different portions of the survey. If a participant had a current Facebook account, they completed a 17-item survey created to measure use of Facebook functions for educational uses, Mael and Ashforth's (1992) six-item organizational identification sub-scale, and several questions regarding participant demographics. Participants who indicated that they did not have a Facebook account skipped the 17-item Facebook survey and were redirected to complete Mael and Ashforth's (1992) subscale and demographic questions. Upon completion of

demographic questions, participants were automatically redirected to a second, short survey (two questions) that allowed them to sign up for class-related extra credit if desired.

Instruments. Two scales measured constructs of organizational identification and use of Facebook functions. To measure identification, the researcher used Mael and Ashforth's (1992) six-item subscale of identification with seven-point Likert-type scale response options (1 = Very Strongly Disagree to 7 = Very Strongly Agree). Previous studies utilizing this subscale reported reliabilities ranging from .81 to .89. Reliability analyses conducted for this study yielded a Cronbach's alpha of .89, demonstrating continued levels of high internal consistency for this sample.

To measure use of Facebook functions for educational uses, the researcher created a 17 item scale for the current study. Participants indicated a yes/no response on each of the 17 items. Items included questions such as "I use Facebook for educational purposes," "I use Facebook to talk about class assignments," "I use Facebook to communicate with my instructor(s)," and "I use Facebook to discuss grades received on assignments." To reduce the number of items and simplify interpretation of results, all items were initially assessed to determine whether they were measuring a common construct (e.g. interactions with professors, with other students, and so forth). After this process, the items were analyzed using principle components analysis for factor extraction with varimax rotation.[i] Criteria for factor extraction included an eigenvalue > 1.00 with at least two items loading at ≥ .60 and all other items loading ≤ .40 on the same factor. Four factors had eigenvalues ≥ 1.00, and together account for approximately 60% of the variance. Two of 17 items loaded ≤ .40, and were therefore dropped from the scale.

Table 1 Facebook Educational Use Scale Factor Loadings

	UWM	Student	Teacher	Gossip
1. I am a fan of a Facebook page associated with UW-Milwaukee.	.75			
2. I am a fan of several Facebook pages associated with UW-Milwaukee.	.67			
3. I use Facebook to find out information about social activities at UW-Milwaukee.	.64			
4. I use Facebook to find out information about educational activities at UW-Milwaukee.	.81			
5. I use Facebook to talk about class assignments.	.76			
6. I use Facebook to talk with other students in my classes.		.83		
7. I have accepted friend requests/am friends with other students in my classes.		.71		
8. I use Facebook to communicate with my instructor(s).			.72	
9. I have accepted friend requests/am friends on Facebook with one or more of my instructors.			.81	
10. I use Facebook to complain about my classes.				.73
11. I use Facebook to say positive things about my classes.				.71
12. I use Facebook to complain about my instructor(s).				.79
13. I use Facebook to say positive things about my instructor(s).				.75
14. I use Facebook to complain about UW-Milwaukee.				.81
15. I use Facebook to say positive things about UW-Milwaukee.				.63
Eigenvalues	2.37	1.89	1.23	4.63
% of Variance	13.91	11.14	7.26	27.21

Loadings are shown in Table 1. Means scores were computed for each set of items for later analysis.

Results. Correlations between the four factors (See Table 1) on the Facebook scale and students' overall level of identification were examined. The relationship between UWM Facebook use and students' identification score was investigated using

the Pearson product-moment correlation coefficient. One significant, negative correlation emerged r (130) = -.22, $p < .05$, suggesting general student use of Facebook corresponds with a lower, overall identification score.

Regression analysis was used with participant demographics, Facebook membership, and the four factors from the Facebook survey (UWM, student, instructor, gossip) serving as three sets of predictor variables and the participant's mean identification score as the criterion variable. The three sets of predictor variables account for 26% of the variance in participant organizational identification, $F(9, 122) = 2.45$, $p < .05$. Two of four factors from the Facebook survey, gossip ($\beta = .19$, $t = 1.96$, $p < .05$) and student ($\beta = -.34$, $t = -3.31$, $p = \leq .001$) were significantly related to identification. Participant demographics, Facebook membership, and the other two Facebook survey factors (UWM, teacher) did not have significant beta weights in the model. Table 2 shows resultant beta weights and change in variance as predictor variables were added to the regression analysis.

Pilot Study Discussion and Implications for Dissertation

The purpose of the pilot study was to evaluate chosen methods of data collection, properties of existing and developed measures, and the analysis strategy such that potential instrumentation and variable issues could be determined prior to dissertation data collection and analysis. Few research studies devote attention to educational uses of Facebook (Selwyn, 2009), and as a result, there are no current measures available to evaluate how students and colleges/universities use Facebook for institution-related

Table 2 Regression Results From Participant Demographics, Facebook Membership, and Facebook Use Survey Factors

Variables in Regression	Beta Weights	*t*	Sig.
Initial Model			
Sex	-.16	-1.76	.08
Age	-.11	-1.20	.23
Student standing	.09	1.03	.30
R^2	.04		
Facebook membership added			
Sex	-.18	-1.85	.07
Age	-.12	-1.29	.20
Student standing	.09	1.00	.32
Length of Facebook use	-.00	-.05	.96
Regularity of use	.08	.80	.42
R^2	.04		
R^2 Change	.01		
Facebook survey factors added			
Sex	-.12	-1.27	.21
Age	-.01	-.12	.90
Student standing	.11	1.24	.22
Length of Facebook use	-.06	-.64	.53
Regularity of use	.01	.12	.91
Gossip	.19*	1.96	.05
UWM	-.13	-1.35	.18
Student	-.34**	-3.31	.001
Instructor	.03	.34	.73
R^2	.16*		
R^2 Change	.12		

*Approaching significance at $p < .05$ level
**$p < .001$

purposes. Additionally, previous research questions the validity of current organizational identification measures (Miller et al., 2000). Feasibility of use for these measures (Cheney, 1983; Mael & Ashforth, 1992) needed assessment for levels of validity and reliability for the current proposed study. Taking into consideration the aforementioned concerns, the pilot study provided an opportunity to ascertain appropriateness of instrumentation and analyses.

Facebook use factor correlations with organizational identification scores revealed a relationship in a direction opposite of expectation (See Table 2). The researcher anticipated Facebook use for educational purposes would coincide with rising levels of

identification, demonstrating a positive rather than negative relationship. However, the Facebook use survey only allowed participants to indicate a nominal response (e.g. yes or no), indicating that Facebook was used without providing the extent to which it was used for educational purposes. As a result, the revised Facebook use scale asks participants to evaluate use tendencies with a seven-point Likert-type scale (1 = Very Strongly Disagree, 7 = Very Strongly Agree). The negative relationship between Facebook use and participant identification level also suggests colleges/universities need to engage in purposeful use of Facebook for specific campus functions rather than simply inviting students to "like" the institutional Facebook page, which fails to encourage future interactions among current and incoming (new students) organizational members.

The regression analysis suggests the presence of a relationship between educational Facebook use and level of participant organizational identification, but prompts further consideration of additional predictor variables. Current findings indicate relationships between gossip and student factors when evaluated with participant demographic and Facebook membership predictor variables. Consequently, additional organizational variables should be considered. The current study adds institutional differences, organizational tenure, and interaction with multiple organizational targets as variables with the potential to influence overall participant levels of identification.

The value of the pilot study for instrumentation purposes elicited current measure weaknesses and indicated the necessity of additional measures for more effective evaluation of the relationships among Facebook use and organizational dynamics contributing to overall participant identification levels. As a result, the revised Facebook Use survey utilizes an interval-level of measurement for the response scale, and rather

than basic evaluation of the fact that an education-related exchange took place on Facebook, new and additional items evaluate specific categories of campus-related information-seeking and communicative exchanges. Finally, the researcher added instruments to measure additional variables including organizational socialization, level of organizational involvement, organizational tenure, and interaction with multiple organizational targets.

Dissertation Methods

Participants

Participants from three different educational institutions evaluated the impact of institutional type on Facebook use and organizational identification and several variables contributing to identification. The three schools include one small, private liberal arts college, one medium sized public university, and one large public research university. From this point forward, the schools are referred to by three descriptors: the small private college is school A, the medium public university is school B, and large public university is school C. Educational institutions were selected intentionally as they represent a small but varied cross-section of college/university types. Undergraduate students comprise the majority of the sample due to institutional student demographics. Further demographics (See Table 4) are provided in the following three subsections.

School A. One hundred seventy-eight participants enrolled in lower- and upper-level communication, English, and psychology classes completed the online survey. The participant sample at the small private college represented nearly 52% of the overall sample from all three schools. Most participants from this school come from five to six different feeder schools (high schools) also affiliated with the same church body as the

small private college. Sixty-seven males and 111 females comprised the sample. The majority of participants were lower-level students, including 61.11% freshman, 23.33% sophomores, 7.78% juniors, and 7.78% seniors. Most participants (95.63%) indicated having an active Facebook account.

Many participants are regular users of Facebook. Approximately 75% indicated either always being logged on (16.09%) or checking Facebook several times a day (59.20%). Nearly 11% indicated accessing Facebook once a day, 1.15% once every other day, 7.47% several times a week, 2.30% once a week, 1.72% once a month, and 1.15% could not remember the last they logged on to Facebook. In terms of length of membership, approximately 65% of participants have had a Facebook account for four or more years. Eighteen percent indicated having a Facebook account for three years, 7.47% for two years, 8.05% for one year, and less than one percent for six months or less.

School B. Fifty eight participants enrolled in lower and upper undergraduate level communication classes completed the online survey. The participant sample at the medium public university represented 16.62% of the overall sample from all three schools. Twenty males and 37 females comprised the sample, with one individual unidentified. The majority of participants were undergraduate students, including 35.09% sophomores, 36.84% juniors, and 28.07% seniors. No freshmen participated. Fifty-six of 58 participants (96.55%) indicated having an active Facebook account.

Many participants are regular users of Facebook. Approximately 80% indicated either always being logged on (16.36%) or checking Facebook several times a day (63.64%). Nearly thirteen percent check Facebook once a day, 3.64% check once every other day, and 3.4% once a week. No participants chose the options of logging on once a

month or not being able to remember the last time they logged on to Facebook. Nearly 82% of participants with Facebook accounts have had memberships for four or more years. Approximately 13% indicated having a Facebook account for three years, 3.64% for two years, and 1.82% for one year. No participants indicated having a Facebook account for six months or less.

School C. One hundred eight participants enrolled in lower level undergraduate communication classes completed the online survey. The participant sample at the large public university represented 31.49% of the overall sample from all three schools. Sixty-two males and 46 females comprised the sample. All participants were undergraduate students, including 21.30% freshman, 31.48% sophomores, 30.56% juniors, and 16.67% seniors. One hundred of 116 participants (86.21%) indicated having an active Facebook account.

Many participants are regular users of Facebook. Approximately 63% indicated either always being logged on (20.20%) or checking Facebook several times a day (42.42%). Nearly 11% check Facebook once a day, 5.05% check once every other day, 7.07% check several times a week, 5.05% once a week, 5.05% once a month, and 4.04% are unable to remember the last time they logged on to Facebook. Nearly 79% of participants with Facebook accounts have had memberships for four or more years. Approximately 11% indicated having a Facebook account for three years, 8.08% for two years, 1.01% (one participant) for one year, and 1.01% for six months or less.

Instruments

For the current study, participants completed measures of Facebook use, measures of organizational identification (Mael & Ashforth, 1992), and demographic questions

evaluating the relationship between Facebook use, several organizational factors, and levels of student identification with their current college/university. Bivariate correlations for all focal study measures are included in Table 3. The researcher utilized one preexisting published instrument to measure organizational identification and identification with multiple organizational targets (Mael & Ashforth, 1992). One measure was created to evaluate student Facebook information seeking tendencies in a college/university context (30 items). One item measures organizational type and one item evaluates institutional tenure. Detailed instrument descriptions and reliabilities, if available and relevant, are included in the succeeding sections.

Organizational Type. One item was used to indicate organizational type. Participants indicated which educational institution they were currently attending from a list of three schools including School A, School B, and School C.

Institutional Tenure. One item measured institutional tenure. Participants identified number of years as an organizational member at their respective colleges.

Facebook Use. Participant completion of this scale was determined by a response to one item determining Facebook membership status. Participants indicating no Facebook account were redirected to the next section of the survey measuring identification with organizational targets. Participants indicating an active Facebook account were directed to the Facebook Use scale, then to identification with organizational targets, and then to the rest of the demographic questions.

Table 3 Correlation Matrix for All Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Proportion of Network (1)	1													
Status Updates (2)	.13*	1												
Frequency of Access (3)	.01	.26*	1											
Formal Communication (4)	.23*	.05	.02	1										
Student-to-Student Communication (5)	.13*	.19*	.26*	.47*	1									
Student-to-Faculty Communication (6)	.19*	.00	-.03	.76*	.26**	1								
Extracurricular Activities (7)	.24*	.16	.27*	.61*	.54*	.39*	1							
Religious Communication (8)	.21*	.04	.02	.70*	.41*	.58*	.44*	1						
University Identification (9)	.18*	.10	.02	.20*	.20*	.10	.22*	.18*	1					
Student Identification (10)	.21*	.07	.09	.37*	.32*	.26*	.35*	.42*	.56*	1				
Faculty Identification (11)	.23*	.03	-.01	.31*	.23*	.22*	.22*	.33*	.69*	.71*	1			
Staff Identification (12)	.22*	.03	.06	.29*	.23*	.24*	.29*	.29*	.61*	.76*	.83*	1		
Major Identification (13)	.24*	.10	.09	.11	.25*	.02	.16*	.12*	.52*	.48*	.54*	.51*	1	
Alumni Identification (14)	.23*	.05	.05	.34*	.21*	.26*	.29*	.35*	.61*	.78*	.79*	.83*	.51*	1

Table 4 Sample Demographics

Demographic	Small Private		Medium Public		Large Public		Total
N	183		56		117		358
Age (Avg.)	19.58		21.10		21.28		20.45
Standard Deviation	1.98		1.96		5.25		3.24
	Freq.	%	Freq.	%	Freq.	%	
Sex/Gender							
*Male	67	37.64	20	35.09	62	57.41	149
*Female	111	62.36	37	64.91	46	42.59	194
Ethnicity							
*American Indian	0	0	0	0	1	.92	1
*Asian	18	9.94	2	3.51	3	2.75	23
*African American	7	3.87	2	3.51	12	11.01	21
*Hispanic	1	.56	1	1.75	2	1.83	4
*Caucasian	151	83.43	51	89.47	85	77.98	287
*Other	4	2.21	1	1.75	6	5.50	11
Education							
*Freshman	110	61.11	0	0	23	21.30	133
*Sophomore	42	23.33	20	35.09	34	31.48	96
*Junior	14	7.78	21	36.84	33	30.56	68
*Senior	14	7.78	16	28.07	18	16.67	48
Years Attended							
*1 Semester	20	11.11	1	1.75	8	7.34	29
*1 Year	115	63.89	7	12.28	33	30.28	155
*2 Years	29	16.11	22	38.60	33	30.28	84
*3 Years	12	6.67	15	26.32	18	16.51	45
*4 Years	3	1.67	11	19.30	12	11.01	26
*5-6 Years	0	0	1	1.75	1	1.00	2
Facebook Account							
*Yes	175	95.63	56	96.55	100	86.21	331
*No	8	4.37	2	3.45	16	13.79	26
# of friends/Facebook							
*0-200	35	19.33	8	14.03	30	28.04	73
*201-400	49	27.07	11	19.30	20	18.69	80
*401-600	42	23.20	13	22.81	23	21.49	78
*601-800	27	14.91	19	33.34	9	8.40	55
*801-1000	9	4.98	2	3.51	8	7.47	19
*More than 1000	19	10.50	4	7.02	17	15.89	40
Freq. of FB Access							
*Once a month	3	1.72	0	0	5	5.05	8
*Once a week	4	2.30	2	3.64	5	5.05	11
*Several time a week	13	7.47	0	0	7	7.07	20
*Once every other day	2	1.15	2	3.64	5	5.05	9
*Once a day	9	10.92	7	12.92	11	11.11	27
*Several times a day	103	59.20	35	63.64	42	42.42	180
*I'm always logged on	28	16.09	9	16.36	20	20.20	57

Patterns of behavior on Facebook. The first set of Facebook predictors consists of three scale items designed to measure student usage patterns. *Frequency of Facebook access* evaluates the frequency of Facebook logins. *Proportion of student network* is a

ratio of the participant's number of Facebook friends attending the same school to their overall number of Facebook friends. Finally, status updates provides a total number of updates read by the student which come from three different sources – faculty updates, student updates, and staff updates. These three items comprise the second set of predictors that will be entered into regression analyses conducted for hypothesis and research question testing.

Type of Facebook information sought. The second set of predictors comprises a scale of thirty items created to measure participant Facebook use in educational institutions. The scale quantifies participant responses to five categories of Facebook use in the college/university context. These categories include *formal college/university communication* (14 items), *student-to-student communication* (five items), *student-to-faculty communication* (four items), *extracurricular activities* (four items), and *religious worship services/fellowship* (three items).

All items were analyzed using principle components factor-analysis with varimax rotation (Table 5). Criteria for factor extraction included an eigenvalue > 1.00 with at least two items loading at ≥ .60 and all other items loading ≤ .40 on the same factor. Six factors emerged, had eigenvalues ≥ 1.00, and together account for approximately 83% of the variance. Because of their similarity in content, two factors were combined (school services and college communication) to form one broader category called formal college/university communication. Two items loaded ≤ .40, and were therefore dropped from the scale. The five extracted factors, which focus on different types of information sought on Facebook, comprise one set of predictors that will be entered into regression analyses conducted for hypothesis and research question testing.

Table 5 Facebook Educational Use Scale Factor Loadings

	School Services	Student Com	Faculty Com	College Com	Extracurricular Activities	Religious Activities
I have used Facebook to learn more about employment at school.	.74					
I use Facebook to learn more about internship opportunities.	.72					
I use Facebook to learn more about jobs opportunities at school.	.79					
I use Facebook to learn more about outside job and career opportunities posted by the school.	.74					
I have used Facebook to learn about school services available to me.	.76					
I have used Facebook to learn about available school tutors.	.81					
I have used Facebook to learn about available health and counseling services.	.81					
I have used Facebook to learn about available disability accommodation services at school.	.77					
I have used Facebook to learn about library hours and services at school.	.79					
I have used Facebook to learn about financial aid services at school.	.77					
I have used Facebook to learn about career counseling services at school.	.79					

Table 5 Facebook Educational Use Scale Factor Loadings (Continued)

	School Services	Student Com	Faculty Com	College Com	Extracurricular Activities	Religious Activities
I have used Facebook for class issues and conversations with fellow students.		.83				
I have used Facebook to get information about class deadlines from fellow students.		.89				
I have used Facebook to communicate with fellow students about course material.		.87				
I have used Facebook to recommend classes to fellow students.		.84				
I have used Facebook to warn fellow students not to take a class.		.78				
I have used Facebook to communicate with instructors.			.82			
I have used Facebook to seek help from an instructor.			.83			
I have used Facebook to communicate concerns to an instructor.			.85			
I have used Facebook to talk about class with an instructor.			.84			
I have received important enrollment information through Facebook.				.79		
My school sent me messages through Facebook explaining the types of information I would need to know.				.82		
My school sent me information through Facebook that provided a description of the education programs.				.76		

Table 5 Facebook Educational Use Scale Factor Loadings (Continued)

	School Services	Student Com	Faculty Com	College Com	Extracurricular Activities	Religious Activities
I use Facebook to find out information about extracurricular activities.					.80	
I use Facebook to find out information about sports and recreation activities.					.80	
I use Facebook to learn information about possible campus volunteer opportunities.					.80	
I use Facebook to learn about campus community events.					.78	
I have used Facebook to find information about religious activities on campus.						.78
I use Facebook to find information about worship opportunities on campus.						.75
I use Facebook to share religious messages (i.e. Bible verses) with fellow students.						.79
Eigenvalues	17.21	3.99	1.79	1.55	1.34	1.07
% of Variance	26.40	13.30	12.15	11.48	11.07	7.40

All six Facebook subscales as well as the full 30 item scale demonstrated high levels of reliability. Reliability analyses yielded Cronbach alphas of .97 (formal college/university communication), .94 (student-to-student communication), .98 (student-to-faculty communication), .92 (extracurricular activities), and .91 (religious communication) (See Table 6). Overall scale reliability for all 30 items was .97. All items required participants to provide responses to a seven point Likert-type scale (1 = Very Strongly Disagree, 7 = Very Strongly Agree).

Organizational Identification. One previously published scale measured organizational identification. The measure is a six-item sub-scale from Mael and Ashforth's (1992) reformulated model of organizational identification. Previously utilized in studies conducted by Mael (1988; 1989) and Ashforth (1990) reported reliabilities ranging from .81 to .89, indicating strong to near excellent levels of internal consistency.

Reliability analyses for the current study yielded a Cronbach's alpha of .91. Different from Mael (1988; 1989), Ashforth (1990), and Mael and Ashforth (1992) who utilized a five point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree), the current study will employ a seven point Likert scale across all identification scales (1 = Very Strongly Disagree to 7 = Very Strongly Agree) to maintain uniformity across scales (See Table 7).

Table 6 Descriptive Statistics and Survey Items: Facebook Educational Use Survey Factors

Factors and Items	M	SD	α
Factor 1 – School Services	1.92	1.43	.98
► I have used Facebook to learn more about employment at school.			
► I use Facebook to learn more about internship opportunities.			
► I use Facebook to learn more about job opportunities at school.			
► I use Facebook to learn more about outside job and career opportunities posted by my school.			
► I have used Facebook to learn about school services available to me.			
► I have used Facebook to learn about available health and counseling services.			
► I have used Facebook to learn about available school tutors.			
► I have used Facebook to learn about available disability accommodation services at school.			
► I have used Facebook to learn about library hours and services at my school.			
► I have used Facebook to learn about financial aid services at my school.			
► I have used Facebook to learn about career counseling services at WLC.			

Table 6 Descriptive Statistics and Survey Items: Facebook Educational Use Survey Factors

Factors and Items	M	SD	α
Factor 2 – Student Communication ► I have used Facebook for class issues and conversations with fellow students. ► I have used Facebook to get information about class deadlines from fellow students. ► I have used Facebook to communicate with fellow classmates about course material. ► I have used Facebook to recommend classes to fellow students. ► I have used Facebook to warn fellow students not to take a class.	3.67	1.82	.94
Factor 3 – Faculty Communication ► I have used Facebook to communicate with instructors. ► I have used Facebook to seek help from an instructor. ► I have used Facebook to communicate concerns to an instructor. ► I have used Facebook to talk about class with an instructor.	1.57	1.25	.98
Factor 4 – College Communication ► I have received important enrollment information through Facebook. ► My school sent me messages through Facebook explaining the types of information I would need to know. ► My school sent me information through Facebook that provided a description of the educational programs.	2.41	1.71	.92
Factor 5 – Extracurricular Activities ► I use Facebook to find out information about extracurricular activities. ► I use Facebook to find out information about sports and recreation activities. ► I use Facebook to learn about possible campus volunteer opportunities. ► I use Facebook to learn about campus community events.	3.24	1.65	.92
Factor 6 – Religious Communication ► I have used Facebook to find information about religious activities on campus. ► I use Facebook to find information about worship opportunities on campus. ► I use Facebook to share religious messages (i.e. Bible verses) with fellow students.	2.14	1.57	.91

Multiple Targets. To measure organizational identification with different targets in the educational context, Mael & Ashforth's (1992) six-item subscale was again used, omitting one item not directly relevant and modifying the remaining five items for each specific interaction targets. Participants completed the five-item scale once for each target (See Table 7).

The interaction targets tested include faculty members, fellow students, staff members, alumni, and individuals in the participant's major. Reliability analyses were conducted for each individual target and came out to be .90, .90, .93, .94, and .95, respectively.

Table 7 Descriptive Statistics and Survey Items: Identification & Multiple Targets

Factors and Items	M	SD	α
Identification (Mael & Ashforth, 1992)	4.59	1.45	.91
► When someone criticizes my college/university, it feels like a personal insult.			
► I am very interested in what others think about my college/university.			
► When I talk about my college/university, I usually say 'we' rather than they.			
► My college/university's successes are my successes.			
► When someone praises my college/university, it feels like a personal compliment.			
► If a story in the media criticizes my college/university, I would feel embarrassed.			
Identification with Fellow Students	4.04	1.44	.90
► When someone criticizes other students at my college/university, it feels like a personal insult.			
► I am very interested in what others think about other students at my college/university.			
► The successes of other students at my college/university are my successes.			
► When someone praises the other students at my college/university, it feels like a personal compliment.			
► If a story in the media criticizes other students at my college/university, I would feel embarrassed.			

Table 7 Descriptive Statistics and Survey Items: Identification & Multiple Targets

Factors and Items	M	SD	α
Identification with Faculty ► When someone criticizes the faculty at my college/university, it feels like a personal insult. ► I am very interested in what others think about the faculty at my college/university. ► The successes of the faculty at my college/ university are my successes. ► When someone praises the faculty at my college/ university, it feels like a personal compliment. ► If a story in the media criticizes the faculty at my college/university, I would feel embarrassed.	4.18	1.41	.900
Identification with Staff ► When someone criticizes the staff at my college/university, it feels like a personal insult. ► I am very interested in what others think about the staff at my college/university. ► The successes of the staff at my college/ university are my successes. ► When someone praises the staff at my college/ university, it feels like a personal compliment. ► If a story in the media criticizes the staff at my college/university, I would feel embarrassed.	3.97	1.45	.93
Identification with Major Department ► When someone criticizes the people in my major department at my college/university, it feels like a personal insult. ► I am very interested in what others think about my major department at my college/university. ► The successes of the people in my major department at my college/university are my successes. ► When someone praises the people in my major department at my college/university, it feels like a personal compliment. ► If a story in the media criticizes the people in my major department at my college/university, I would feel embarrassed.	5.37	1.70	.95
Identification with Alumni ► When someone criticizes the people in my major department at my college/university, it feels like a personal insult. ► I am very interested in what others think about my major department at my college/university. ► The successes of the people in my major department at my college/university are my successes. ► When someone praises the people in my major department at my college/university, it feels like a personal compliment. ► If a story in the media criticizes the people in my major department at my college/university, I would feel embarrassed.	3.92	1.38	.95

Procedures

The researcher contacted an institutional representative from each of the three colleges/universities and shared an explanation of study goals with each institutional contact, allowing them to make an informed decision regarding study participation and survey dissemination procedures. Appropriate IRB materials were completed and sent to each college/university review board.

Each institutional representative received a participant recruitment email. This email contained information regarding study purpose and goals, personal time commitment required for participation, opening and closing dates for data collection and a hyperlink to access the online survey. Researcher contact information was also provided for participant questions or concerns.

Once participants accessed the link, they were directed through several steps for successful completion of the survey. First, participants arrived at an informed consent page. Clicking the “next” button to move to the next portion of the survey indicated participant consent. The first question on the survey required participants to indicate the school at which they were currently enrolled. Participants then completed six items from Mael and Ashforth’s (1992) subscale measuring organizational identification.

After completing the Mael and Ashforth (1992) scale, participants completed different survey items based on their response to one question: Do you have a Facebook account? Participants indicating a current, active Facebook account were prompted to complete the Facebook Use scale. Participants indicating they are not current Facebook users were re-directed to the next portion of the survey.

All participants completed the remaining scale following the Facebook Use scale. Following the Facebook Use scale was one scale measuring organizational identification with different organizational targets (Mael & Ashforth, 1992) which was completed once for each different target (faculty, staff, fellow students, alumni, fellow students within the participant's major). The survey concludes with 21 items to assess participant demographic characteristics.

After completion of the demographic items, students arrived at a page thanking them for their participation, and providing directions regarding a second hyperlink to provide their name and the class to which extra credit should be applied (if applicable). The two data sets, the survey data and participant information for extra credit purposes, are not linked, and therefore personal participant information was not connected to survey responses.

Primary Statistical Analyses

Hypothesis 1. The first hypothesis predicts a positive relationship between student use of Facebook with an educational institution and their level of organizational identification with the institution. Linear regression analyses will be performed to assess the proportion of variance in identification that is accounted for by both categories of predictors: patterns of behavior on Facebook and types of information sought on Facebook. For this hypothesis test, as well as all that follow, I will report statistical significance as $p < .05$. For heuristic value, I will also describe findings that achieve $p < .10$.

Hypothesis 2. The second hypothesis posits that a student's institution size will be a significant moderator of the relationship between Facebook use and level of OID.

Multiple linear regression analyses will be performed. First, regression analyses will evaluate the amount of variance accounted for by the first set of predictor variables, patterns of usage behavior on Facebook. Three steps will be included in this regression test. Patterns of behavior on Facebook will be the first step, institution as indicated by two dummy variables will be the second step, and product terms created for interactions between each of the patterns of behavior (frequency of access, number of status updates read, proportion of the participant's network of friends at the same school) and the participating schools will be the third step.

Regression analyses will also evaluate the amount of variance contributed by the second predictor variable, types of information sought on Facebook. Three steps will comprise this regression test. Types of information sought on Facebook will be the first step, institution as indicated by two dummy variables will be the second step, and product terms created for interactions between each of the types of information sought (formal college/university communication, class information from fellow students and instructors, information about extracurricular activities, religious communication) and the participating schools will be the third step.

The researcher will conduct the regressions using centered data in order to reduce multicollinearity between the individual predictors and the interaction terms.

Hypothesis 3. The third hypothesis posits that student tenure is a significant moderator of the relationship between students' Facebook use and level of OID. Multiple linear regression analyses will be performed. First, regression analyses will evaluate the amount of variance contributed by the first predictor variable, patterns of usage behavior on Facebook. Three steps will be included in this regression test. Patterns of behavior on

Facebook will be the first step, length of student tenure at the institution will be the second step, and product terms created for interactions between each of the patterns of behavior (frequency of access, number of status updates read, proportion of the participant's network of friends at the same school) and student tenure will be the third step.

Regression analyses will also evaluate the amount of variance contributed by the second predictor variable, types of information sought on Facebook. Three steps will comprise this regression test. Types of information sought on Facebook will be the first step, length of student tenure at the institution will be the second step, and product terms created for interactions between each of the types of information sought (formal college/university communication, class information from fellow students and instructors, information about extracurricular activities, religious communication) and student tenure will be the third step.

The researcher will conduct the regressions using centered data in order to reduce multicollinearity between the individual predictors and the interaction terms.

Research Question 1. This research question seeks to determine the relationship between students' use of Facebook (main effects as well as those moderated by tenure and institution) and identification with various institutional targets (students, faculty, staff, major department, alumni). For this research question, six different regression analyses will be conducted for identification levels with each of the institutional targets. Specifically, regression analyses will be run for each of the two predictor variables individually, for each of the two predictor variables with institution as a moderator, and for each of the two predictor variables with student tenure as the moderator. In other

words, each of the regression analyses described for hypotheses one, two and three will be run for each institutional target identified in research question one.

The researcher will conduct the regressions using centered data in order to reduce multicollinearity between the individual predictors and the interaction terms.

CHAPTER THREE – RESULTS

Hypothesis One

Hypothesis one predicted a positive relationship between student use of Facebook with an educational institution (operationalized as frequency of access, number of status updates, proportion of participant's network at the same school) and level of identification with the institution. The combination of variables accounted for a significant proportion of the variance in identification, F (3, 248) = 5.40, $p < .05$, $R^2 = .06$. Examination of individual relationships indicate that university-affiliated proportion of a participant's Facebook network was positively related to identification, $\beta = .19$, t (3, 248) = 3.01, $p < .05$. Frequency of access, $\beta = .10$, t (3, 248) = 1.59, $p > .05$, and status updates, $\beta = .08$, t (3, 248) = 1.23, $p > .05$, did not have significant relationships with identification.

A second regression was computed to assess relationships between types of Facebook use (formal communication with the college, class information from fellow students and instructors, information about extracurricular activities, religious communication) and identification. Analyses revealed that the usage types accounted for a significant proportion of variance in identification, F (5, 308) = 4.08, $p < .05$, $R^2 = .06$. An examination of individual relationships between the independent variables and identification indicated that no individual variable was significantly related to identification. Information about extracurricular activities was closest to significance, $\beta = .11$, t (5, 308) = 1.47, $p > .05$, followed by student-to-student communication about class, $\beta = .08$, t (5,308) = 1.10, $p > .05$, formal college/university communication, $\beta = .11$, t (5, 308) = .96, $p > .05$, and religious communication, $\beta = .06$, t (5, 308) = .79, $p = > .05$.

Although not significantly related, student-to-faculty communication about class was inversely related to identification, indicating that as instructor communication increased identification decreased, $\beta = -.08$, t (5, 308) = -.88, $p > .05$.

One likely reason for the lack of correlation between individual types of Facebook use and identification is multicollinearity. Despite the fact that the factor structure for individual types of Facebook use was interpreted using an orthogonal rotation (varimax) and tolerance and VIF indices were within acceptable limits, the correlation matrix indicates several moderately-sized correlations among the usage types, which may be obscuring individual contributions to variance. Although several techniques were attempted to address multicollinearity issues, including centering variables and the standardization of variables as well as different variations of the factor analysis, it was not possible to maintain a meaningful factor structure and yet reduce the level of multicollinearity.

In order to provide a more general description of the pattern of association between separate Facebook use types and identification, bivariate correlations were computed. Of the five factors, four are significantly correlated with identification. Only student-to-faculty communication does not have a significant relationship with identification (See Table 8).

Table 8 Factor Correlations with Identification

Type of Facebook Use	Relationship with Identification I
Formal College University Communication	.20,* (N = 322)
Student-to-Student Communication	.20,* (N = 321)
Student-to-Faculty Communication	.10, (N = 318)
Information about Extracurricular Activities	.22,* (N = 319)
Religious Communication	.18,* (N = 315)

*Correlation is significant at the $p < .05$ level

Hypothesis Two

The second hypothesis predicts that institution is a significant moderator of the relationship between students' Facebook use and level of identification. A regression analysis assessing the main effect of patterns of Facebook use (frequency of access, number of status updates, proportion of the participant's network at the same school) indicated that the combination of Facebook variables accounted for a significant proportion of the variance in identification, $R^2 = .06$, F (3, 248) = 5.39, $p < .05$. Examination of individual relationships indicate the proportion of a participant's network was positively related to identification, $\beta = .19$, t (3, 248) = 3.01, $p < .05$. Frequency of Facebook access, $\beta = .10$, t (3, 248) = 1.59, $p > .05$, and status updates, $\beta = .08$, t (3, 240) = 1.23, $p > .05$, were not related to identification.

At the second step, dummy codes for each of the institutions were added. Results indicated institution accounted for an additional 3% of the variance in identification, $\Delta R^2 = .03$, ΔF (2, 246) = 3.74, $p < .05$. Relative to School C (the reference category), School A, $\beta = .17$, t (2, 246) = 2.47, $p <. 05$, and School B, $\beta = .15$, t (2, 246) = 2.19, $p < .05$, were associated with increased levels of identification. Thus, analyses indicate that students at School A and School B reported higher levels of identification than did students at School C. However, School A and School B, though significantly different from School C, were not significantly different from each other, $\beta = .06$, t (2, 246) = .94, $p > .05$.

At the third step, product terms representing interaction between each institution and the pattern of Facebook behavior predictor were added. Results revealed that the product terms indicating interactions between school and patterns of Facebook behavior

did not account for a significant proportion of variance in identification, $\Delta R^2 = .01$, ΔF (6, 240) = .63, p = > .05. Product terms of School B by proportion of participant's network, β = .17, t (6, 240) = 1.26, $p > .05$, and School B by status updates, $\beta = .06$, t (6, 240) = .75, $p > .05$, were the two interactions nearest significance. Three of the remaining four relationships, though not significant, were negatively correlated. Interactions between School B and frequency of Facebook access, $\beta = -.05$, t (6, 240) = -.39, $p > .05$, School A and frequency of Facebook access, $\beta = -.03$, t (6, 240) = -.23, $p > .05$, and School A with status updates, $\beta = -.06$, t (6, 240) = -.62, $p > .05$, were not associated with levels of identification. One final interaction, School A by proportion of participant's network, β = .07, t (6, 240) = .50, $p > .05$, did not reach significance. For patterns of Facebook use, institution does not moderate identification levels.

A second moderated regression analysis was conducted using types of information sought on Facebook (formal communication with the college, class information from fellow students and instructors, information about extracurricular activities, religious communication), dummy codes for each institution, and a product term of each institution and each type of information sought on Facebook. The combination of Facebook usage types accounted for a significant proportion of the variance in identification in step 1, $R^2 = .06$, F (5, 308) = 4.08, $p < .05$. An examination of individual relationships among the independent variables indicated that no individual variable singularly predicted identification. Information about extracurricular activities, β = .11, t (5, 308) = 1.47, $p > .05$, and student-to-student communication, $\beta = .08$, t (5, 308) = 1.10, $p > .05$, were closest to significance followed by formal college/university communication, $\beta = .11$, t (5, 308) = .96, $p > .05$, and religious communication, $\beta = .06$, t

(5, 308) = .79, $p > .05$. Student-to-faculty communication, $\beta = -.08$, t (5, 308) = -.88, $p > .05$, was negatively related to identification, indicating level of identification decreases with increased communication on Facebook with faculty.

At the second step, results indicated institution accounted for approximately 4% of the variance in identification, $\Delta R^2 = .04$, ΔF (2, 246) = 7.43, $p < .05$. Two institutions, School A, $\beta = .18$, t (2, 306) = 2.89, $p < .05$, and School B, $\beta = .24$, t (2, 306) = 3.65, $p < .05$, were significant, suggesting students at School A and School B had higher levels of identification than did students at School C. However, School A and School B, though significantly different from School C, were not significantly different from each other, $\beta = .00$, t (2, 306) = .03, $p > .05$.

At the third step, results revealed that the product terms indicating interactions between school and types of Facebook information use accounted for approximately 7% of the variance in identification, $\Delta R^2 = .07$, ΔF (10, 296) = 2.34, $p < .05$. Three interactions were significant. First, the interaction between School A and student-to-student communication, $\beta = -.26$, t (10, 296) = -2.44, $p < .05$, was negative, meaning that an increase in student-to-student interaction was associated with a greater decrease in identification at School A than at School C. Similarly, the interaction term for School A and student-to-faculty communication, $\beta = -.20$, t (10, 296) = -2.05, $p < .05$, reveals that an increase in student-to-faculty communication at this college was associated with a greater decrease in identification than at School C. Finally, the interaction between School A and religious communication, $\beta = .43$, t (10, 296) = 3.48, $p < .05$, was positive, which indicates that increased religious communication at School A via Facebook is

more strongly related to increased identification than is religious communication at School C. None of the remaining interactions was significant.

Table 9 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with University

Variables in Regression	**Beta Weights**	***T***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.10	1.59	.11
***** Proportion of Facebook Friends at Same School	.19*	3.01	.00
***** Status Updates Read	.08	1.23	.22
R^2	.06*		
Institution added			
*Small Private	.15*	2.19	.01
*Medium Public	.17*	2.47	.03
*Large Public	-.14*	-2.19	.03
R^2	.09*		
R^2 change	.03		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	-.03	-.23	.82
*Frequency of Facebook Access x Medium Public	-.05	-.39	.70
*Frequency of Facebook Access x Large Public	.02	.23	.82
*Proportion of Facebook Friends x Small Private	.047	.50	.62
*Proportion of Facebook Friends x Medium Public	.17	1.26	.21
*Proportion of Facebook Friends x Large Public	-.04	-.50	.61
*Status Updates x Small Private	-.06	-.62	.54
*Status Updates x Medium Public	.06	.75	.46
*Status Updates x Large Public	.06	.62	.54
R^2	.10		
R^2 change	.01		

*Significant at $p < .05$ level

Table 10 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with University

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.11	.96	.34
*****Student-to-Student Communication	.08	1.10	.27
*****Student-to-Faculty Communication	-.08	-.88	.38
*****Information about Extracurricular Activities	.11	1.47	.14
*****Religious Communication	.06	.79	.43
R^2	.06*		
Institution added			
*Small Private	.24*	3.65	.00
*Medium Public	.18*	2.89	.00
*Large Public	.22*	-3.65	.00
R^2	.11*		
R^2 change	.04		
Moderator Interaction Terms added			
*Formal Communication x Small Private	-.01	-.10	.93
*Formal Communication x Medium Public	-.05	-.38	.70
*Formal Communication x Large Public	.02	.10	.93
*Student-to-Student Communication x Small Private	-.26*	-2.44	.02
*Student-to-Student Communication x Medium Public	-.06	-.80	.42
*Student-to-Student Communication x Large Public	.22*	2.44	.02
*Student-to-Faculty Communication x Small Private	-.20*	-2.05	.04
*Student-to-Faculty Communication x Medium Public	-.01	-.09	.93
*Student-to-Faculty Communication x Large Public	.37*	2.05	.04
*Information about Extracurricular x Small Private	.04	.30	.76
*Information about Extracurricular x Medium Public	.13	1.30	.20
*Information about Extracurricular x Large Public	-.03	-.30	.76
*Religious Communication x Small Private	.43*	3.48	.00
*Religious Communication x Medium Public	.16	1.70	.09
*Religious Communication x Large Public	-.44*	-3.48	.00
R^2	.17*		
R^2 change	.07		

*****Significant at $p < .05$ level

Hypothesis Three

The third hypothesis predicts that student tenure is a significant moderator of the relationship between students' Facebook use and level of identification. For the first step, the pattern of Facebook behavior variables accounted for a significant proportion of the variance in identification, $R^2 = .07$, F (3, 240) = 6.34, $p < .05$. An examination of individual relationships indicate the proportion of a participant's network was positively related to identification, $\beta = .21$, t (3, 240) = 3.28, $p <.05$. Frequency of Facebook access,

β = .12, t (3, 240) = 1.78, p > .05, and status updates, β = .08, t (3, 240) = 1.19, p > .05, did not have significant relationships with identification.

At the second step, results indicated student tenure did not account for a significant increase in the proportion of explained variance in identification, ΔR^2 = .003, ΔF (1, 239) = .85, p > .05. There was no significant relationship between tenure and student identification with their university.

At the third step, results revealed that the product terms indicating interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification, ΔR^2 = .02, ΔF (3, 236) = 1.44, p > .05. The product term for tenure by frequency of Facebook access was nearest significance with a negative relationship to identification, β = -.12, t (3, 236) = -1.80, p < .10. The two other product terms, tenure by proportion of a participant's network, β = .02, t (3, 236) = .33, p = .74, and tenure by status updates, β = .08, t (3, 236) = 1.15, p > .05, were positively related, but were not significant.

A second moderated regression analysis was conducted using types of information sought on Facebook (formal communication with the college, class information from fellow students and instructors, information about extracurricular activities, religious communication), student tenure at an institution, and a product term of tenure and each type of information sought on Facebook. For the first step, the combination of type of Facebook information usage variables accounted for a significant proportion of the variance in identification, R^2 = .07, F (5, 301) = 4.18, p < .05. An examination of individual relationships among the independent variables indicated that no individual variable singularly predicted identification. Information about

extracurricular activities, $\beta = .11$, t (5, 301) = 1.48, $p > .05$, and student-to-student communication, $\beta = .07$, t (5, 301) = 1.07, $p > .05$, were closest to significance followed by formal college/university communication, $\beta = .12$, t (5, 301) = 1.05, $p > .05$, and religious communication, $\beta = .06$, t (5, 301) = .69, $p > .05$. Student-to-faculty communication, $\beta = -.07$, t (5, 301) = -.85, $p > .05$, was negatively associated with identification, indicating level of identification decreases as communication with faculty on Facebook increases.

At the second step, results indicated tenure did not account for a significant amount of the variance in identification, $\Delta R^2 = .001$, ΔF (1, 300) = .33, $p > .05$. The length of time at students' educational institution, $\beta = .03$, t (1, 300) = .58, $p > .05$, did not significantly predict student identification with their respective school.

At the third step, results revealed that the product terms indicating interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification, $\Delta R^2 = .01$, ΔF (5, 295) = .73, $p > .05$. There were no significant associations for any of the interactions. For types of Facebook information usage, tenure does not moderate levels of identification.

Table 11 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with University

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.12	1.78	.08
***** Proportion of Facebook Friends at Same School	.21*	3.28	.00
***** Status Updates Read	.08	1.19	.24
R^2	.07*		
Student Tenure added			
*Tenure	-.06	-.92	.36
R^2	.08		
R^2 change	.00		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	-.12	-1.80	.07
*Proportion of Facebook Friends x Tenure	.02	.33	.74
*Status Updates x Tenure	.08	1.15	.25
R^2	.09		
R^2 change	.02		

*Significant at $p < .05$ level

Table 12 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with University

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.12	1.05	.29
*****Student-to-Student Communication	.07	1.07	.29
*****Student-to-Faculty Communication	-.07	-.85	.40
*****Information about Extracurricular Activities	.11	1.48	.14
*****Religious Communication	.06	.69	.49
R^2	.07*		
Student Tenure added			
*Tenure	.03	.58	.57
R^2	.07		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	-.08	-.72	.48
*Student-to-Student Communication x Tenure	.04	.53	.60
*Student-to-Faculty Communication x Tenure	.09	.99	.32
*Information about Extracurricular x Tenure	.10	1.27	.20
*Religious Communication x Tenure	-.02	-.25	.81
R^2	.08		
R^2 change	.01		

*Significant at $p < .05$ level

Research Question One

Research question one sought to determine the relationship between students' use of Facebook and identification with various organizational targets (students, faculty, staff, students in the participants' major department, alumni) by assessing main effects as well as those moderated by institutional size and student tenure. The results for each organizational target are included in the subsequent paragraphs.

Identification with students. A regression analysis assessing the main effect of patterns of Facebook use indicated that the combination of variables accounted for a significant proportion of the variance in identification with other students, F (3, 243) = 4.10, $p < .05$, $R^2 = .05$. Examination of individual relationships indicate a positive relationship between the proportion of a participant's Facebook network and identification, $\beta = .17$, t (3, 243) = 2.75, $p < .05$, meaning that identification with students increases as the number of Facebook friends who attend the same school increases. Frequency of access and status updates did not have significant relationships with identification.

A second regression assessing the main effect of types of Facebook use accounted for a significant proportion of the variance in identification with other students, F (5, 301) = 17.41, $p < .05$, $R^2 = .22$. Information about extracurricular activities, $\beta = .15$, t (5, 301) = 2.18, $p < .05$, and religious communication, $\beta = .30$, t (5, 301) = 4.23, $p < .05$, are positively related to identification, indicating that the more that a student uses Facebook to seek information about extracurricular activities and engages in religious communication, the higher the level of identification with other students. Student-to-student communication was nearly significant, $\beta = .12$, t (5, 301) = 1.88, $p < .10$, which

means increased communication with other students is linked to higher levels of identification with other students.

Institution as moderator. Regression testing for interactions between institution and patterns of Facebook behavior did not account for a significant proportion of variance in identification with other students, $\Delta R^2 = .03$, ΔF (6, 235) = 1.11, $p > .05$. For students, institution did not moderate patterns of Facebook behavior interactions and identification.

A regression test analyzing interactions between institution and types of Facebook use did not account for a significant proportion of variance in identification, $\Delta R^2 = .04$, ΔF (10, 289) = 1.63, $p > .05$. Although type of use did not account for a significant proportion of variance, two individual product terms were significant. Interactions between School A and student-to-student communication, $\beta = -.32$, t (10, 289) = -3.20, $p < .05$, and between School A and student-to-faculty communication, $\beta = -.18$, t (2, 289) = -2.01, $p < .05$, suggest that Facebook usage with students and with faculty is associated with lower levels of identification at School A when compared to School C. However, institution did not moderate types of Facebook use interactions and identification with other students.

Student tenure as moderator. Regression analyses for the interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification with students, $\Delta R^2 = .01$, ΔF (3, 235) = .46, $p > .05$. None of the three product terms for the interactions neared significance. For patterns of Facebook behavior, tenure does not moderate identification with other students.

Regression testing for interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification with students, $\Delta R^2 = .01$, ΔF (5, 291) = .35, $p > .05$. None of the five product terms significantly predicted interactions between type of Facebook use and identification with other students as influenced by tenure. For types of Facebook use, tenure does not moderate identification with students.

Table 13 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with Students

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.10	1.62	.11
***** Proportion of Facebook Friends at Same School	.17*	2.75	.01
***** Status Updates Read	.03	.52	.61
R^2	.05*		
Institution added			
*Small Private	.18*	2.77	.01
*Medium Public	.20*	2.60	.01
*Large Public	-.17*	-2.60	.01
R^2	.09*		
R^2 change	.04		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	-.20	-1.42	.16
*Frequency of Facebook Access x Medium Public	-.01	-.05	.96
*Frequency of Facebook Access x Large Public	.12	1.42	.16
*Proportion of Facebook Friends x Small Private	.12	.83	.41
*Proportion of Facebook Friends x Medium Public	.19	1.34	.18
*Proportion of Facebook Friends x Large Public	-.06	-.83	.41
*Status Updates x Small Private	.01	.11	.91
*Status Updates x Medium Public	.09	1.11	.27
*Status Updates x Large Public	-.01	-.11	.91
R^2	.11		
R^2 change	.03		

*Significant at $p < .05$ level

Table 14 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with Students

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.02	.19	.85
*****Student-to-Student Communication	.12	1.88	.06
*****Student-to-Faculty Communication	-.01	-.08	.94
*****Information about Extracurricular Activities	.15*	2.18	.03
*****Religious Communication	.30*	4.23	.00
R^2	.22*		
Institution added			
*Small Private	.15*	2.48	.01
*Medium Public	.21*	3.48	.00
*Large Public	-.20*	-3.48	.00
R^2	.26*		
R^2 change	.03		
Moderator Interaction Terms added			
*Formal Communication x Small Private	.17	1.24	.22
*Formal Communication x Medium Public	.08	.68	.50
*Formal Communication x Large Public	-.21	-1.24	.22
*Student-to-Student Communication x Small Private	-.32*	-3.20	.00
*Student-to-Student Communication x Medium Public	-.09	-1.20	.23
*Student-to-Student Communication x Large Public	.26*	3.20	.00
*Student-to-Faculty Communication x Small Private	-.18*	-2.01	.05
*Student-to-Faculty Communication x Medium Public	-.01*	-.08	.94
*Student-to-Faculty Communication x Large Public	.32*	2.01	.05
*Information about Extracurricular x Small Private	.09	.87	.39
*Information about Extracurricular x Medium Public	.08	.84	.40
*Information about Extracurricular x Large Public	-.08	-.87	.39
*Religious Communication x Small Private	.02	.18	.86
*Religious Communication x Medium Public	.01	.01	.93
*Religious Communication x Large Public	.20	-.18	.86
R^2	.30		
R^2 change	.04		

*Significant at $p < .05$ level

Table 15 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with Students

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.12	1.82	.047
***** Proportion of Facebook Friends at Same School	.17*	2.67	.01
***** Status Updates Read	.03	.49	.63
R^2	.05*		
Student Tenure added			
*Tenure	-.04	-.60	.55
R^2	.05		
R^2 change	.00		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	.04	.64	.52
*Proportion of Facebook Friends x Tenure	.01	.12	.90
*Status Updates x Tenure	.06	.78	.44
R^2	.06		
R^2 change	.01		

*Significant at $p < .05$ level

Table 16 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with Students

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.05	.52	.61
*****Student-to-Student Communication	.11	1.75	.08
*****Student-to-Faculty Communication	-.01	-.12	.91
*****Information about Extracurricular Activities	.15*	2.17	.03
*****Religious Communication	.28*	3.92	.00
R^2	.23*		
Student Tenure added			
*Tenure	.01	.13	.90
R^2	.23		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	-.10	-.95	.34
*Student-to-Student Communication x Tenure	-.01	-.11	.91
*Student-to-Faculty Communication x Tenure	.09	1.16	.25
*Information about Extracurricular x Tenure	.01	.20	.84
*Religious Communication x Tenure	.01	.07	.95
R^2	.23		
R^2 change	.01		

*Significant at $p < .05$ level

Identification with faculty. A regression analysis assessing the main effect of patterns of Facebook use indicated that the combination of variables accounted for a significant proportion of the variance in identification with faculty, F (3, 241) = 4.17, p < .05, R^2 = .05. The proportion of a participant's Facebook network was positively related to identification, β = .21, t (3, 241) = 3.23, p < .05, which means that identification with faculty increases as the number of Facebook friends at the same college/university increases. Frequency of access and status updates did not have significant relationships with identification with faculty.

A second regression assessing the main effect of types of Facebook use accounted for a significant proportion of the variance in identification, F (5, 302) = 9.13, p < .05, R^2 = .13. Religious communication, β = .20, t (5, 302) = 2.63, p < .05, was significantly related to identification with faculty, which means that increased communication about religious activities is associated with increasing levels of identification with faculty. Formal college/university communication, β = .18, t (5, 302) = 1.67, p < .10, approached significance, suggesting higher levels of communication about general university services is important to increasing levels identification with faculty. Student-to-student communication, student-to-faculty communication, and information about extracurricular activities were not significant to identification with faculty.

Institution as moderator. Regression analyses testing interactions between institution and patterns of Facebook behavior did not account for a significant proportion of variance in identification with faculty, ΔR^2 = .02, ΔF (6, 233) = 1.03, p > .05. Institution did not moderate patterns of Facebook behavior interactions and identification with faculty.

Analysis of interactions between institution and types of Facebook use accounted for a significant proportion of variance in identification with faculty, $\Delta R^2 = .07$, ΔF (10, 290) = 2.94, $p < .05$. Two significant predictors emerged for School A. The interaction for School A and student-to-student communication, $\beta = -.39$, t (10, 290) = -3.76, $p < .05$, was negatively related to identification with faculty, suggesting that faculty communication on Facebook with students at School A is linked with reduced identification levels. A second interaction between School A and student-to-faculty communication, $\beta = -.22$, t (2, 290) = -2.28, $p < .05$, was negatively associated with identification, again suggesting that communication at School A is more likely to reduce identification with faculty. For types of Facebook use, institution partially moderates identification with faculty.

Student tenure as moderator. Regression analyses for interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification with faculty, $\Delta R^2 = .01$, ΔF (3, 235) = .44, $p > .50$. None of the three product terms for the interactions neared significance. For patterns of Facebook behavior, tenure does not moderate identification with faculty.

A second regression analysis evaluating interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification with faculty, $\Delta R^2 = .01$, ΔF (5, 292) = .56, $p > .05$. None of the five product terms significantly predicted interactions between type of Facebook use and identification with faculty as influenced by tenure. For types of Facebook use, tenure does not moderate identification with faculty.

Table 17 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with Faculty

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.06	.91	.36
***** Proportion of Facebook Friends at Same School	.21*	3.23	.00
***** Status Updates Read	.02	.24	.81
R^2	.05*		
Institution added			
*Small Private	.25*	3.54	.00
*Medium Public	.24*	3.36	.00
*Large Public	-.23*	-3.54	.00
R^2	.11*		
R^2 change	.60		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	-.23	-1.59	.11
*Frequency of Facebook Access x Medium Public	-.12	-.93	.35
*Frequency of Facebook Access x Large Public	.14	1.59	.11
*Proportion of Facebook Friends x Small Private	.01	.05	.96
*Proportion of Facebook Friends x Medium Public	.16	1.04	.30
*Proportion of Facebook Friends x Large Public	-.00	-.05	.96
*Status Updates x Small Private	-.01	-.05	.96
*Status Updates x Medium Public	.06	.80	.43
*Status Updates x Large Public	.01	.05	.96
R^2	.13		
R^2 change	.02		

*Significant at $p < .05$ level

Table 18 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with Faculty

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.18	1.67	.10
*****Student-to-Student Communication	.08	1.26	.21
*****Student-to-Faculty Communication	-.05	-.57	.57
*****Information about Extracurricular Activities	-.01	-.07	.94
*****Religious Communication	.20*	2.63	.01
R^2	.13*		
Institution added			
*Small Private	.35*	5.50	.00
*Medium Public	.25*	4.19	.00
*Large Public	-.32*	-5.50	.00
R^2	.22*		
R^2 change	.09		
Moderator Interaction Terms added			
*Formal Communication x Small Private	.16	1.14	.25
*Formal Communication x Medium Public	.05	.41	.68
*Formal Communication x Large Public	-.20	-1.14	.25
*Student-to-Student Communication x Small Private	-.39*	-3.76	.00
*Student-to-Student Communication x Medium Public	-.07	-.98	.33
*Student-to-Student Communication x Large Public	.31*	3.76	.00
*Student-to-Faculty Communication x Small Private	-.22*	-2.28	.02
*Student-to-Faculty Communication x Medium Public	.08	.91	.37
*Student-to-Faculty Communication x Large Public	.38*	2.28	.02
*Information about Extracurricular x Small Private	.14	1.29	.20
*Information about Extracurricular x Medium Public	.10	1.03	.30
*Information about Extracurricular x Large Public	-.12	-1.29	.20
*Religious Communication x Small Private	-.04	-.34	.73
*Religious Communication x Medium Public	-.11	-1.18	.24
*Religious Communication x Large Public	.04	.34	.73
R^2	.29*		
R^2 change	.07		

*Significant at $p < .05$ level

Table 19 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with Faculty

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.07	1.05	.29
***** Proportion of Facebook Friends at Same School	.20*	3.12	.00
***** Status Updates Read	.01	.22	.83
R^2	.05*		
Student Tenure added			
*Tenure	-.13	-1.99	.05
R^2	.07*		
R^2 change	.02		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	.00	-.00	.99
*Proportion of Facebook Friends x Tenure	.03	.50	.62
*Status Updates x Tenure	.06	.87	.38
R^2	.07		
R^2 change	.01		

*Significant at $p < .05$ level

Table 20 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with Faculty

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.20	1.81	.07
*****Student-to-Student Communication	.08	1.24	.22
*****Student-to-Faculty Communication	-.05	-.60	.55
*****Information about Extracurricular Activities	-.01	-.12	.90
*****Religious Communication	.20*	2.53	.01
R^2	.13*		
Student Tenure added			
*Tenure	-.04	-.80	.43
R^2	.14		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	.06	.52	.61
*Student-to-Student Communication x Tenure	.02	.31	.76
*Student-to-Faculty Communication x Tenure	.03	.41	.68
*Information about Extracurricular x Tenure	-.03	-.36	.72
*Religious Communication x Tenure	-.14	-1.60	.11
R^2	.14		
R^2 change	.01		

*Significant at $p < .05$ level

Identification with staff. A regression analysis assessing the main effect of patterns of Facebook use indicated that the combination of variables accounted for a significant proportion of the variance in identification with staff, F (3, 241) = 3.65, p < .05, R^2 = .04. Once again, proportion of a participant's Facebook network was positively related to identification, β = .19, t (3, 241) = 3.04, p < .05, which suggests that levels of identification with staff increase as the number of Facebook friends at the same educational institution increases. Frequency of access and status updates did not have significant relationships with identification with staff.

A second regression assessing the main effect of types of Facebook use accounted for a significant proportion of the variance in identification with staff, F (5, 296) = 8.31, p < .05, R^2 = .12. Of five possible predictors, two were significant. Religious communication, β = .16, t (5, 296) = 2.02, p < .05, was positively related to identification, suggesting that discussions on Facebook about religious activities is linked to increases in student identification levels with staff. Similarly, information about extracurricular activities, β = .15, t (5, 296) = 2.03, p < .05, was positively related to identification with staff, which shows increased discussions about non-academic activities leads higher levels of identification with staff. Formal college/university communication, student-to-student communication, and student-to-faculty communication were not significantly related to identification with staff.

Institution as moderator. Regression analyses evaluating interactions between institution and patterns of Facebook behavior did not account for a significant proportion of variance in identification with staff, ΔR^2 = .02, ΔF (6, 233) = .87, p > .05. Institution did not moderate patterns of Facebook behavior interactions and identification with staff.

Interactions between institution and types of Facebook use did account for a significant proportion of variance in identification with staff, $\Delta R^2 = .06$, ΔF (10, 284) = 2.18, $p < .05$. Two significant predictors emerged for School A. The interaction between School A and student-to-student communication, $\beta = -.32$, t (10, 284) = -2.98, $p < .05$, was negatively related to identification with staff, suggesting that communication on Facebook is more likely to reduce than increase identification. Additionally, the interaction between School A and student-to-faculty communication, $\beta = -.18$, t (2, 284) = -1.82, $p < .05$, was negatively associated with identification, again suggesting that communication at School A is more likely to reduce identification with staff than communication with staff at School C. The interaction between School A and formal college/university communication, $\beta = .24$, t (2, 284) = 1.68, $p < .10$, approached significance, which suggests this type of Facebook communication will increase identification with staff at School A as compared to identification with staff at School C. For types of Facebook usage, institution partially moderates levels of identification with staff.

Student tenure as moderator. A regression analysis testing interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification, $\Delta R^2 = .00$, ΔF (3, 233) = .32, $p > .05$. None of the three product terms for the interactions neared significance. For patterns of Facebook behavior, tenure does not moderate levels of identification with staff.

A second regression analysis testing interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification with staff, $\Delta R^2 = .01$, ΔF (5, 286) = .59, $p > .05$. None of the five product terms

significantly predicted interactions between type of Facebook use and identification with staff as moderated by tenure.

Table 21 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with Staff

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.06	.90	.37
***** Proportion of Facebook Friends at Same School	.19*	3.04	.00
***** Status Updates Read	.10	.15	.88
R^2	.04*		
Institution added			
*Small Private	.14*	1.98	.05
*Medium Public	.21*	2.88	.00
*Large Public	-.13*	-1.98	.05
R^2	.08*		
R^2 change	.03		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	-.16	-1.14	.26
*Frequency of Facebook Access x Medium Public	-.02	-.17	.87
*Frequency of Facebook Access x Large Public	.10	1.14	.26
*Proportion of Facebook Friends x Small Private	.08	.52	.61
*Proportion of Facebook Friends x Medium Public	.19	1.34	.18
*Proportion of Facebook Friends x Large Public	-.04	-.52	.61
*Status Updates x Small Private	.01	.14	.89
*Status Updates x Medium Public	.07	.84	.40
*Status Updates x Large Public	-.01	-.14	.89
R^2	.10		
R^2 change	.20		

*Significant at $p < .05$ level

Table 22 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with Staff

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	-.01	-.04	.97
*****Student-to-Student Communication	.07	1.04	.30
*****Student-to-Faculty Communication	.08	.92	.36
*****Information about Extracurricular Activities	.15*	2.03	.04
*****Religious Communication	.16*	2.02	.04
R^2	.12*		
Institution added			
*Small Private	.21*	3.17	.01
*Medium Public	.18*	2.70	.00
*Large Public	-.19*	-3.17	.00
R^2	.16*		
R^2 change	.03		
Moderator Interaction Terms added			
*Formal Communication x Small Private	.24	1.68	.09
*Formal Communication x Medium Public	.08	.59	.56
*Formal Communication x Large Public	-.32	-1.68	.09
*Student-to-Student Communication x Small Private	-.32*	-2.98	.00
*Student-to-Student Communication x Medium Public	-.05	-.65	.52
*Student-to-Student Communication x Large Public	.26*	2.98	.00
*Student-to-Faculty Communication x Small Private	-.18	-1.82	.07
*Student-to-Faculty Communication x Medium Public	.09	.99	.32
*Student-to-Faculty Communication x Large Public	.33	1.82	.07
*Information about Extracurricular x Small Private	.13	1.06	.29
*Information about Extracurricular x Medium Public	.11	1.17	.24
*Information about Extracurricular x Large Public	-.11	-1.17	.24
*Religious Communication x Small Private	-.12	-.99	.32
*Religious Communication x Medium Public	-.07	-.75	.45
*Religious Communication x Large Public	.12	.99	.32
R^2	.22*		
R^2 change	.06		

*Significant at $p < .05$ level

Table 23 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with Staff

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.07	1.08	.28
***** Proportion of Facebook Friends at Same School	.19*	2.93	.00
***** Status Updates Read	.01	.12	.90
R^2	.04*		
Student Tenure added			
*Tenure	-.09	-1.33	.19
R^2	.05		
R^2 change	.01		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	.03	.47	.64
*Proportion of Facebook Friends x Tenure	.03	.52	.60
*Status Updates x Tenure	.03	.44	.66
R^2	.06		
R^2 change	.00		

*Significant at $p < .05$ level

Table 24 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with Staff

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.02	.17	.87
*****Student-to-Student Communication	.07	.98	.33
*****Student-to-Faculty Communication	.07	.85	.40
*****Information about Extracurricular Activities	.15*	1.99	.05
*****Religious Communication	.15	1.87	.06
R^2	.12*		
Student Tenure added			
*Tenure	-.03	-.51	.61
R^2	.12		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	-.09	-.79	.43
*Student-to-Student Communication x Tenure	-.06	.81	.42
*Student-to-Faculty Communication x Tenure	.13	1.50	.13
*Information about Extracurricular x Tenure	.01	.12	.91
*Religious Communication x Tenure	-.06	-.69	.49
R^2	.13		
R^2 change	.10		

*Significant at $p < .05$ level

Identification with major department. A regression analysis assessing the main effect of patterns of Facebook use indicated that the combination of variables accounted for a significant proportion of the variance in identification with individuals in a student's major department, F (3, 245) = 7.38, $p < .05$, $R^2 = .08$. Proportion of a participant's Facebook network was positively related to identification, $\beta = .25$, t (3, 245) = 4.02, $p < .05$, demonstrating that a larger proportion of friends attending the same college/university is associated with increased levels of identification with fellow students in an individual's major department. Frequency of access and status updates did not have significant relationships with identification with individuals in a student's major department.

A second regression assessing the main effect of types of Facebook use accounted for a significant proportion of the variance in identification with individuals in a student's major department, F (5, 305) = 4.50, $p < .05$, $R^2 = .07$. Of five possible predictors, only one was significant. Student-to-student communication, $\beta = .22$, t (5, 305) = 3.22, $p < .05$, was positively related to identification, suggesting that discussions on Facebook about class with other students increases student identification levels with individuals in their major department. Formal college/university communication, student-to-faculty communication, information about extracurricular activities, and religious communication were not significantly related to identification.

Institution as moderator. Regression analyses for interactions between institution and patterns of Facebook behavior did not account for a significant proportion of variance in identification with individuals in a student's major department, $\Delta R^2 = .02$, ΔF

(6, 233) = .87, $p > .05$. Institution did not moderate patterns of Facebook behavior interactions and identification with individuals in a student's major department.

Regression testing for interactions between institution and types of Facebook use did not account for a significant proportion of variance in identification with individuals in a student's major department, $\Delta R^2 = .05$, ΔF (10, 293) = 1.59, $p > .05$. No interactions were significant. For types of Facebook use, institution does not moderate identification with individuals in a student's major department.

Student tenure as moderator. Regression analyses testing interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification with individuals in a student's major department, $\Delta R^2 = .00$, ΔF (3, 236) = .09, $p > .05$. None of the three product terms for the interactions neared significance. For patterns of Facebook behavior, tenure does not moderate identification with individuals in a student's major department.

A regression analysis evaluating interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification, $\Delta R^2 = .01$, ΔF (5, 294) = .29, $p > .05$. None of the five product terms significantly predicted interactions between type of Facebook use and identification with individuals in a student's major department as influenced by tenure. For type of Facebook use, tenure does not moderate identification with individuals in a student's major department.

Table 25 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with Major

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.10	1.55	.12
***** Proportion of Facebook Friends at Same School	.25*	4.02	.00
***** Status Updates Read	.05	.74	.46
R^2	.08*		
Institution added			
*Small Private	.16*	2.38	.02
*Medium Public	.19*	2.76	.01
*Large Public	-.15*	-2.38	.02
R^2	.12*		
R^2 change	.03		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	.03	.23	.82
*Frequency of Facebook Access x Medium Public	.03	.24	.81
*Frequency of Facebook Access x Large Public	-.02	-.23	.82
*Proportion of Facebook Friends x Small Private	-.11	-.80	.43
*Proportion of Facebook Friends x Medium Public	-.04	-.25	.80
*Proportion of Facebook Friends x Large Public	.02	.25	.80
*Status Updates x Small Private	-.03	-.28	.78
*Status Updates x Medium Public	.05	.58	.56
*Status Updates x Large Public	.03	.28	.78
R^2	.12		
R^2 change	.00		

*Significant at $p < .05$ level

Table 26 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with Major

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.03	.28	.78
*****Student-to-Student Communication	.22*	3.22	.00
*****Student-to-Faculty Communication	-.11	-1.21	.23
*****Information about Extracurricular Activities	.04	.58	.56
*****Religious Communication	.05	.61	.54
R^2	.07		
Institution added			
*Small Private	.18*	2.69	.01
*Medium Public	.16*	2.52	.01
*Large Public	-.17*	-2.69	.01
R^2	.10*		
R^2 change	.03		
Moderator Interaction Terms added			
*Formal Communication x Small Private	-.03	-.53	.84
*Formal Communication x Medium Public	-.07	-.20	.59
*Formal Communication x Large Public	.04	.20	.84
*Student-to-Student Communication x Small Private	-.12	-1.04	.30
*Student-to-Student Communication x Medium Public	-.03	.41	.69
*Student-to-Student Communication x Large Public	.09	1.04	.30
*Student-to-Faculty Communication x Small Private	-.19	-1.93	.06
*Student-to-Faculty Communication x Medium Public	.06	.57	.55
*Student-to-Faculty Communication x Large Public	.36	1.93	.06
*Information about Extracurricular x Small Private	.15	1.28	.20
*Information about Extracurricular x Medium Public	.12	1.20	.23
*Information about Extracurricular x Large Public	-.13	-1.28	.20
*Religious Communication x Small Private	-.03	-.28	.78
*Religious Communication x Medium Public	.02	.21	.83
*Religious Communication x Large Public	.04	.28	.78
R^2	.14		
R^2 change	.05		

*Significant at $p < .05$ level

Table 27 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with Major

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.10	1.61	.11
***** Proportion of Facebook Friends at Same School	.24*	3.90	.00
***** Status Updates Read	.05	.70	.48
R^2	.08*		
Student Tenure added			
*Tenure	-.03	-.55	.59
R^2	.08		
R^2 change	.00		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	-.01	-.19	.85
*Proportion of Facebook Friends x Tenure	.10	.16	.88
*Status Updates x Tenure	.03	.43	.67
R^2	.08		
R^2 change	.00		

*Significant at $p < .05$ level

Table 28 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with Major

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.05	.41	.68
*****Student-to-Student Communication	.22*	3.14	.00
*****Student-to-Faculty Communication	-.10	-1.20	.23
*****Information about Extracurricular Activities	.04	.53	.60
*****Religious Communication	.04	.48	.64
R^2	.07*		
Student Tenure added			
*Tenure	.01	.22	.83
R^2	.07		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	-.05	-.46	.65
*Student-to-Student Communication x Tenure	.02	.23	.82
*Student-to-Faculty Communication x Tenure	-.02	-.20	.84
*Information about Extracurricular x Tenure	.05	.58	.56
*Religious Communication x Tenure	.08	.89	.38
R^2	.07		
R^2 change	.01		

*Significant at $p < .05$ level

Identification with alumni. A regression analysis assessing the main effect of patterns of Facebook use on identification indicated that the combination of variables accounted for a significant proportion of the variance in identification with alumni, F (3, 241) = 5.34, $p < .05$, $R^2 = .06$. Proportion of a participant's Facebook network was positively related to identification with alumni, $\beta = .22$, t (3, 241) = 3.46, $p < .05$, meaning that as the number of Facebook friends attending the same school increases, levels of identification with alumni increase as well. Frequency of access and status updates did not have significant relationships with identification with alumni.

A second regression assessing the main effect of types of Facebook use accounted for a significant proportion of the variance in identification with alumni, F (5, 298) = 10.43, $p < .05$, $R^2 = .15$. Of five possible predictors, only one was significant. Religious communication, $\beta = .20$, t (5, 298) = 2.71, $p < .05$, was positively related to identification, suggesting that discussions on Facebook about religion with alumni increases student identification levels with alumni. Information about extracurricular activities, $\beta = .12$, t (5, 298) = 1.72, $p < .10$ neared significance. Formal college/university communication, student-to-student communication, and student-to-faculty communication were not significantly related to identification.

Institution as moderator. Regression testing for interactions between institution and patterns of Facebook behavior did not account for a significant proportion of variance in identification with alumni, $\Delta R^2 = .03$, ΔF (6, 233) = 1.18, $p > .05$. Institution did not moderate patterns of Facebook behavior interactions and identification with alumni.

Regression testing for interactions between institution and types of Facebook use accounted for a significant proportion of variance in identification with alumni, $\Delta R^2 = .06$, ΔF (10, 286) = 2.34, $p < .05$. One product term was significant for School A. The interaction between School A and student-to-student communication, $\beta = -.28$, t (10, 286) = -2.73, $p < .05$, was negatively related to identification with alumni, suggesting that communication on Facebook reduces identification with alumni at School A as compared to School C. One product term neared significance for School A. The interaction between School A and student-to-faculty communication, $\beta = -.16$, t (10, 286) = -1.71, $p < .10$, was negatively related to identification with alumni, implying that communication on Facebook is more likely to reduce than increase identification with alumni at School A as compared to School C. No other interactions were significant. For types of Facebook usage, institution partially moderates identification with alumni.

Student tenure as moderator. Regression testing for interactions between tenure and patterns of Facebook behavior did not account for a significant proportion of variance in identification with alumni, $\Delta R^2 = .01$, ΔF (3, 232) = .92, $p > .05$. None of the three product terms for the interactions neared significance. For patterns of Facebook behavior, tenure does not moderate identification with alumni.

Regression testing for interactions between student tenure and type of Facebook use did not account for a significant proportion of variance in identification with alumni, $\Delta R^2 = .01$, ΔF (5, 287) = .64, $p > .05$. None of the five product terms significantly predicted interactions between type of Facebook use and identification with alumni as moderated by tenure. For types of Facebook use, tenure does not moderate identification with alumni.

Table 29 Regression Results For Institution as Moderator of Patterns of Facebook Behaviors and Identification with Alumni

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.10	1.49	.14
***** Proportion of Facebook Friends at Same School	.22*	3.46	.00
***** Status Updates Read	.08	.26	.80
R^2	.06		
Institution added			
*Small Private	.20*	2.95	.00
*Medium Public	.22*	3.10	.00
*Large Public	-.19*	-2.95	.00
R^2	.11*		
R^2 change	.05		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Small Private	-.17	-1.22	.22
*Frequency of Facebook Access x Medium Public	.01	.09	.93
*Frequency of Facebook Access x Large Public	.10	1.22	.22
*Proportion of Facebook Friends x Small Private	.02	.16	.87
*Proportion of Facebook Friends x Medium Public	.14	.99	.32
*Proportion of Facebook Friends x Large Public	-.01	-.16	.87
*Status Updates x Small Private	-.03	-.35	.73
*Status Updates x Medium Public	.10	1.25	.21
*Status Updates x Large Public	.03	.35	.73
R^2	.14		
R^2 change	.03		

*Significant at $p < .05$ level

Table 30 Regression Results For Institution as Moderator of Type of Facebook Information Sought and Identification with Alumni

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.09	.82	.39
*****Student-to-Student Communication	.02	.31	.76
*****Student-to-Faculty Communication	.03	.40	.69
*****Information about Extracurricular Activities	.12	1.72	.09
*****Religious Communication	.20*	2.71	.01
R^2	.15*		
Institution added			
*Small Private	.29*	4.59	.00
*Medium Public	.22*	3.58	.00
*Large Public	-.27*	-4.59	.00
R^2	.21*		
R^2 change	.06		
Moderator Interaction Terms added			
*Formal Communication x Small Private	.18	1.33	.19
*Formal Communication x Medium Public	-.12	-.97	.34
*Formal Communication x Large Public	-.23	-1.33	.19
*Student-to-Student Communication x Small Private	-.28*	-2.73	.01
*Student-to-Student Communication x Medium Public	.01	.09	.93
*Student-to-Student Communication x Large Public	.23*	2.73	.01
*Student-to-Faculty Communication x Small Private	-.16	-1.71	.09
*Student-to-Faculty Communication x Medium Public	.13	1.39	.17
*Student-to-Faculty Communication x Large Public	.29	1.71	.09
*Information about Extracurricular x Small Private	.09	.78	.44
*Information about Extracurricular x Medium Public	.13	1.34	.18
*Information about Extracurricular x Large Public	-.07	.-78	.44
*Religious Communication x Small Private	-.07	-.60	.55
*Religious Communication x Medium Public	.03	.30	.77
*Religious Communication x Large Public	.07	.60	.55
R^2	.27*		
R^2 change	.06		

*Significant at $p < .05$ level

Table 31 Regression Results For Tenure as Moderator of Patterns of Facebook Behaviors and Identification with Alumni

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
***** Frequency of Facebook Access	.11	1.62	.11
***** Proportion of Facebook Friends at Same School	.21*	3.30	.00
***** Status Updates Read	.02	.23	.82
R^2	.06*		
Student Tenure added			
*Tenure	-.09	-1.42	.16
R^2	.07		
R^2 change	.01		
Moderator Interaction Terms added			
*Frequency of Facebook Access x Tenure	.05	.78	.44
*Proportion of Facebook Friends x Tenure	.04	.63	.53
*Status Updates x Tenure	.07	1.00	.32
R^2	.08		
R^2 change	.01		

*Significant at $p < .05$ level

Table 32 Regression Results For Tenure as Moderator of Type of Facebook Information Sought and Identification with Alumni

Variables in Regression	**Beta Weights**	***t***	**Sig.**
Initial Model			
*****Formal College/University Communication	.11	1.02	.31
*****Student-to-Student Communication	.02	.29	.77
*****Student-to-Faculty Communication	.08	.36	.72
*****Information about Extracurricular Activities	.12	1.63	.10
*****Religious Communication	.20*	2.62	.01
R^2	.15*		
Student Tenure added			
*Tenure	-.03	-.49	.63
R^2	.15		
R^2 change	.00		
Moderator Interaction Terms added			
*Formal Communication x Tenure	-.04	-.35	.73
*Student-to-Student Communication x Tenure	.04	.61	.54
*Student-to-Faculty Communication x Tenure	.06	.76	.45
*Information about Extracurricular x Tenure	.03	.42	.67
*Religious Communication x Tenure	-.11	-1.33	.18
R^2	.16		
R^2 change	.01		

*Significant at $p < .05$ level

Research Question One Findings: Summary

To summarize, several findings emerged in analyses of the relationship between student Facebook use and identification with target individuals at colleges and universities (students, faculty, staff, major department, alumni). For all targets, there is a positive association between the proportion of a participant's Facebook network that attends the same school and levels of student identification. The types of student Facebook use are associated with identification, and this relationship holds up for a range of identification targets. Institution moderated types of student Facebook use and identification with faculty, staff, and alumni. Finally, tenure did not moderate any relationship between student Facebook use and identification with different university targets.

CHAPTER FOUR - DISCUSSION

The purpose of this dissertation was to explore the relationship between student Facebook use and student levels of identification with their respective college/university. A set of self-report measures of behavioral use (frequency of Facebook access, proportion of student's Facebook friend network that attends the same school, status updates read), descriptors of type of Facebook use (formal college/university communication, student-to-student communication, student-to-faculty communication, information about extracurricular activities, religious communication), and two moderators (institution and tenure) were used in an attempt to predict student identification with their institution and separate identification targets associated with the college/university (faculty, students, staff, major department, alumni). Data collected from a pilot study informed dissertation methods, suggesting the need to evaluate patterns of Facebook behavior (frequency of access, proportion of Facebook network at same school with student, status updates read) as well as types of information sought on Facebook (formal college/university communication, student-to-student communication, student-to-faculty communication, information about extracurricular activities, religious communication) in order to measure several variations of student Facebook usage. Data collected from three educational institutions was analyzed and regressions performed to determine what types of interactions might be present.

Statistical analyses revealed several key findings. For the first set of predictor variables (patterns of Facebook behavior), data analyses indicated a positive relationship between proportion of Facebook network at institution (friends attending the same school) and identification. This finding emerged for student identification with the

university as well as student identification with each individual target (students, faculty, staff, major department, alumni). Next, the type of information that students communicate about on Facebook is associated with identification. This association holds up for a range of identification targets. For identification with fellow students, staff, and alumni, there were positive relationships between level of identification and information about extracurricular activities and religious communication. For identification with faculty, formal college/university communication and religious communication were associated with increased levels of identification. Finally, for identification with individuals in a student's major department, student-to-student communication was related to increased levels of identification. Institution moderated the relationship between types of Facebook information sought and student identification. Student tenure did not moderate the relationship between Facebook use and identification.

Conclusions

Several conclusions can be drawn from the findings of this study. In each of the sub-sections that follow, a brief interpretation of findings is highlighted and the significance of each conclusion is discussed.

Proportion of Facebook network at same school. The number of Facebook friends who attend the same college/university as the participant is associated with a student's development of identification with their university. Results suggested that the proportion of a student's Facebook network from the same college was associated with student identification with the university as well as with each organizational target (faculty, staff, students, major department, alumni).

Related research supports this general pattern of findings. For example, Jones and Volpe (2010) analyzed the development of organizational identification in social networks and found that network size was positively related to the strength of students' identification. Both current and previous study results suggest that it is not the frequency of times students are interacting, but how connected the student is to a university network. For the present study, results point towards a positive relationship between the number of connections or ties and the perception of identification with a student's educational institution. According to McPherson, Popielarz, and Drobnic (1992), the greater the number of connections between a non-member and individuals who are members of a group, the more likely it is that transitive effects will develop and the non-member will join. Fulk (1993) evaluated social influence among groups and found individual behaviors to be consistent with group behaviors when there was a higher level of attraction to the group. Likewise, the more organizational members a student is connected to at their college/university, the more likely that their identification with their educational institution will increase.

Using technology to enhance identification. Results revealed that social technologies, such as Facebook, may be a potential tool for enhancing levels of student identification with their college/university. Students used Facebook for a variety of reasons including communication with fellow students, formal college/university communication, information about extracurricular activities, and religious communication. Students also used Facebook for communication with various targets including faculty, staff, individuals in their major department, and alumni. However, results also indicated that there may be factors, such as type of institution that may be

linked to how effectively Facebook can be used for identification purposes. Specifically, results indicated that decreased levels of identification were associated with student-to-student communication and student-to-faculty communication for the small private school, most likely due to the increased face-to-face availability of fellow students and faculty in a small college compared to a large university.

Previous research addressing technology as a tool for facilitating identification is divided, with some scholars suggesting online communication is less suited to forming connections with others (Daft & Lengel, 1986; Rock & Pratt, 2002) and other scholars arguing online media enhances and contributes to higher levels of identification (Rock et al., 2002; Postmes et al., 1998). In the current study results support both findings, indicating that Facebook has the potential to be used effectively, but that there might be also point of diminishing returns. Channel Expansion Theory provides an explanation for such findings, suggesting that specific knowledge building experiences, perhaps including those on Facebook, may be more important than the frequency of student access (Carlson & Zmud, 1999). Indeed, frequency of Facebook access which was one of the Facebook patterns of behavior, failed to reach significance in all regressions conducted for this study.

Facebook may provide options for reaching out to students and engaging them in and with their respective college university. Pratt, Fuller, and Northcraft (2000) argue that rich media can reduce feelings of distance and enhance a sense of proximity, even if the online user is a distance from their organization. Wilson, O'Leary, Jett, and Metiu (2008) agree, suggesting that communication experiences and processes can be enriched through more frequent and interactive exchanges. It is also clear that too much of a good

thing, such as perpetuating too many interactions on Facebook, can be counter-productive and viewed as intrusive by students (Hewitt & Forte, 2006).

Impact of institution on identification. Several small differences in Facebook use and level of identification were observed among participants at schools A, B, and C . At the most general level, these findings suggest that there are small differences in students' levels of identification, such that School A and School B had slightly greater levels of identification than School C. However, few statistically significant differences emerged between School A and School B . Although these data do not allow generalizable conclusions with regard to institutions in general, the results do suggest that identification as well as relationships between predictor variables and identification may vary from one university to the next.

An attempt to explicate the patterns of results points to three potential explanations. First, the size of the institution could be one factor influencing identification. Smaller organizations may find it easier to communicate more regularly and may be more inclusive of more organizational members. Often, there is a threshold for the number of individuals that can be effectively involved and communicating in a group, though online technologies such as Facebook can assist in increasing the threshold for effective group interaction (Dennis et al., 1990; Valacich et al., 1992). Second, general socialization practices utilized by each school may relate to how connected students feel and how many opportunities they have to engage in campus activities. Socialization practices differ by institution based on institutional goals and size (Dennis et al., 1990; Kessler, 2011). Socialization practices may also differ based on the type of student population present at the college/university. In the current study, School A is

mostly comprised of traditional, residential students who are more regularly involved in activities and connected to the campus. School C is more often characterized as a 'commuter' college, indicating that the general need for connection is reduced because students only come to campus for classes and then return to their homes. Third, institutional culture may influence identification. School A is a church-affiliated college with a very specific focus on Christian values and ethics and a requirement that all faculty employed be members of the church body associated with the college. Schools B and C have no such affiliation requirements.

Student-to-student relationships on Facebook. Social interactions with fellow students are more strongly associated with identification than are interactions about class-related content, except in the case of interactions taking place with students who are in the same major department as the participant. Students sought more information on Facebook about extracurricular campus activities such as intramurals as well as engaging in religious exchanges, and these exchanges were associated with higher levels of student identification. For identification with the student's major department, student-to-student communication was linked to higher levels of identification, suggesting academic exchanges are associate with identification for those who are pursuing similar academic goals.

Previous scholarship highlighting the importance of Facebook for socialization is confirmed in the current study (Madge et al., 2009; Roblyer et al, 2010). Indeed, the main purpose for the creation of Facebook was to serve as a "social utility" that facilitates student-to-student exchanges at the students' respective colleges and universities (Kirkpatrick, 2010, p. 312). Mark Zuckerberg, creator and CEO of Facebook, envisioned

Facebook as a tool that students could use to help connect with other students at the same school and to coordinate student activities. Facebook was only ever intended to serve social purposes (Kirkpatrick, 2010). Once the range of possibilities became increasingly evident, students and individuals of all ages started using Facebook for a variety of tasks, including academic activities such as discussing course assignments and seeking information about class schedules and deadlines (Madge et al., 2009; Roblyer et al, 2010; Selwyn, 2009).

Results suggest that students may be open to academic exchanges once the initial social connection has been established. Because Facebook is a 'social tool' first, students may expect social discussions prior to other forms of interactions (Madge et al., 2009). One possible explanation for student amenability to using Facebook for more than just social exchanges might be increased familiarity with their educational institution. Once the initial relationship has been built, students may demonstrate more openness to additional types of interactions, such as academic discussions. Considering previous research on the development of relationships, this type of progression is very typical, as relationships customarily start with a small knowledge of an individual and very basic interaction and expands as time passes and additional disclosures take place (Dalmas & Irwin, 1987). As such, educational institutions should be wary of advocating for too much connection with students too quickly.

Student-to-faculty relationships on Facebook. The relationship between student-to-faculty communication and student identification levels is still not completely clear due to current study results suggesting the presence of both positively and negatively associated relationships. Several Facebook predictors, both for patterns of

Facebook usage behavior and types of information sought on Facebook, do make minor contributions to student identification with faculty, but most predictors did not account for a significant amount of variance. However, it is also apparent that there is a lack of engagement and interaction between student and faculty, and that Facebook use cannot always be linked to identification levels with faculty members.

Previous research evaluating student-to-faculty relationships on Facebook has both encouraged and cautioned faculty members' interaction with students via Facebook. Faculty might be able to build immediacy and credibility (Mazer et al., 2007; Mazer et al., 2009). Students may view faculty presence as an intrusion on their personal lives (Hewitt & Forte, 2006). In the current study, results linked faculty interactions with students to two types of information sought on Facebook- religious communication and information about formal college/university services. These findings both support and contradict Mazer et al. (2009) who found that students interacted with faculty on Facebook for affective purposes, but not for instrumental needs. Religious communication focused on spiritual health support, a factor that can contribute to emotional health (Koenig & Larson, 2001). Information about formal college/university services included such things as learning more about internship opportunities, job opportunities, school services, and tutors, all of which are tasks which students need to address and complete. These findings suggest that students and faculty may engage for a variety of different purposes, and that the diversity of interactions may be associated with increasing levels of identification between students and faculty.

Selwyn (2009) concluded that students would look to Facebook for academic purposes such as obtaining information about assignment deadlines and class

expectations as well as sharing course-related materials with fellow classmates, a result that is both supported and contradicted in the current study. For School A, Facebook communication with faculty about course-related information was associated with decreasing levels of identification when compared to Schools B and C. This suggests that Facebook may be a more effective tool for interaction with faculty at larger schools where there may be less opportunity to interact with faculty face-to-face.

Contrary to expectations, student tenure did not moderate levels of identification with faculty on Facebook. Several previous studies suggest that individual tenure at an organization is related to intent to remain with an organization (Hall et al., 1970; March & Simon, 1958; Wan-Huggins et al., 1998). For a student, this could mean four years of interaction with an educational institution in a student role and a continued connection to the school as an alumnus. As such, it was expected that senior students would be more highly identified with faculty than their freshman counterparts. Findings were not significant for most patterns of behavior on Facebook or for all types of information sought on Facebook. There was an unexpected negative relationship between tenure and faculty identification, suggesting a reduced level of identification with faculty as Facebook increases during a student's tenure at their school. There are two possible explanations for this finding. The students in this study were largely composed of freshmen and may imply that more seniors were needed for a more accurate representation of the tenure-identification relationship to emerge. Second, freshmen may not have enough history at the institution in order to fully evaluate interactions and identification levels with faculty.

Connecting students with alumni. Institutions may be able to encourage and facilitate productive student relationships with alumni while a student is still attending their college/university. Participants that used Facebook for the purpose of exchanging information about extracurricular activities and religious communication reported slightly higher levels of identification. These results suggest connecting to alumni through faith-based connections or campus sponsored activities might be an effective way to increase student levels of identification with alumni.

Importance of organizational identification. One of the key conclusions of this study is that Facebook use is associated with students' level of identification. Findings suggest that students identify with the institution as whole as well as with individual targets in the organization, although results imply that what contributes to identification for students is different with each organizational target. These findings support Scott and Stephens (2009), who suggest that interactions with more than one target aid in increasing overall levels of identification.

Current study findings also provide some support for previous claims that individuals can identify differently with a variety of targets, different groups, or subgroups within an organization (Hogg & Terry, 2001; Pratt & Rafaeli, 1997). Each target was associated with different types of information sought on Facebook. For identification with fellow students and with students in an individual's major department, both social and academic uses of Facebook were linked to higher levels of identification. Fellow students engaged in more social uses; students in the same major department sought academic interactions. This potentially suggests that participants are regularly engaging fellow students to communicate on Facebook on topics unrelated to academic

expectations, which is a consistently reported finding in previous Facebook scholarship (Hewitt & Forte, 2006; Madge et al., 2009; Roblyer et al, 2010). However, it also means that students may be beginning to open up to the idea of using Facebook for academic purposes (Roblyer et al., 2010; Selwyn, 2009; Sturgeon & Walker, 2009). For identification with faculty members, staff, and alumni, religious communication was positively associated with identification levels, signifying that what students may be seeking on Facebook is not directly related to class assistance, but focuses more on general life. Similar to fellow students and students in the same major, students engaged staff and alumni in social exchanges, only omitting faculty from social exchanges. This suggests that faculty may need to explore further academic interactions or options for mentoring students in order to positively influence levels of identification through Facebook use.

The main contribution of this particular finding for identification with organizational targets is such that it incorporates interactions with a variety of different targets as well as activities in which students engage with the targets, evaluating the impact of both on overall levels of identification. Scott and Stephens (2009) assert that many previous studies focus on identification created through only communication activities or on various targets of identification, neglecting the potential impacts of the other variable. Even though the communication topics and selected targets of identification are by no means comprehensive, findings suggest that further interactions between targets and topics should be explored to gain a better understanding of the contributions of both to overall levels of student identification.

Implications for Practice

Facebook may be a beneficial tool for connecting students with their colleges and universities. Results of the current study link Facebook use to identification with a school as well as with fellow students, faculty, staff, a major, and even alumni. To facilitate potentially stronger connections, it is important to be knowledgeable about the topics students are most comfortable discussing with fellow students, faculty, and other subgroups present at the college/university. Currently, students seem comfortable seeking career advice and religious support from faculty on Facebook, but did not demonstrate likelihood to ask about class assignments or engage socially with faculty. This does not mean that faculty should not engage students on Facebook. It may mean that more effort is required on the part of faculty to consistently interact with students in order to increase identification. Due to a current lack of research offering tips for engaging students on Facebook, interactions are likely to include some trial and error for educational institutions right now. However, additional research can increase the amount of information available such that schools will be more informed about best practices for engaging students on Facebook.

Additionally, colleges and universities seeking to make the most of connections with students should be forewarned that quantity of interactions on Facebook does not necessarily equate to the most success in facilitating student identification. Channel expansion theory suggests that perceptions of richness regarding particular media are more strongly influenced by knowledge building experiences than by frequency of use (Carlson & Zmud, 1999). In other words, the quality of the interaction through a well-chosen medium is more important than a lot of interactions through a medium that many

not be as effective. Colleges and universities should attempt to maintain a consistent amount of contact to retain student identification levels, but overuse of Facebook may be perceived as invasive or intrusive into students' personal lives. As a result, faculty, staff, and administration choosing to use Facebook with students need to make strategic connections, making each interaction count.

Colleges and universities deciding to use Facebook to make connections and increase identification with their student body should begin by making a social connection and then expanding into other uses such as correspondence for class assignments, advising, and general advice regarding college services. Facebook is a social tool first and an outlet for other uses second (Madge et al., 2009). As such, educational institutions should begin communication with students on topics that students expect to discuss on Facebook such as different campus activities and events as well as encouraging connecting with and friending of other students on campus. Once the initial relationship between educational institution and students is developed on Facebook, students may be more open to more varied purposes of Facebook interaction such as academic uses.

Establishing positive relationships between current students and alumni may benefit institutions by leading to increased alumni giving. Previous research demonstrates a positive relationship between individuals who have higher levels of identification with their alma mater and donations given to the school (Caboni & Eiseman, 2003; Mael & Ashforth, 1992). Results suggest positive associations between student Facebook use and identification with alumni for two types of Facebook information sought (information about extracurricular activities and religious communication). Consequently, colleges and

universities should seek venues and opportunities to encourage interactions between alumni and current students, who will one day be future alumni and can influence the next generation of college students.

Finally, college and university staff, faculty, and administrators should take into consideration the type of college and college environment in which Facebook is being utilized. Current study results hint that Facebook may not be as effective in a small college environment when students have more opportunities to engage with faculty, staff, and administration in a face-to-face format. At a larger college or university where there are too many students for faculty or staff to be readily available to, Facebook may provide that connection. For a chancellor at a large university who is looking to make more of a connection to some of the students on campus, a Facebook chat session could be scheduled. It is unlikely that the chancellor will be able to interact with all students involved, but the perception of accessibility is more important than every individual being able to have an individual conversation. Overall, it is vital that each educational institution carefully consider the specific connection needs for their organization so that Facebook can be used most effectively for each individual school.

Limitations

Several limitations should be considered when interpreting the results from this investigation. First, it should be noted that effect sizes for all of the results presented in this study are quite small, most accounting for less than 15% of the overall variance within each respective regression analysis. As such, individuals seeking to utilize information in this study to support changes in university Facebook use should be

cautioned to avoid making structural changes based only on preliminary and ineffectual results.

In addition, only Facebook use was measured in this study. There is currently a much larger repertoire of social media including social networking and course management systems, many of which are being used in a similar manner to Facebook. As Facebook has continued to improve, so have these other online systems, often taking advantage of some of the same or similar functions that would be available on Facebook. These functions would include messaging capabilities, posting pictures for student profiles in course management systems, and discussion boards.

Third, self-report data brings with it inherent issues of potential participant dishonesty, misunderstanding of questions, and possible inability to recall past activities with full accuracy. Furthermore, a cross-sectional study only provides a brief 'snapshot' of one point in time, representations of results may not full represent the participant's full experience on Facebook.

There was a fairly homogeneous sample for this study, despite data collection at three different schools. Participants surveyed trended to a younger population. At the small private college specifically, a majority of the participants who took part in the survey were freshmen who had been at the college likely for two semesters at most. As a result, it became difficult to assess the impact of tenure on identification because the students simply had not had enough time and experiences at the college/university.

Data collection took place at a limited number of schools (three) for this study, so it is a challenge to be able to generalize results to a particular university type. The three schools (small private college, medium public university, large public university) differed

along a variety of dimensions, and as a result, certain institutional characteristics may be conflated with others. For example, size of the college/university may be conflated with the private/public dimension of the school, preventing a fully accurate analysis of which institutional characteristics contributed most and least to student identification.

Despite efforts to resolve multicollinearity, it is likely that significant correlations present between the five Facebook factors (formal college/university communication, student-to-student communication, student-to-faculty communication, information about extracurricular activities, religious communication) and organizational identification influenced statistical results to some extent. All Facebook variables were factored using an orthogonal rotation (varimax) and tolerance and VIF indices were within acceptable limits. Additionally, efforts were made to center and standardized variables, but issues with multicollinearity were unable to be fully resolved.

Future Research

In addition to efforts to address the preceding limitations, future work in this area may wish to proceed in several directions. First, scholars should compile a wide list of possible topics for discussion on Facebook and survey students about the 'appropriateness' of discussion of these topics from the student perspective. Because a general survey of topics will not provide the most effective results if not situated in a particular context, scholars should investigate which topics are viewed as appropriate for discussing with fellow students, faculty, staff, the student's major department and alumni as well as generally inquire what topics are perceived to be appropriate and inappropriate for educational and non-educational environments. A more comprehensive understanding of topics of discussion for engaging students may provide more opportunities for

connecting with students and finding commonalities, thereby affording an increased chance of being able to enhance student levels of identification with their respective educational institutions.

Because this particular participant sample trended younger with many freshmen completing the survey, future research should seek a broader range of participants ranging from freshman to senior and including graduate student participants as well. The ideal participant sample would contain nearly equal numbers of participants from each class level as well as traditional and non-traditional students. Additionally, obtaining a diverse sample from a wider variety of educational institutions should allow for increased generalization of future results.

Future research should also solicit more than one perspective. For this study, only students were surveyed regarding their perceptions of identification or lack of identification with their respective institutions. Future research should also survey faculty, staff, administration, and if possible, alumni, to find out from these groups of individuals what facilitates identification for them as well as what they perceive as facilitating identification for the students with which they interact. Moreover, additional research should be done to objectively evaluate the quantity of Facebook use that is delivered by a school (i.e. evaluating the number and kinds of pictures posted, counting the number of times status updates are posted) to see if there is a relationship to students' perception of identification.

Finally, there are additional organizational variables that may contribute to student identification facilitated through Facebook such as a student's general level of involvement at their college/university, specific socialization practices in which the

college/university engages, and information-seeking behaviors employed by students to learn more about their respective educational institution. For example, socialization practices such as getting students on Facebook to connect with roommates or future professors, requesting students become part of a “class of 2013” (or other year) Facebook page to become more involved with their cohort, or setting up specific extracurricular activities using Facebook (i.e. a scavenger hunt where students need to find items on campus and then return to Facebook for each ensuing clue) are likely to provide much more extensive interaction through Facebook. It is likely that each of the aforementioned variables plays a part in identification in addition to the variables of student tenure, institution type, and organizational target which were explored in the current study.

Final Thoughts

Organizational identification is vital to students experiencing feelings of belonging within their respective college or university, and current study results indicate that Facebook can be utilized as a tool to enhance those feelings of belonging. Study findings suggest that there are some variables that more strongly enhance identification such as the size of a student’s network, and some variables that have little impact, such as the number of overall student logins.

There is still so much to investigate regarding educational uses of Facebook. The current study has only begun to scratch the surface of possibilities for using social media for academia. Results indicate that there is promise for using Facebook in the educational sphere, but there is still so much that we don’t know, and with the constant changes to Facebook and other social media technologies, it is hard to maintain relevancy and be highly effective in our use of specific Facebook functions. One thing that is certain,

despite so many different technologies, is the need that human beings have to connect to one another, whether at work, home, or school. Keeping this in mind, scholars need to focus on discovering the best ways that we can enhance those connections, and Facebook provides just that opportunity, serving as the "social utility that connects you with the people around you," (Kirkpatrick, 2010, p. 312).

References

Ahlqvist, T., Back, A., Heinonen, S., & Halonen, M. (2010). Road-mapping the societal transformation potential of social media. *Foresight, 12(5),* 3-26. doi: 10.1108/14636681011075687.

Albert, S., & Whetten, D. A. (1985). Organizational identity. In L. L. Cummings and B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 7, pp. 263-295). Greenwich, CT: JAI Press.

Ashforth, B. E. (1990). Petty tyranny in organizations. *Human Relations, 47(7),* 755-778. doi: 10.1177/001872679404700701.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 25,* 297-308.

Baker, W. K. (1995). Allen and Meyer's 1990 longitudinal study: A reanalysis and reinterpretation using structural equation modeling. *Human Relations, 48(2),* 169-186. doi: 10.1177/001872679504800204.

Bandura, A. (1986). *Social foundations of thought and action. A social-cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Barker, J. R., & Tompkins, P. K. (1994). Identification in the self-managing organization: Characteristics of target and tenure. *Human Communication Research, 21(2),* 223-240. doi: 10.1111/j.1468-2958.1994.tb00346.x.

Baruch, Y. (2000). Tele-working: Benefits and pitfalls as perceived by professionals and managers. *New Technology, Work, & Employment, 15(1),* 34-49. doi: 10.1111/1468-005X.00063.

Baruch, Y. (2001). The status of research on teleworking and an agenda for future research. *International Journal of Management Review, 3,* 113-129. doi: 10.1111/1468-2370.00058.

Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology, 92(3),* 707-721. doi: 10.1037/0021-9010.92.3.707.

Baxter, L. A. (1988). A dialectical perspective of communication strategies in relationship development. In S. Duck (Ed.) *Handbook of personal relationships* (pp. 257-273). New York, NY: Wiley.

Bedeian, A. G. (2007). Even if the tower is 'ivory,' it isn't white: Understanding the consequences of faculty cynicism. *Academy of Management Learning & Education, 6*(1), 9-32. doi: 10.5465/AMLE.2007.24401700.

Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward an interpersonal theory of interpersonal communication. *Human Communication Research, 1(2),* 99-112. doi: 10.1111/j.1468-2958.1975.tb00258.x.

Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education, 40(6),* 641-664. doi: 10.1023/A: 1018708813711.

Berlew, D. E., & Hall, D. T. (1966). The socialization of managers: Effects of expectations on performance. *Administrative Science Quarterly, 11,* 207-233. doi: 10.2307/2391245.

Blankenship, J., Murphy, E., & Rosenwasser, M. (1974). Pivotal terms in the early works of Kenneth Burke. *Philosophy & Rhetoric, 7(1),* 1-24.

boyd, d. m., & Ellison, N. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13(1),* 210-230. doi: 10.1111/j.1083-6101.2007.00393.x.

Brandon, D. P., & Hollingshead, A. B. (2008). Collaborative knowledge and training in online groups. In V. I. Sessa & M. London (Eds) *Work group learning: Understanding, improving, and assessing how groups learn in organizations* (pp. 285-313). New York, NY: Lawrence Erlbaum Associates.

Braxton, J. M. (2000b). Reinvigorating theory and research on the departure puzzle. In J. M. Braxton (Ed.) *Reworking the student departure puzzle* (pp. 257-274). Nashville, TN: Vanderbilt University Press.

Brown, M. E. (1969). Identification and some conditions of organizational involvement. *Administrative Science Quarterly, 14(3),* 346-355. doi: 10.2307/2391129.

Buchanan, B. (1974). Building organizational commitment: The socialization of managers into work organizations. *Administrative Science Quarterly, 19(4),* 533-546. doi: 10.2307/2391809.

Bullis, C., & Bach, B. W. (1991). An explication and test of communication network content and multiplexity as predictors of organizational identification. *Western Journal of Speech Communication, 55(2),* 180-197. doi: 10.1080/10570318909374378.

Bullis, C., & Bach, B. W. (1989). Socialization turning points: An examination of change in organizational identification. *Western Journal of Speech Communication, 53(3),* 273-293. doi: 10.1080/10570318909374307.

Bumgarner, B. A. (2007). You have been poked: Exploring the uses and gratifications of Facebook among emerging adults. *First Monday, 12(11).*

Burke, K. (1937). Attitudes toward history. Los Angeles, CA: University of California Press.

Caboni, T. C., & Eiseman, J. (2003). Organizational identification and the voluntary support of higher education. *Paper presented at the Association for the Study of Higher Education annual meeting,* Portland, Oregon.

Calcagno, J. C., Bailey, T., Jenkins, D., Kienzl, G., & Leinbach, T. (2008). Community college student success: What institutional characteristics make a difference? *Economics of Education Review, 27,* 632-645. doi: 10.1016/j.econedurev.2007.07.003.

Campbell, K. E., Marsden, P. V., & Hurlbert, J. S. (1986). Social resources and socioeconomic status. *Social Networks, 8,* 97-117. doi: 10.1016/S0378-8733(86)80017-X.

Carlson, J. R., & Zmud, R. W. (1999). Channel expansion theory and the experiential nature of media richness. *Academy of Management Journal, 42(2),* 171-195. doi: 10.1109/TPC.2007.2000058.

Chao, G. T., O'Leary-Kelly, A. M., Wolf, S., Klein, H. J., & Gardner, P. D. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology, 79(5),* 730-743. doi: 10.1037/0021-9010.79.5.730.

Cheney, G. (1983). On the various and changing meanings of organizational membership: A field study of organizational identification. *Communication Monographs, 50(4),* 342-362. doi: 10.1080/03637758309390174.

Cheney, G. (1983). The rhetoric of identification and the study of organizational communication. *Quarterly Journal of Speech, 69(2),* 143-158. doi: 10.1080/00335638309383643.

Cheung, C. M. K., Chiu, P., & Lee, M. K. O. (2011). Online social networks: Why do students use Facebook? *Computers in Human Behavior, 27(4),* 1337-1343. doi: 10.1016/j.chb.2010.07.028.

Chreim, S. (2002). Influencing organizational identification during major change: A communication-based perspective. *Human Relations, 55(9),* 1117-1137. doi: 10.1177/0018726702055009022.

Corbett, P. (2009, January 5*). 2009 Facebook Demographics and Statistics Report: 276% Growth in 35-54 Year Old Users*. Retrieved August 10, 2010 from http://www.istrategylabs.com/2009-facebook-demographics-and-statistics-report-276-growth-in-35-54-year-old-users/

Day, D. G. (1960). Persuasion and the concept of identification. *Quarterly Journal of Speech, 46(3),* 270-273. doi: 10.1080/00335636009382421.

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to manager information processing and organization design. In B. Staw and L. L. Cummings (Eds.), *Research in Organization Behavior* (pp. 191-233) Greenwich, CT: JAI Press.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness, and structural design. *Management Science, 32(5),* 554-571. doi: 10.1287/mnsc32.5.554.

Daft, R. L., Lengel, R. H., & Trevino, L. K. (1987). Message equivocality, media selection, and manager performance: Implications for information systems. *MIS Quarterly, 11*. 372-400. doi: 10.2307/248682.

Damast, A. (2008, September 29). The admissions office finds Facebook. *Business Week Online,* p.8.

Dennis, A. R., Valacich, J. S., & Nunnamaker, J. F., Jr. (1990). An experimental investigation of group size in an electronic meeting system. *IEEE Transactions on Systems, Man, and Cybernetics, 20(5),* 1049-1057. doi: 10.1109/21.59968.

DeSanctis, G. & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization Science, 5*(2), 121.147. doi: 10.1287/orsc.5.2.121.

Drezner, N. D. (2009). Why give?: Exploring social exchange and organizational identification theories in the promotion of philanthropic behaviors of African-American millenials at private HCBUs. *International Journal of Educational Advancement, 9(3),* 147-165. doi: 10.1057/ijea.2009.39.

Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *The Academy of Management Journal, 34(3),* 517-554. doi: 10.2307/256405.

Elkin, F., & Handel, G. (1989). *The child and society: The process of socialization.* (5th ed.). New York, NY: McGraw-Hill.

Farrell, E. F. (2006). Judging roommates by their Facebook cover. *Chronicle of Higher Education, 53*(2), 66.

Farrow, H., & Yuan, Y. C. (2011). Building stronger ties with alumni through Facebook to increase volunteerism and charitable giving. *Journal of Computer-Mediated Communication, 16,* 445-464. doi: 10.1111/j.1083-6101-2011.01550.x.

Fiol, C. M., & O'Connor, E. J. (2005). Identification in face-to-face, hybrid, and purely virtual teams: Untangling the contradictions. *Organization Science, 16(1),* 19-32. doi: 10.1287/orsc.1040.0101.

Fonner, K. L., & Roloff, M. E. (2012). Testing the connectivity paradox: Linking teleworkers' communication media use to social presence, stress due to interruptions, and organizational identification. *Communication Monographs, 79*(2), 205-231. doi: 10.1080/03637751.2012.673000.

Fulk, J. (1993). Social construction of communication technology. *Academy of Management Journal, 36*(5), 921-950. doi: 10.2307/256641.

Fulk, J., Schmitz, J., & Steinfeld, C. W. (1990). A social influence model of technology use. In J. Fulk & C. W. Steinfeld (Eds.), *Organizations and communication technology* (pp.117-140). Newbury Park, CA: Sage Publications.

Gautam, T., Dick, Van Dick, R., & Wagner, U. (2004). Organizational identification and organizational commitment: Distinct aspect of two related concepts. *Asian Journal of Social Psychology, 7(3),* 301-315. doi: 10.1111/j.1467-839X.2004.00150.x.

Geffin, D. & Straub, D.W. (2004). Consumer trust in B2C e-commerce and the importance of social presence: Experiments in e-products and e-services. *Omega, 32(6),* 407-424. doi: 10.1016/j.omega.2004.01.006.

Gellin, A. (2003). The effect of undergraduate student involvement on critical thinking: A meta-analysis of the literature 1991-2000. *Journal of College Student Development, 44(6),* 746-762. doi: 10.1353/csd.2003.0066.

Gosset, L. M. (2002). Kept at arm's length: Questioning the org. desirability of member identification. *Communication Monographs, 69(4),* 385-404. doi: 10.1080/03637750216548.

Hall, D. T., & Nougaim, K. E. (1968). An examination of Maslow's need hierarchy in an organizational setting. *Organizational Behavior and Human Performance, 3,* 12-35. doi: 10.1016.0030-5073(68)90024-X.

Hall, D. T., & Schneider, B. (1972). Correlates of organizational identification as a function of career pattern and organizational type. *Administrative Science Quarterly, 17(3),* 340-350. doi: 10.2307/2392147.

Hall, D. T., Schneider, B., & Nygren, H. T. (1970). Personal factors in organizational identification. *Administrative Science Quarterly, 15(2),* 176-190. doi: 10.2307/2391488.

Halter, H. J. (2010). Moving from a textbook to Facebook: College students' motivations for using social networking sites in education. (Unpublished master's thesis). University of Central Florida, Orlando, Florida.

Hare, A. P. (1981). Group size. *American Behavioral Scientist, 24,* 695-708. doi: 10.1177/000276428102400507.

Haythornwaite, C. (2005). Social networks and internet connectivity effects. *Information, Communication, & Society, 8(2),* 125-147. doi: 10.1080/13691180500146185.

Heiberger, G., & Harper, R. (2008). Have you Facebooked Astin lately?: Using technology to increase student involvement. *New Directions for Student Services, 124,* 19-35. doi: 10.1002/ss.293.

Hensel, N. (1991). *Realizing gender equality in higher education: The need to integrate work/family issues.* (ASHE-ERIC Higher Education Report 2). Washington, D.C.: The George Washington University.

Hewitt, A., & Forte, A. (2006, November). *Crossing boundaries: Identity management and student/faculty relationships on the Facebook*. Poster presented at Computer Supported Cooperative Work, Banff, Alberta.

Hochmuth, M. (1952). Kenneth Burke and the new rhetoric. *Quarterly Journal of Speech, 38(2),* 133-144. doi: 10.1080/00335635209381754.

Hogg, M. A., & Terry, D. J. (2001). Social identity theory and organizational processes. In M. A. Hogg and D. J. Terry (Eds.), *Social identity processes in organizational contexts* (pp. 1-12). Philadelphia, PA: Psychology Press.

Ibarra, H. (1995) Race, opportunity, and diversity of social circles in managerial networks. *Academy of Management Journal, 38,* 673-703. doi: 10.2307/256742.

Johnson, M. D., Morgeson, F. P., Ilgen, D. R., Meyer, C. J., & Lloyd, J. W. (2006). Multiple professional identities: Examining differences in identification across work-related targets. *Journal of Applied Psychology, 91*(2), 498-506. doi: 10.1037/0021-9010.91.2.498.

Jones, C. & Volpe, E. H. (2011). Organizational identification: Extending our understanding of social identities through social networks. *Journal of Organizational Behavior, 32*(3), 413-434. doi: 10.1002/job.694.

Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomer's adjustment to organizations. *The Academy of Management Journal, 29(2),* 262-279. doi: 10.2307/256188.

Jones, E., Watson, B., Gardner, J., & Gallois, C. (2004). Organizational communication: Challenges for the new century. *Journal of Communication, 54(4),* doi: 10.1111/j.1460-2466.2004.tb02651.x.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33(4),* 692-724. doi: 10.2307/256287.

Kaplin, A. M. & Haenlein, M. (2010). Users of the world unite!: The challenges and opportunities of social media. *Business Horizons, 53(1),* 59-68. doi: 10.1016/bushor.2009.09.003.

Karlin, S. (2007). Examining how youths interact online. *School Board News, 73(4),* 6−9.

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. *The Journal of Conflict Resolution, 2(1),* 51-60. doi: 10.1177/002200275800200106.

Kessler, S. (2011). 7 ways universities are using Facebook as a marketing tool. Retrieved January 30, 2011 from http://mashable.com/2011/10/17/facebook-marketing-colleges-universities/.

Kiernan, Matthew D. (2011) *Identifying and understanding factors associated with failure to complete infantry training among British Army recruits.* PhD thesis, University of Nottingham.

Kirkpatrick, D. (2010). *The Facebook effect: The inside story of the company that is connecting the world.* New York: Simon & Schuster.

Kock, N. (2005). Media richness or media naturalness?: The evolution of our biological communication apparatus and its influence on our behavior toward e-communication tools. *IEEE Transactions on Professional Communication, 48(2),* 117-130. doi: 10.1109/TPC.2005.849649.

Koenig, H. G., & Larson, D. B. (2001). Religion and mental health: Evidence for an association. *International Review of Psychiatry, 13*(2), 67-78. doi: 10.1080/09540260124661.

Kramer, M. W. (1993). Communication and uncertainty reduction during job transfers: Leaving and joining processes. *Communication Monographs, 60(2),* 178-198. doi: 10.1080/03637759309376307.

Kuhn, T., & Nelson, N. (2002). Reengineering identity: A case study of multiplicity and duality in organizational identification. *Management Communication Quarterly, 16(1),* 5-38. doi: 10.1177/0893318902161001.

Ledbetter, A. M. (2009). Measuring online communication attitude: Instrument development and validation. *Communication Monographs, 76(4),* 463-486. doi: 10.1080/03637750903300262.

Ledbetter, A. M., Mazer, J. P., DeGroot, J. M., Meyer, K. R., Mao, Y., & Swafford, B. (2011). Attitudes toward online social connection and self-disclosure as predictors of Facebook communication and relational closeness. *Communication Research, 38(1),* 27-53. doi: 10.1177/0093650210365537.

Lindholm, J. A. (2003). Perceived organizational fit: Nurturing the minds, hearts, and personal ambitions of university faculty. *The Review of Higher Education, 27(1),*125-149. doi: 10.1353/rhe.2003.0040.

Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly, 25(2),* 226-251. doi: 10.2307/2392453.

Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more about socializing and talking to friends about work than for actually doing work.' *Learning, Media, and Technology, 34(2),* 141-155. doi: 10.1080/17439880902923606.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior, 13(2),* 103-123. doi: 0894-3796/92/020103-21.

March, J. G., & Simons, H. A. (1958). *Organizations*. New York, NY: John Wiley & Sons.

Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2009). The effects of teacher self-disclosure via Facebook on teacher credibility. *Learning, Media, & Technology, 34(2),* 175-183. doi: 10.1080/17439880902923655.

Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). “I'll see you on Facebook:" The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education, 56* (1), 1-17. doi: 10.1080036345206010097 10.

McPherson, J. M., Popielarz, P. A., & Drobnic, S. (1992). Social networks and organizational dynamics. *American Sociological Review, 57*(2), 153-170. doi: 10.2307/2096202.

Miller, V., Allen, M., Casey, M. K., & Johnson, J. R. (2000). Reconsidering the Organizational Identification Questionnaire. *Management Communication Quarterly,13(4),* 626-658. doi: 10.1177/0893318900134003.

Miller, V. D., & Jablin, F. M. (1991). Information seeking during organizational entry: Influences, tactics, and a model of process. *Academy of Management Review, 16,* 92-120. doi: 10.5465/AMR.1991.427.8997.

Millward, L. J., Haslam, S. A., & Postmes, T. (2007). Putting employees in their place: The impact of hot-desking on organizational and team identification. *Organization Science,18(4),* 547-559. doi: 10.1287/orsc.1070.0265.

Morrison, E. W. (2002). Information seeking within organizations. *Human Communication Research, 28(2),* 229-242. doi: 10.1111/j.1468-2958.2002.tb00805.x

Ostroff, C., & Kozlowski, S. W. J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology, 45,* 849-874. doi: 10.1111/j.1744-6570.1992.tb00971.x

Porter, T., Hartman, K., & Johnson, J. S. (2011). Books and balls: Antecedents and outcomes of college identification. *Research in Higher Education Journal, 13 (October),* http://www.aabri.com/rhej.html.

Postmes, T., Spears, R., & Lea, M. (1998). Breaching or building social boundaries?: SIDE effects of computer-mediated communication. *Communication Research, 25(6),* 689-715. doi: 10.1177/009365098025006006.

Pratt, M.P., Fuller, M. A., & Northcraft, G. B. (2000). Media selection and identification in distributed groups: The potential costs of rich media. In T. L. Griffith (Ed.), *Technology* (pp. 231-255). Stamford, CT: JAI Press.

Pratt, M. P., & Rafaeli, A. (1997). Organizational dress as a symbol of multilayered social identities. *Academy of Management Journal, 40*(4), 862-898. doi: 10.2307/256951.

Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *CyberPsychology & Behavior, 11(2),* 169-174. doi: 10.1089/cpb.2007.0056.

Rains, S. A., & Young, V. (2009). A meta-analysis of research on formal computer-mediated support groups: Examining group characteristics and health outcomes. *Human Communication Research, 35(3),* 309-336. doi: 10.1111/j.1468-2958.2009.01353.x.

Rawlins, W. K. (1988). A dialectical analysis of the tensions, functions, and strategic challenges of communication in young adult relationships. In J. A. Anderson (Ed.) *Communication Yearbook* (12th ed.) (pp. 157-189). Newbury, CA: Sage.

Rhoads, M. (2010). Face-to-face and computer-mediated communication: What does theory tell us and what have we learned so far? *Journal of Planning Literature, 25(2)*, 111-122. doi: 10.1177/0885412210382984.

Rizenthaler, G., Stanton, D., & Rickard, G. (2009). *Facebook groups as an e-learning component in higher education: One successful case study.* Paper presented at the Association for Education in Journalism and Mass Communication Conference, Boston, MA.

Roblyer, M. D., McDaniel, M., Webb, M., Herman, J., & Witty, J. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *Internet and Higher Education, 13,* 134-140. doi:10.1016/jiheduc.2010.03.002.

Rock, K. W., & Pratt, M. G. (2002). Where do we go from here?: Predicting identification among dispersed employees. In B. Moingeon and G. Soenen (Eds.), *Corporate and organizational identities: Integrating strategy, marketing, and organizational perspectives* (pp. 51-72). New York, NY: Routledge.

Rock, K. W., Pratt, M. G., & Northcraft, G. B. (2002). *The effects of faultlines and communication media on identification in virtual teams*. Paper presented at the Annual Academy of Management Meetings, Denver, CO.

Rosenfeld, L. B. (1969). Set theory: Key to the understanding of Kenneth Burke's use of the term "identification." *Western Journal of Communication, 33(3),* 175-183. doi: 10.1080/10570316909384575.

Saks, A. M. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on the relationship between training and newcomer adjustment. *Journal of Applied Psychology, 80,* 211-225. doi: 10.1037.0021-9010.80.2.211.

Saks, A. M., & Ashforth, B. E. (1997). Organizational socialization: Making sense of the past and present as a prologue for the future. *Journal of Vocational Behavior, 51(2),* 234-279. doi: 10.1006/jbve.1997.1614.

Sass, J. S., & Canary, D. J. (1991). Organizational commitment and identification: An examination of conceptual and operational convergence. *Western Journal of Communication, 55(3),* 275-293. doi: 10.1080/10570319109374385.

Scott, C. R. (2001). Establishing and maintaining customer loyalty and employee identification in the new economy: A communicative response. *Management Communication Quarterly, 14(4),* 629-636. doi: 10.1177/0893318901144006.

Scott, C. R. (1997). Identification with multiple targets in geographically dispersed organizations. *Management Communication Quarterly, 10(4),* 491-522. doi: 10.1177/0893318997104004.

Scott, C. R., Connaughton, S. L., Diaz-Saenz, H. R., Maguire, K., Ramirez, R., Richardson, B., Shaw, S. P., Morgan, D. (1999). The impacts of communication and multiple identifications on intent to leave: A multimethodological exploration. *Management Communication Quarterly, 12(3),* 400-435. doi: 10.1177/0893318999123002.

Scott, C. R., Corman, S. R., & Cheney, G. (1998). Development of a structurational model of identification in the organization. *Communication Theory, 8(3),* 298-336. doi: 10.1111/j.1468-2885.1998.tb00223.x.

Scott, C. R., & Fontenot, J. (1999). Multiple identifications during team meetings: A comparison of conventional and computer-supported interactions. *Communication Reports, 12(2),* 91-100. doi: 10.1080/08934219909367714.

Scott, C. R., & Stephens, K. K. (2009). It depends on who you're talking to…: Predictors and outcomes of situated measures of organizational identification. *Western Journal of Communication, 73*(4), 370-394. doi: 10.1080/10570310903279075.

Scott, C. R., & Timmerman, C. E. (1999). Communication technology use and multiple workplace identifications among organizational teleworkers with varied degrees of virtuality. *IEEE Transactions on Professional Communication, 42(4),* 240-260. doi: 10.1109/47.807961.

Selwyn, N. (2007). The use of computer technology in university teaching and learning: A critical perspective. *Journal of Computer Assisted Learning, 23(2),* 83-94. doi: 10.1111/j.1365-2729.2006.00204.x

Selwyn, N. (2009). Faceworking: Exploring students' education-related use of Facebook. *Learning, Media, and Technology, 34(2),* 157-174. doi: 10.1080/17439880902923622.

Short, J. A., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications.* London: John Wiley & Sons.

Sivunen, A. (2006). Strengthening identification with the team in virtual teams: The leader's perspective. *Group Decision and Negotiation, 15(4),* 345-366. doi: 10.1007/s10726-006-9046-6.

Srithongrung, A. (2010). The relationships among servant leadership, organizational citizenship behavior, person-organization fit, and organizational identification. *Journal of International Leadership Studies, 6(1),* 376-388. doi: 10.1080/01900692.2011.569917.

Sturgeon, C. M., & Walker, C. (2009). *Faculty on Facebook: Confirm or deny?* Paper presented at the 14th Annual Instructional Technology Conference, Murfreesboro, Tennessee.

Sung, M., & Yang, S. (2008). Toward the model of university image: The influence of brand personality, external prestige, and reputation. *Journal of Public Relations Research, 20*(4), 357-376. doi: 10.1080/10627260802153207.

Tajfel, H., & Turner, J. C. (1985). The social identity theory of intergroup behavior. In S. Worchel & G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed., pp. 7-24). Chicago, IL: Nelson-Hall.

Taylor, D. A., & Altman, I. (1987). Communication in interpersonal relationships: Social penetration processes. In M. E. Roloff and G. R. Miller (Eds.), *Interpersonal processes: New directions in communication research* (pp. 257-277). Thousand Oaks, CA: Sage Publications, Inc.

Thatcher, S. M. B., & Zhu, X. (2006). Changing identities in a changing workplace: Identification, identity enactment, self-verification, and telecommuting. *The Academy of Management Review, 31(4),* 1076-1088. doi: 10.5465/AMR.2006.22528174.

Timmerman, C. E. (2003). Media selection during the implementation of planned organizational change: A predictive framework based on implementation approach and phase. *Management Communication Quarterly, 16(3),* 301-340. doi: 10.1177/0893318902238894.

Timmerman, C. E., & Madhavapeddi, N. (2008). Perceptions of organizational media richness: Channel expansion effects for electronic and traditional media across richness dimensions. *IEEE Transactions on Professional Communication, 51(1),* 18-32. doi: 10.1109/TPC.2007.2000058.

Tompkins, P. K., Fisher, J. Y., Infante, D. A., & Tompkins, E. L. (1975). Kenneth Burke and the inherent characteristics of formal organizations: A field study. *Speech Monographs, 42(2),* 135-142. doi: 10.1080/03637757509375887.

Valacich, J. S., Dennis, A. R., & Nunamaker, Jr., J. F. (1992). Group size and anonymity effects on computer-mediated idea generation. *Small Group Research, 23(1),* 49-73. doi: 10.1177/1046496492231004.

Van Dick, R., Becker, T. E., & Meyer, J. P. (2006). Commitment and identification: Forms, foci, and future. *Journal of Organizational Behavior, 27(5),* 545-548. doi: 10.1002/job.384.

Van Dick, R., Christ, O., Stellmacher, J., Wagner, U., Ahlswede, O., Grubba, C., Hauptmeier, M., Hohfeld, C., Moltzen, K., & Tissington, P. A. (2004). Should I stay or should I go?: Explaining turnover intentions with organizational identification and job satisfaction. *British Journal of Management, 15(4),* 351-360. doi: 10.1111/j.1467.8551.2004.00424.x.

Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. *Research in Organizational Behavior, 1,* 209-264.

Wanous, J. P. (1992). Organizational entry: Recruitment, selection, and socialization of newcomers. Reading, PA: Addison-Wesley.

Wanous, J. P., Reichers, A. E., & Malik, S. D. (1984). Organizational socialization and group development: Toward an integrative perspective. *Academy of Management Review, 9(4),* 670-683. doi: 10.5465/AMR.1984.4277394.

Wiesenfeld, B. M., Raghuram, S., & Garud, R. (1998). Communication patterns as determinants of organizational identification in a virtual organization. *Journal of Computer-Mediated Communication, 3,* 0. doi: 10.1111/j.1083-6101.1998.tb00081.x.

Wilson, J. M., O'Leary, M. B, Metiu, A., & Jett, Q. R. (2008). Perceived proximity in virtual work: Explaining the paradox of far-but-close. *Emerald Management Reviews, 29*(7), 979-1002. doi: 10.1177/0170840607083105.

Windham, C. (2005). Father Google & mother IM: Confessions of a net gen learner. *Educause Review, 40*(5), 42-59.

Wood, R., & Bandura, A. (1989b). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology, 56,* 407-415. doi: 10.1037/0022-3514.56.3.407.

Young, J. R. (2009). How not to lose face on Facebook, for professors. *Chronicle of Higher Education, 55(22),* A1-A13.

Aimee R. Lau

Education

University of Wisconsin – Milwaukee, 2008 – 2013, Ph.D. in Communication, May 2013.

University of Wisconsin – Milwaukee, 2003 – 2006, M.A. in Communication, 2006.

Wisconsin Lutheran College, 1999 – 2003, B.A. in Communication and Psychology, 2003.

Employment

Wisconsin Lutheran College, Milwaukee, WI; 2012-present, Assistant Professor of Communication

Wisconsin Lutheran College, Milwaukee, WI; 2011-present; 2008-2009; 2006-2007, Adjunct Instructor of Communication

University of Wisconsin-Milwaukee, Milwaukee, WI; 2008-2011, Graduate Teaching Assistant

Wisconsin Lutheran College, Milwaukee, WI; 2007-2008, Instructor of Communication

University of Wisconsin-Milwaukee, Milwaukee, WI; 2004-2006, Graduate Teaching Assistant

Teaching Experience

University of Wisconsin-Milwaukee, WI; 2008-2011 and 2004-2006, Graduate Teaching Assistant

Business and Professional Communication, Face to Face & Online
Interviewers and Interviewing, Face to Face

Wisconsin Lutheran College, Milwaukee, WI; 2006-2009 and 2011 to present, Adjunct Instructor; Instructor of Communication; Assistant Professor of Communication

Introduction to Communication
Interpersonal Communication
Research Methods
Nonverbal Communication

Publications

Non-Refereed Publications

Lau, A. R. & Johnson, J. R. (2005). COMMUN 105 instructional staff grading tutorial. University of Wisconsin-Milwaukee. (Available from Department of Communication, University of Wisconsin-Milwaukee).

Refereed Publications

Allen, M., Dilbeck, K., England, N., Herrman, A., Kartch, F., Kim, J., Kulovitz, K., Lau, A., Maier, M., May, A., McNallie, J., Omori, K., & Shoji, K. (2012). Test of a causal model for sexual harassment using data from a meta-analysis. In N. Burrell, M. Allen, R. Preiss, and B. Gayle (Eds.), Research on Conflict: Advances Through Meta-Analysis. Mahwah, NJ: Taylor and Francis.

Dindia, K., Lau, A., Hsu, S., & Garber, P. (2010). I need some space: Friends through good times and bad times. In D. O. Braithwaite and J. T. Wood (Eds.), *Casing interpersonal communication: Case studies in personal and social relationships* (pp. 43 to 50). Dubuque, IA: Kendall Hunt Publishing Co.

Presentations

Uecker, D., Schmidt, J., & Lau, A. (2012, March). Making connections : Friendship in Russia, Croatia, and the United States. Paper presentation at the Central States Communication Association, Cleveland, OH. (Presented new data analyses)

Lau, A., & Gattoni, A. (2011, November). It takes an online community : Rethinking motherhood, technology, and community in the 21st century. Paper presented at the National Communication Association, New Orleans, LA.

Uecker, D., Schmidt, J., & Lau, A. (2010, November). Building bridges : Friendship in Russia, Croatia, and the United States. Paper presentation at the National Communication Association, San Francisco, CA.

Lau, A., Pincon, D., & Meyers, R. (2009, November). *Group-centered learning in the classroom: Addressing student perspectives.* Poster presentation at National Communication Association, Chicago, IL.

Lau, A. (2007, November). Student perceptions of classroom group work: The good, the bad, and the ugly. Paper presentation at National Communication Association, Chicago, IL.

Lau, A. (2007, March). What do first year students think about learning in groups? Paper presentation at Office of Professional and Instructional Development, Madison, WI.

Lau, A. (2006, February). Time management without feeling guilty. Informational presentation at St. Lucas Lutheran Church, Kewaskum, WI.

Heins, M., Johnson, J., Lau, A. & Woller, W. (2004, April). Linking theory and practice : The WLC internship experience. Panel discussion at Wisconsin Communication Association, Appleton, WI.

Uecker, D., Johnson, J., Lau, A. & Woller, W. (2004, April) Portfolios for use in capstone communication courses and for assessment. Panel discussion at Wisconsin Communication Association, Appleton, WI.

Poulsen, M., Lau, A., & Theiler, K. (2004, February). Wisconsin Lutheran psychology students presenting at research symposiums. Informational presentation for the Board of Regents at Wisconsin Lutheran College, Milwaukee, WI.

Lau, A. (2003, May). Listening in the bible: The do's, the don'ts, and the anecdotes. Paper presented at the 3rd annual Wisconsin Lutheran College Undergraduate Research Symposium, Milwaukee, WI.

Lau, A. (2003, May). The relationship between conflict styles and restrictive emotionality in college-aged men. Poster presentation at the 3rd annual Wisconsin Lutheran College Undergraduate Research Symposium, Milwaukee, WI.

Uecker, D., Carlin, R., Lau, A., & Sonnabend, S. (2003, May). Service-learning in communication classes. Panel discussion at Wisconsin Communication Association, Appleton, WI.

Lau, A. (2002, November). The relationship between conflict styles and restrictive emotionality in college-aged men. Poster presentation at the 12th annual Tri-State Undergraduate Psychology Conference at Loras College, Dubuque, IA.

Service

Presenter, June 28 & 29, 2012 at the WELS International Youth Rally, "Facebook and Friends: Witnessing on the World Wide Web"

Peer Mentor to New Graduate Student (1st year Ph.D. student), Department of Communication, University of Wisconsin-Milwaukee, 2010-2011

Short Course Volunteer, November 2010, National Communication Association Conference, San Francisco, CA.

Volunteer, August 27th, 2010, Communication Department Ph.D. Orientation, Sessions for 1st and 2nd year Ph.D. students

Presenter, August 23rd,2010 at the Fall 2010 Teaching Assistant Orientation Program, "Learning from Experience: Discussions with Experienced TAs"

Created and Maintaining a Facebook Page for Connie's Hallmark (local business in Waukesha), January 2010 to present

Short Course Volunteer, November 2009, National Communication Association Conference, Chicago, IL.

Member of Faculty Institutional Review Board, Wisconsin Lutheran College, 2008 to 2009

Invited Proseminar Visit, December 2008, "Using Your MA After Graduation" (Presented to students in COMMUN 800 at University of Wisconsin-Milwaukee)

Invited Proseminar Visit, December 2007, "Using Your MA After Graduation" (Presented to students in COMMUN 800 at University of Wisconsin-Milwaukee)

Invited Proseminar Visit, December 2006, "Using Your MA After Graduation" (Presented to students in COMMUN 800 at University of Wisconsin-Milwaukee)

Visitor's Day for Potential Graduate Students, Department of Communication, University of Wisconsin-Milwaukee, March 11, 2006

Social & Behavioral Research Week Volunteer, Wisconsin Lutheran College, 2003 and 2006 to present (takes place once every semester)

Member of Student Institutional Review Board, Wisconsin Lutheran College, 2006 to present (meets several times each semester)

Peer Mentor to New Graduate Student, Department of Communication, University of Wisconsin-Milwaukee, 2005-2006

Communication Graduate Student Advisory Council, Department of Communication, University of Wisconsin-Milwaukee, 2005-2006

Graduate Student Representative to Faculty Meetings, Department of Communication, University of Wisconsin-Milwaukee, 2005-2006

New Graduate Student Orientation, Department of Communication, University of Wisconsin-Milwaukee, August 22, 2005

Assessment Day COL 101 Focus Groups, Wisconsin Lutheran College, April 20, 2005

Awards/Honors

Outstanding Graduate Student GPA Award, University of Wisconsin-Milwaukee, 2006