Social Media and Social Adjustment:

A Mixed Methods Study of College Learning Community Students

Dissertation

Presented in Partial Fulfillment of the Requirements for

the Degree of Doctor of Education in

the School of Education at

Florida Southern College

by

Melanie R. Fowler, B.A., M.A.

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Florida Southern College

2020

To: Dean Tracey D. Tedder
        School of Education

This dissertation, written by Melanie R. Fowler, and entitled *Social Media and Social Adjustment: A Mixed Methods Study of College Learning Community Students*, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this dissertation and recommend it be approved.

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Susan Freeman, PhD

_____

Autumn Grubb, PhD

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Leilani B. Goodmon, PhD

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Victoria A. Giordano, EdD, Chair

Date of Defense: February 18, 2020

The dissertation of Melanie R. Fowler is approved.

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Dean Tracey D. Tedder
School of Education

Florida Southern College, 2020

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ABSTRACT

SOCIAL MEDIA AND SOCIAL ADJUSTMENT: A MIXED METHODS STUDY OF

COLLEGE LEARNING COMMUNITY STUDENTS

by

Melanie R. Fowler

Florida Southern College, 2020

Lakeland, FL

Colleges have made significant improvements in enrollment rates over the past century. However, graduation rates in higher education have not improved as dramatically. Tinto's interactional theory of student attrition points to students' personal connections, or social adjustment, as an important factor related to their decisions to remain in college. Learning community programs are one strategy colleges use to increase students' opportunities for these social connections. However, technology and social media have changed the ways in which people interact with one another. This quasi-experimental explanatory mixed method study explored if learning community students' social adjustment was influenced by the use of social media within their learning community. Two cohorts of learning community students used the social media app GroupMe for their first semester in college and two cohorts did not. Faculty in the social media group received Ethical Communications Using Social Media in Education training prior to the start of the semester. The researcher compared students' change in raw Social Adjustment to College Questionnaire (SACQ) scores ($N = 44$). The results indicate that students' use of social media with their classmates and faculty does not decrease social adjustment. Additionally, there were no differences in social adjustment based on active,

interactive, or responsive social media use ($n = 26$). An inductive analysis of the

qualitative data ($N = 35$) revealed three themes (i.e., academic, non-academic, and

prosocial) for the types of communication for which students use GroupMe. Lastly, the

quantitative and qualitative data were integrated ($n = 22$). The results indicate that

academic and prosocial communications via GroupMe may predict academic and

personal-emotional adjustment, respectively. These findings suggest that social media,

when used intentionally and ethically, may be beneficial to students and serve as a

window into students' experiences as well as encourage a scholarly environment.

Furthermore, leaders of academic institutions should provide opportunities for educators

to receive training on ethical communication using social media. Future research should

continue to explore social media use based on the current study's two-dimensional

model, include direct measures of social media use, and investigate students' experiences

from a variety of academic disciplines.

Keywords: social adjustment, social media, learning communities

ACKNOWLEDGEMENTS

It would not have been possible to complete my dissertation without the support and expertise of so many individuals. First, I would like to thank my dissertation chair, Dr. Victoria Giordano, for her guidance, support, and insights during this transformational journey. My gratitude cannot be expressed fully in words. I would also like to thank my committee members, Drs. Leilani B. Goodmon, Autumn Grubb, and Susan Freeman, whose diligence and expertise made this dissertation stronger.

Additionally, I would like thank the professors in my doctoral program who helped me develop my research skills and encouraged me to stretch myself further, and Dean Tedder for supporting the Doctor of Education program. I give a heartfelt thanks to my doctoral program cohort; the community we formed has been invaluable to me. Lastly, I would like to thank the learning community students and faculty who participated in this study.

DEDICATION

I dedicate my dissertation work to my family, especially my children, Evelyn Ryan, James Fowler, and Charles Alastair, who gave me resolve, and my father, Whit, whose support was invaluable during this journey. I also dedicate this work to my friends who generously gave me their time and encouragement, particularly Kerry and Barb.

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OF COLLEGE LEARNING COMMUNITY STUDENTS

Student attrition in higher education has been a topic of research interest since the early 1900s (see "Editorial: College graduates," 1908; "Would reduce student failures," 1930; Hanna, 1930; McNeely, 1939; O'Brien, 1928). Despite the interest in student retention, there remains a gap in the number of students who enroll in college and those that graduate. Several researchers (e.g. see Astin, 1984; Spady, 1971; Tinto, 1993) have developed theories to help understand the factors that influence students' decisions to stay in college, including academic and social factors. Indeed, institutions of higher education recognize the importance of students' social integration into college. For example, some colleges have implemented learning community programs to increase the opportunities for students to interact with one another and their faculty academically and socially. However, over the past decade, the ways in which students interact with others has changed. Specifically, students have been communicating and connecting with one another using social media (Pew Research Center, 2018). Researchers have not integrated the evolving ways in which students communicate, socialize, and stay connected to one another into student retention theories. If students engage with their classmates on social media platforms, then social media involvement may increase their social adjustment to college.

Background of the Problem

Historically, access to higher education has been restricted to the wealthier and higher status social classes. In 1870, only 1% of 18- to 24-year-olds attended college in

the United States (Snyder, 1993). In the last 140 years, the percentage of students enrolled in postsecondary institutions has increased substantially. Specifically, the National Center for Educational Statistics (NCES) (2016) reported that 40.5% of 18- to 24-year-olds enrolled in college in 2015.

While college enrollment has increased, the numbers do not equate to degrees conferred. The NCES reports that the overall graduation rates for students at public nonprofit four-year colleges is 59% and 66% at private nonprofit four-year colleges (2018). The same report indicated that the four-year graduation rate is lower, 32.8% for public and 52.9% for private nonprofit four-year colleges. While these numbers are concerning in their own right, the graduation prospects for students from low-socioeconomic backgrounds are lower (Bowen, Chingos, & McPherson, 2009). The NCES (Skomsvold et al., 2003) reported that the graduation rate for students earning a Bachelor's degree from the lowest-income family backgrounds (families earning less than $32,000 per year) was just 25.5%. The graduation rate for students from the wealthiest backgrounds, defined as over $92,000 per year, was much higher at 58.6%. However, colleges have the opportunity to improve graduation rates by retaining the students admitted, a measure that these students have met a minimum threshold for potential success. Indeed, Tinto (2012) suggests that colleges have an obligation to help admitted students graduate.

Statement of Problem

Researchers have developed several theoretical models to help understand attrition and retention in higher education. Some of these models point to personal connections and a general sense of connection as important factors related to students'

decisions to remain enrolled in college (Kuh, 2001; Pascarella & Terenzini, 1983; Spady, 1971; Tinto, 1993, 2012). Tinto's (1993) interactional theory of student attrition uses the term "social adjustment" to encompass the social connections students make as they transition from home to college. In an effort to increase the opportunities for student-to-student and student-to-faculty connections, some colleges have created learning community programs, a retention strategy whereby the same group of students join together in the same sections of two or more courses that, in turn, are expected to lead to positive student outcomes (Andrade, 2007; Levine-Laufgraben, 2005; Pike et al., 2011; Ward & Commander, 2011). However, advancements in technology (i.e., smartphones and the Internet) have changed the ways in which students maintain and make new social connections.

In 2018, the Pew Research Center reported that 88% of 18- to 29-year-olds use at least one form of social media. More importantly, access to social media transcends socioeconomic status as indicated by the similar percentages of teens from low-, middle-, and high-income backgrounds with access to a smartphone (Anderson & Jiang, 2018). Thus, social media, if able to positively impact social connections, has the potential to be a supplemental retention tool that is equally available to students from all socioeconomic backgrounds. However, to date, there is no research examining the use of social media in learning communities as it pertains to students' social adjustment to college.

Statement of Purpose

The purpose of this quasi-experimental explanatory sequential mixed methods study is to examine first-year, learning community college students' use of social media and its relationship to social adjustment. In the first phase of analysis, the focus was to

test Tinto's (1993) interactional theory of student attrition using students' quantitative social media use frequency data and its influence on the social adjustment of first-semester college students enrolled in a learning community at a small private college in the southeastern United States. Then, the second phase focused on a qualitative analysis of the data as a follow-up to the quantitative results to help explain the quantitative results. The purpose of the qualitative analysis plan was to explore the topics of communication that first-semester learning community students have with their classmates and faculty within the social media application (i.e., GroupMe).

The independent variable of *Social Media Use* is generally defined as the frequency of students' interactive, active, and responsive use of the social media app GroupMe within their learning community cohort. The dependent variable *Social Adjustment* is defined as students' engagement with their college faculty and classmates, as measured by the Student Adjustment to College Questionnaire (SACQ) (Baker & Siryk, 1999). The social media content (e.g., posts, replies, etc.) produced by learning community students was explored to understand the purposes for which students use social media to communicate with their learning community faculty and classmates. Lastly, the quantitative and qualitative data was synthesized to increase depth and understanding of the results.

Research Questions and Hypotheses

This quasi-experimental explanatory sequential mixed methods research study has two quantitative research questions, one qualitative research question, and one mixed methods research question. These research questions examine social media use and first-year learning community students' social adjustment to college. Specifically, social

adjustment to college, a factor previously identified as related to college students' decisions to remain in college (Tinto, 1993) is measured by the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999).

Quantitative Research Questions and Hypotheses

1. Does Tinto's interactional theory of student attrition explain the relationship between social media use and social adjustment, as measured by the SACQ? The quantitative research question was tested using the following hypotheses:

   H_{0a}: There will be no difference between the change in students' SACQ Social Adjustment subscale raw scores in the social media condition and no social media condition.

   H_1: The change in the SACQ's Social Adjustment subscale raw scores will be greater for students in the social media condition than for students in the no social media condition.

2. What is the relationship between the types of social media use (i.e., interactive, active, and responsive) and the students' social adjustment to college as measured by the SACQ?

   H_{0b}: There will be no relationship between the type of social media use and the change in students' SACQ raw scores.

   H_2: There is a positive correlation between students' frequency of interactive social media use and change in SACQ Social Adjustment raw scores.

   H_3: There is a positive correlation between students' frequency of active social media use and change in SACQ Social Adjustment raw scores.

H[4]: There is a positive correlation between students' frequency of responsive social

media use and change in SACQ Social Adjustment raw scores.

H[5]: There is a positive correlation between students' overall frequency of social

media use and change in SACQ Social Adjustment raw scores.

Qualitative Research Question

3. For which topics of communication do first-semester students enrolled in a learning

community program use social media to communicate with their learning community

classmates and course faculty members?

Mixed Methods Research Question

4. To what extent and in which ways does first-semester college students' use of social

media with their classmates and course faculty members within a learning community

enhance students' social adjustment beyond that provided through participation in a

learning community?

Theoretical Framework

The purpose of this study will be to focus on one of the most widely accepted

theories of student retention: Tinto's interactionalist theory of student attrition (Braxton

et al., 2014; Christie & Dinham, 1991). Tinto's theory has roots in Èmile Durkheim's

(1967) suicide theory and Arnold van Gennep's (1960) work on rites of passage. Tinto

applied Durkheim's theory figuratively to students' departure from college.[1]

Furthermore, Tinto's theory draws a parallel to Durkheim's belief that helping others

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[1] Some early research on student departure, including a report from the U.S. Department of
Interior, Higher Education Division (McNeely, 1938) referred to attrition as student mortality.

integrate into society can reduce instances of suicide. Tinto suggests that helping students integrate into their new college environment can help reduce student attrition.

Tinto's (1993) theory views college students' integration process through the lens of van Gennep's (1960) theory on rites of passage. Van Gennep suggested that individuals undergo three stages when moving from one position in life to another: separation, transition, and incorporation. The separation stage is marked by ceremony, indicating that the individual has less association with his or her former group. During the transition stage, individuals separate further from the former group and begin to learn the skills and knowledge essential for belonging to the new group. Lastly, during van Gennep's incorporation stage, individuals adopt the culture of the new group. However, individuals may experience transitions and incorporation differently. For example, acculturation theory suggests that the cultural integration process may differ for individuals depending on the disparity between their home culture and the new culture, how permanent they perceive their participation in the new culture to be, and if they perceive their participation as voluntary (Berry, 2012).

Tinto's (1993) theory does consider individual differences. Therefore, the factors that influence students' decisions are grouped broadly as personal attributes and institutional experiences. Personal attributes are those qualities that a student has prior to enrollment in college, whereas a student's institutional experiences are the result of the interaction between the student and the college.

Personal attributes (e.g., family background, skills and abilities, and prior education) affect two student attributes: intention and commitment (Tinto, 1993). Intention addresses the purpose of a student's enrollment in college. Their intention could

be to complete a single course, to obtain a 4-year degree, or something in-between. Student commitment is divided into two categories: commitment to a goal and commitment to a specific college. Some students are driven to complete a goal, but remain flexible about the institution where they complete the goal. Conversely, some students are committed to attending a particular institution, but have not set a particular academic goal. For example, the reputation of a college's programs or a family legacy might influence the student's commitment to a specific college.

Although personal attributes are important areas to study, they are not the only factors that influence retention. Tinto recommends, "To improve retention and graduation, the institution must begin by focusing on its own behavior and establishing conditions within its walls that promote those outcomes" (Tinto, 2012, p. 6). Thus, Tinto's model recognizes the significance of the college's attributes and how these interact with the student's personal attributes to influence a student's decision to remain enrolled in college. Tinto's (1993) theory outlines four student-institution interaction categories that affect the academic and social experiences of students at college: difficulty, incongruence, isolation and adjustment.

Difficulty. Difficulty encapsulates how academically challenging students find a particular college to be. Tinto proposes that the interaction between students' abilities and colleges' programs will influence students' decisions to remain enrolled. Indeed, some students may arrive at college academically underprepared, and therefore, colleges may offer academic support services (e.g. tutoring) or developmental courses to students in order to build underprepared students' skills. Research on support services suggests that students who use the support services are more likely to persist or graduate (Grillo &

Leist, 2013; Sargent et al., 2013). However, the research is less clear about the benefits of developmental courses. Shields and O'Dwyer (2017) provide a review of studies with mixed outcomes on students' enrollment in developmental courses. Their findings suggest that enrollment in one or more developmental courses is negatively correlated with completing a 4-year degree. In other words, students enrolled in developmental courses are less likely to graduate. However, Tinto (1998) suggests that it is possible that those students enrolled in developmental courses that are part of a learning community may have more success.

Incongruence. The second factor of intuitional interaction is incongruence, which arises from a "mismatch or lack of fit between the needs, interests, and preferences of the individual and those of the institution" (Tinto, 1993, p. 50). Incongruence may involve academic or social aspects of college. Academically, colleges that offer new majors in emerging areas of study are more likely to retain students within those majors (Sauer & O'Donnell, 2006). In terms of social aspects of incongruence, faculty members and students' peers play a role in shaping students' experiences (Strayhorn, 2008). Formal interactions (e.g., extracurricular activities, classroom experiences) and informal interactions can influence students' perceptions of incongruence.

Isolation. Although some students do not experience incongruence, they may self-select out of interactions with the college community. This self-selection out of interactions is what Tinto refers to as isolation. Students who experience isolation are those unable to form social connections with their faculty or peers despite having similar interests or values. Students who opt out of extracurricular activities or class miss opportunities to interact or form bonds with others at the college. However, some

research has not supported a direct link between faculty-student interactions leading to retention or higher satisfaction among millennial students (Romsa et al., 2017). Thus, it is possible that interactions alone do not necessarily result in perceptions of incongruence or congruence. Indeed, the type and quality of interactions (e.g., discussing plagiarism vs discussing excellent work) that students have with faculty may be more important than the frequency of exchanges (Pascarella & Terenzini, 2016).

Adjustment. Adjustment encompasses students' abilities to adapt to college's social and intellectual demands. Tinto (2012) states that, "The more students are academically and socially engaged with other people on campus, especially with faculty and student peers, the more likely (other things being equal) they will stay and graduate from college" (p. 64). For many students, attending college means developing new peer groups and acclimating to being away from family. Those students who cannot integrate socially are more likely to leave college temporarily or permanently (Spady, 1971; Tinto, 1993).

Although college students' social adjustment is influenced by pre-enrollment characteristics, including personality (Lidy & Kahn, 2011), parenting style (Darlow et al., 2017), and communal orientation (Thompson & Fretz, 2006), colleges have the ability to support students during this time of growth and transition. For example, some colleges offer high-impact practices that, in part, address social adjustment. Some of these high-impact practices include collaborative learning (Loes et al., 2017), mentoring programs (Demetriou et al., 2017; Hixenbaugh et al., 2006; Kilgo et al., 2015; Parker et al., 2008; Yomtov et al., 2017), and learning communities (Andrade, 2007; Jones et al., 2006; Ward & Commander, 2011).

These interactions are especially important early in a student's college career (Tinto, 1993). The earlier academic institutions establish the right conditions for students and help them adjust to college, the better. In one research study, students at risk for dropping out of college were identified as early as their first semester (Raju & Schumacker, 2015). Thus, the first semester of college is an ideal time to implement programs aimed at retaining students.

Significance of the Study

Colleges have a responsibility to retain the students they enroll in college (Gajewski & Mather, 2015; Tinto, 2012). The use of social media within a learning community class has the potential to increase students' social adjustment, which is associated with retention, by providing students with more opportunity to interact with their classmates and course faculty. Furthermore, many future college students are able to use social media apps (e.g., GroupMe) because teens' access to smartphones transcends socioeconomic backgrounds (Anderson & Jiang, 2018). Therefore, this study could add to the literature and inform best practices related to improving student retention, including among lower socioeconomic status students.

Definition of Terms

The definition of terms section of this dissertation proposal includes the initialisms and acronyms of instruments and agencies as well as the definitions of key terms used throughout the dissertation.

- **GroupMe** is a free social media messaging app accessible via computer or smartphone for open- or closed-group communication (GroupMe Inc, 2018).

- **Retention** is defined by Tinto (2012) as the continued enrollment of a first-time, first-term undergraduate student as viewed from the perspective of the academic institution, not the student's.

- **SACQ**: Student Adaptation of College Questionnaire (Baker & Siryk, 1999).

- **Social adjustment** is defined by Tinto (1993) as the social experiences that students undergo as they transition from their home environment to their college community.

- **Social media** is defined by Carr and Hayes (2015) as Internet-based communication tools that allow individuals to interact with others synchronously and asynchronously.

Organization of the Study

The current proposal is divided into five chapters. Chapter I outlines the background of the problem and includes the statement of the problem, statement of the study's purpose, research questions and hypotheses, theoretical framework, definition of terms, and significance of the study. Chapter II contains a review of the literature central to the current study as well as related theories. Chapter III begins with a review of the pilot study conducted for this proposal. Additionally, Chapter III includes the research methodology and design of the current study, participants and sampling procedures, instruments and materials, procedures, and processes to ensure valid and reliable results. Chapter IV is divided into three sections to present the quantitative, qualitative, and explanatory sequential mixed methods analysis results. Lastly, Chapter V includes a summary of the study, key findings and conclusions of the results, limitations of the

study, implications and recommendations for future research, educational implications

and recommendations, and concluding remarks.

CHAPTER II: REVIEW OF THE LITERATURE

Chapter 2 of the dissertation includes a review of the literature central to understanding how social media influences the social adjustment of college students enrolled in a learning community program. The purpose of this review is to provide an overview of social media as well as social relationships to describe how these topics pertain to the experiences of students in higher education. First, the review outlines the recent history of social media and its growing popularity in the United States. The review covers negative influences of social media use before examining social media through the lens of Media Richness Theory. Then, the review explores how social media can be used ethically in higher education. The focus of the literature review shifts to social relationships in higher education, including the experiences of college students enrolled in learning community programs. Lastly, the review narrows its focus to the ways in which social media influences students' social adjustment in college.

Social Media

The methods through which people communicate with one another has changed with the prevalence of technology and social media platforms. Carr and Hayes (2015) define social media as "…Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others" (p. 50). In 2018, nearly 70% of adults in the U.S. reported using some form of social media compared to just 5% in 2005 (Pew Research Center, 2018). Among 18- to 29-year-olds, a range that includes college-age students, social media use is even greater; 88% reported the using at least one social media

platform. In part, the increase in popularity of social media may be attributed to its accessibility regardless of users' location. For example, the release of Apple's iPhone in June 2007 permitted users instant access to social media platforms from almost anywhere, not just their homes or offices (Apple, 2007). Furthermore, access to social media transcends socioeconomic status (SES). One report from the Pew Research Center indicated that access to smartphones surpassed adolescents' access to home computers or laptops across all SES groups (Anderson & Jiang, 2018). Although only 75% of adolescents from low-income families reported access to a computer at home, 93% indicated access to a smartphone at home. The percentages were similar for teenagers from middle-income (93%) and high-income (97%) households.

The increased prevalence of social media is illustrated in the case of Facebook's history of membership growth. Mark Zuckerberg founded Facebook in 2004. Initially, membership was exclusive and only available to people within the United States who were part of a community in higher education ("Company info Facebook newsroom," 2018). By 2006, Facebook permitted anyone in the world to join its network and ended the year with approximately 12 million registered members. One year later, the number of people who had Facebook accounts more than quintupled to 58 million users. The number of accounts continued to grow rapidly over the next decade. By March 2018, Facebook reported nearly 1.5 billion active daily users and over 2 billion active monthly users around the globe.

Facebook remains a top social media platform for adults in terms of usage. The Pew Research Center (2018) reported that, among 18- to 29-year-olds, Facebook (81%) was more widely used than Snapchat (68%), Instagram (64%) – a Facebook owned

company, LinkedIn (29%), Twitter (40%), and WhatsApp (27%). Only YouTube (91%), an online video-sharing platform, surpassed adults' use of Facebook. However, YouTube's design is different from other social media platforms. For example, it is less interactive. Although members can subscribe to other members' video channels and leave comments, the platform is more akin to television. YouTube's focus is "…to give everyone a voice and show them the world" (YouTube, 2015). Conversely, Facebook's mission is to "[g]ive people the power to build community and bring the world closer together" (Facebook, 2018), and Snapchat seeks to "…improve the way people live and communicate" (Snapchat Inc., 2018).

Although Facebook is popular with adults, its dominance in the social media industry may wane as other platforms gain in popularity with younger users. According to a survey of over 1,000 adolescents ages 13 to 17 years old, more respondents used Instagram (72%) and Snapchat (69%) than Facebook (51%) (Anderson & Jiang, 2018). Despite approximately half of the teenagers reporting using Facebook, only 10% indicated that it was the social media platform that they used the most. Instead, 35% of teenagers indicated that they used Snapchat the most frequently. As these younger teens reach college age, they may carry over their social media preferences to college.

Instant messaging social media apps (e.g., SnapChat, Messenger, GroupMe) have an expanded presence because these types of applications can be accessed on mobile smartphones, not just desktop or laptop computers that require an Internet connection tied to a home or office. Additionally, some research suggests that college students prefer to communicate via social media platforms because telephone calls are considered intrusive (Yang et al., 2014). Thus, users of instant messaging social media smartphone apps can

communicate unobtrusively with one other and without a telephone number that is required for text-messaging. Furthermore, they can do so from any location where they can receive a WiFi signal.

Negative Influences of Social Media Use

Although communication via social media is popular, its use has drawbacks. Research links the use of social media to several undesirable consequences, including lower self-esteem, loneliness, and privacy violations. For example, Vogel, Rose, Roberts, and Eckles's (2015) research suggests that those who engage in social comparisons (i.e., an individual's level of awareness of others and the certainty of their self-concept) on social media are more likely to have lower self-esteem. In their study, undergraduate students viewed either a friend's Facebook profile, their own Facebook profile, or online product reviews for five minutes. Those who viewed their friend's Facebook profile scored poorer on the State Self-Esteem scale. However, social comparison may only be negatively related to social media users' self-esteem when their comparisons are made regarding their abilities, not opinions (Yang et al., 2018). In other words, students who use social media to compare their achievements to the achievements of others in an effort to understand their self-concept are likely to have lower self-esteem. Conversely, when individuals use social media to compare their beliefs or opinions to those of others as a means of information exchange, self-esteem remains unchanged.

Research also indicates that social media may have a negative influence on individuals' sense of loneliness. For instance, students who use social media to pursue new relationships, versus to maintain existing relationships, are more likely to score higher on the UCLA Loneliness Scale (Yang & Brown, 2013). Similarly, students who

used social media by simply posting content, without directing the content at specific people, scored higher on the UCLA Loneliness Scale (Yang, 2016), whereas students who used social media to browse or interact with others indicated less loneliness. Thus, with whom and in which ways individuals use social media may influence feelings of loneliness.

Directed communication, however, is undesirable in some cases. For example, one study examined the influence of Twitter on college athletes (David et al., 2018). The athletes in the study reported negative emotional responses regarding the content that other users posted about them on the digital platform. Specifically, the athletes indicated that those Tweets that were critical of their personal athletic performance affected their self-efficacy and their ability to concentrate.

Furthermore, those who use social media risk having the content that they transmit being used in an unethical manner. These privacy concerns may motivate some people's decisions to use ephemeral social media platforms (e.g., Snapchat) because they perceive the information sent to the recipient to be temporary (Waddell, 2016). However, social media users have devised ways of permanently capturing content (e.g., screen shots) that is transmitted with ephemeral intent. Thus, ephemeral social media platforms cannot be equated with privacy.

Despite the possible undesirable consequences of social media use, the majority of people in the United States use social media as a way to communicate with friends, family, and people with whom they have lost touch, as well as for career networking and information sharing (Raacke & Bonds-Raacke, 2015; Reich et al., 2012; Roblyer et al., 2010). In part, the ubiquity of social media can be attributed to its high level of richness

as a communication medium compared to other, more traditional forms of communication as well as newer digital forms of communication.

Richness of Media

One way to examine the richness of social media as a form of communication is through Media Richness Theory (MRT). Daft and Lengel (1986) developed MRT before smartphones and digital communication were commonplace. However, since MRT's inception, researchers have applied MRT to more modern forms of communication, including email (Carlson & Zmud, 1999) and online chatting platforms (Kwak, 2012). However, MRT originally sought to explain differences between in-person, telephone, and different forms of written documents (e.g., letters or quantitative information). Media described as high in richness includes those forms that have the ability to give immediate feedback, transmit cues from body language and tone of voice, use natural language, and are personal. Face-to-face communication is the richest form of communication because it is high in all four characteristics. Media that is low in richness offers less or delayed feedback, transmits fewer cues, relies on rules or forms, and is impersonal (Daft & Lengel, 1986). For example, a notice posted on the door of a classroom to notify all students about class cancellations would be classified as a lean or low form of communication because it delays feedback, lacks nonverbal cues, uses formal language, and is impersonal.

Digital or Internet-based communication varies in richness in the same way that traditional forms of communication differ. Namely, a plain text email falls on the lean side of MRT and a videoconference on the rich side of MRT (Schiefelbein, 2012). In comparison to videoconferencing, email users experience a greater delay in feedback,

have fewer cues available, rely more on rules, and may experience less personalization. Additionally, text-messaging is a richer form of communication than email. Text-messages are less formal and have the potential to be more synchronous.

In an education setting, media richness may influence students' perceptions of their courses and their instructors (Cole, 2016). Cole found that students reported greater satisfaction with face-to-face courses and those courses' instructors compared to online courses and online instructors who relied on leaner forms of communication (e.g., electronic communication). However, Cole did not differentiate between different forms of electronic media. It is possible that there is some variation in students' levels of course and instructor satisfaction based on the richness or leanness of electronic communication mediums used in their online courses. For example, a student may report less satisfaction with an online course and the instructor who only uses plain text (e.g., email, course management system announcements) to communicate versus an online course and instructor who uses videoconferencing or Instant-Messaging to communicate.

Indeed, images, gifs, emojis, text enhancements (e.g., iMessage's loud, slam, gentle, and invisible text effects) and links to files or websites can be included in social media communications to make the communication richer. The communication enhancement features available in text-message and Instant Message platforms can increase the nonverbal cues, personalize the messages, convey natural language, and have the potential for near-synchronous exchanges (Schiefelbein, 2012). With this in mind, it is not surprising that the presence of an emoji carries meaning because its purpose is to convey emotion. Interestingly, Zareen, Karim, and Khan (2016) found that people may perceive that the absence of an emoji has meaning. Among frequent users of emojis, 70%

indicated that they experienced a negative mood when a respondent's message failed to include an expected emoji.

Although digital media platforms have the potential to provide rich communication, users may not utilize all of the features that increase media richness. In particular, perceptions about the richness of digital media may be influenced by the level of experience that users have with a particular social media platform (Carlson & Zmud, 1999). Channel Expansion Theory suggests that users' perceptions of richness may change as they gain more experience with the communication channel, the topic of communication, the context, and the people involved in the communication. In their study, Carlson and Zmud (1999) found that university faculty and staff rated email as a richer form of communication when they were more experienced and comfortable sending emails. Experience with one's communication partner was the best predictor of perceptions of the richness of email followed by experience with email. One's experience with the topic was not a significant predictor of perceptions of richness. Thus, familiarity with a social media platform relates to one's perception of the richness of that communication method.

Research informs us that experience and media richness are not the only factors that influence users' decisions to communicate via a particular medium. In one qualitative study, college students indicated that they preferred text messages and Instant Messaging for informal social communication and they preferred email for the purpose of communicating about academic work (Yang et al., 2014). In fact, some participants relied so little on email to communicate with their friends that they did not know their friends' email addresses. In this case, email was reserved for formal communication.

Additionally, the researchers indicated that students reserved text messages and telephone calls for communicating with close friends whereas the use of Instant Messaging was more common with acquaintances.

Dialogic Theory for Ethical Digital Communication

Although there are benefits to using rich communication media (Daft & Lengel, 1986), research links the use of social media to several undesirable consequences, including lower self-esteem (Vogel et al., 2015; Yang et al., 2018), loneliness (Yang, 2016; Yang & Brown, 2013), and privacy violations (Waddell, 2016). The potential for negative consequences of social media use is concerning, especially for educators who interact with the segment of the population that uses social media the most heavily. Using social media communication in an ethical and appropriate manner can help students and educators experience the benefits of this form of digital communication and limit the negative consequences.

Dialogic Theory is one guide that educators can use to encourage ethical social media communication. Pearson (1989) developed the theory in the public relations field to help organizations communicate better with the public. Unfortunately, Pearson was not able to expand upon his work because he died shortly after developing his theory. However, Kent and Taylor (2002) built upon Pearson's work to help organizations communicate with stakeholders as Internet-based communication (e.g., websites) became commonplace. In particular, Dialogic Theory aims to build relationships through two-way online and offline communication (Kent & Taylor, 2002; Taylor & Kent, 2014). Pearson's (1989) Dialogic Theory stems from philosopher Martin Buber's work on ethical and meaningful communication between individuals and has foundations in

several disciplines, including psychology and relational communication. It was further built upon by Kent & Taylor (2002) into five main concepts: mutuality, propinquity, empathy, risk, and commitment.

Although public relations and higher education may seem disparate, the principles of Dialogic Theory are in line with the values of education. For example, mutuality emphasizes the importance of inclusive dialogues that seek to understand others' viewpoints and includes reciprocal respect. Indeed, the essence of mutuality is an echo of John Dewey's influential views of curriculum and education. Dewey (1972) states:

> Only as we ask what kind of an experience is going on, what attitude some individual is actually assuming, what purpose or end some individual has in view, do we find a basis for selecting and arranging the facts under the label of any particular study. (p.169)

In other words, it is not enough for students to respect and understand their teachers; teachers must also understand their students' viewpoints and experiences. Similarly, adult learning theory, or andragogy, holds that the learners' previous experiences influence the ability or motivation to learn (Knowles et al., 2005). Thus, understanding and respecting learners' viewpoints and experiences can be beneficial to educators in face-to-face and online classes.

The second concept of Dialogic Theory is propinquity, and it includes "immediacy of presence, temporal flow, and engagement" (Kent & Taylor, 2002, p. 26). The first two characteristics of propinquity are comparatively straightforward. Immediacy encompasses the belief that communication should concern information or issues relevant at the time of the communication, not after decisions have already been made. A shared

channel of communication that allows for fast feedback is preferred (Pearson, 1989). Temporal flow refers to the consideration of future goals that benefit everyone. Engagement is a term whose meaning has lacked clarity. Taylor and Kent (2014) frame engagement in dialogic theory as the understanding of issues or people that includes demonstrations of positive regard and involves interactions that build relationships, seek input, and benefit the community or group in positive ways.

Sutherland (2016) applied the concept of propinquity to the Amyotrophic Lateral Sclerosis (ALS) Ice Bucket Challenge, a fundraising phenomenon that utilized social media to engage people offline. She identified the propinquity characteristics within social media as a tool. Social media users interacted in real-time with the ALS organization, maintained temporal flow through ongoing online dialogue that incorporated the past, present, and future, and utilized the ease of accessing and engaging social media users. Sutherland (2016) defined engagement online to include likes, shares, and comments. In this context, the online and offline environments combined and their boundaries blurred via a propinquity loop. Sutherland suggests that propinquity loops occur "when social media interactions between organisations (or causes) and stakeholders are encouraged (and supported) in moving back and forth between social media and offline spaces on a regular basis" (p. 82). Through frequent online and offline interactions, a propinquity loop may be established. Sutherland recommends that to weaken the divide between online and offline environments, social media content should support offline engagement, and offline activity should be brought online.

The principle of empathy embodies three characteristics: supportiveness, communal orientation, and confirmation (Kent & Taylor, 2002). Supportiveness refers to

the need for a facilitator to create a supportive environment that helps to build community. A communal orientation seeks to understand rather than push an agenda or manipulate others in the dialogue. Understanding others' perspectives mirrors the transformational learning in which individuals experience a shift in perspective that changes the way they view their world (Cranton, 2016). Furthermore, empathy can be supported by confirmation, or acknowledging others' voices in the dialogue.

Risk is a principle that recognizes the uncertainty that can accompany a dialogue. Kent and Taylor (2002) describe risk as including vulnerability, unanticipated consequences, and recognition of the strangeness of others. Vulnerability is the risk associated with self-disclosure. Unanticipated consequences refers to being open to personal growth or changes in beliefs. Recognition of the strangeness of others calls for participants in a dialogue to accept that people are different and that those differences bring value to the dialogue.

The principle of commitment embodies genuineness, commitment to conversation, and commitment to interpretation (Kent & Taylor, 2002). To be genuine requires that communicators be honest and not enter the conversation with the intent to be manipulative. Commitment to the conversation requires that participants interact in a manner that focuses on the process of communicating to understand, not to debate or force one's own opinion. Lastly, commitment to interpretation requires that communicators interpret successful conversations to be those that further understanding, not necessarily agreement.

Ethical social media communication and education. Social media is a part of college students' lives and institutions of higher education should make use of it (Berger

& Wild, 2016). Dialogic Theory (Kent & Taylor, 2002; Pearson, 1989; Taylor & Kent, 2014) serves as an ethical guideline for digital communication and can be useful to educators who use digital forms of communication with their students. Figure 1 outlines Dialogic Theory and applies the theory's five principles to the current study's education context. To illustrate, mutuality is in opposition to "trolling." Trolling is behavior whereupon individuals use digital media to intentionally misrepresent their identities using false statements in order to be disruptive or create conflict (Hardaker, 2010). Individuals who troll others are not interested in mutual respect or understanding others. Rather, Hardaker (2010) indicates that trolls engage in deceptive and aggressive behavior as a form of entertainment. Therefore, in an effort to encourage mutuality, educators should expect students to respect the voices of others using digital communication and, in turn, be respectful in their communication with their students. Additionally, social media users should seek to understand others' points of view.

Dialogic Theory Principle	Communication via Social Media in an Education Context
Mutuality	• Inclusive dialog that includes reciprocal respect • Uses real name or identifiable nicknames, trolling is not permitted • Viewpoints are expressed in a medium that is familiar to students
Propinquity	• Engages students in interactions that seek input or benefit the group • Immediate receipt and transmission of content to personal mobile device • Offline dialogue continues outside of class time • Online engagement is brought back into the classroom
Empathy	• Acknowledge others' voices by "liking" or replying to content • Faculty member serves as the group moderator and aims to build community • Students support each other by sharing resources and knowledge
Risk	• Dialogue recognizes individuals' uniqueness as students are exposed to new ideas, resources, or best practices • Privacy of personal content cannot be guaranteed • Students' differences are exposed by profile information, shared images, or linked accounts to other social media accounts.
Commitment	• Communication is genuine and honest. • All students have an equal opportunity to enter the conversation • Predetermined time frame (e.g., semester, quarter) • Focus of dialogue is on further understanding of others viewpoints

Figure 1. Principles of Dialogic Theory related to social media in education.

Propinquity is present in social media. Indeed, social media helps continue present discussions and extends the time constraints imposed by the classroom. For example, a student can immediately share that she has applied a concept to a real life situation rather than wait until the next class session. Additionally, social media can bring online discussions into future lessons in the classroom. This propinquity loop is what Sutherland (2016) described in her study on the ALS Ice-Bucket Challenge.

Indeed, some college students blend social media with offline activities. In one study, researchers surveyed college students regarding how they use social media to engage offline with members of their college community (Sutherland et al., 2018). The study did not differentiate between faculty members, students, or other college community members. However, the results indicated that approximately a third of second- and third-year students reported using Facebook or Twitter to organize offline

meetings on a daily or weekly basis. Additionally, over 80% of student respondents indicated that the digital connection to their college made them feel connected to the college. The study also noted that first-year students were the least likely to use social media to facilitate offline interactions at college. This finding is not surprising because other research indicates that students mostly interact online with people they know offline (Reich et al., 2012). Thus, first-year students who are in the process of developing offline relationships in their new college settings, may have fewer college friends with whom to communicate online.

With regard to engagement, social media is more engaging than other forms of digital communication such as email (Daft & Lengel, 1986; Schiefelbein, 2012). Social media allows for more elements of media richness (e.g., videos, images, emojis) and can be delivered near-synchronously to the participant. Moreover, students can be engaged in other ways beyond replying and posting (e.g., polls). Faculty members may expand upon classroom lessons and activities in an online environment and online exchanges or comments can be addressed in the classroom. For example, a faculty member may elaborate on the theory of classical conditioning by posting an image, video, or discussion question on social media. Likewise, comments or posts made online can be addressed in the classroom environment. This engagement is important because sociality has been linked to improved learning by numerous researchers, including Lev Vygotsky, Albert Bandura, Marco Iacoboni, and Maria Montessori (Eyler, 2018).

Educators can utilize the empathy guideline of Dialogic Theory by engaging in social media communication. It is not enough to establish an online group or class Facebook page and remain in the periphery. Pearson (1989) discouraged mass media

forms of communication that did not encourage interaction. However, educators can facilitate participation and help build community within their courses. Using rich forms of social media will help keep the meaning of communication clearer. Additionally, students and educators can acknowledge one another's voices through replies and comments. Indeed, some features (e.g., "likes" on Facebook or "hearts" on GroupMe) serve to acknowledge others' posts or replies. The principle of empathy is illustrated in a study by Frisby, Kaufmann, and Beck (2016). The researchers randomly assigned students to use a Facebook, Twitter, or a video chat program (i.e., Skype and Facetime) for group assignments. Although using social media did not influence the groups' completion of assignments, students indicated that using social media enhanced the social aspects of their groups. In some cases, the qualitative data indicated that social media use helped students form deeper bonds by enhancing face-to-face communication and helped them during the forming and norming stages of team development.

Participating in an online dialogue involves risk in terms of the purpose of the communication and the permanence of the communication once it is sent through the Internet. In terms of purpose, Internet-based communication has been associated with negative social behaviors, including intimate partner harassment (Melander, 2010), purposefully deceptive behavior or trolling (Buckels et al., 2014), and cyberbullying (Kowalski et al., 2014; Whittaker & Kowalski, 2015). To further complicate the impact of Internet-based negative social behaviors, the communication can be permanent. For example, Melander (2010) found that college-aged individuals perceived public posts that contained insulting content to be embarrassing and more hurtful than offline comments.

The insulting comments can be more hurtful because they are public and, as a result, more people can add to the comments over time.

Although some social media applications (e.g., Snapchat) advertise that user-posted content is temporary, research indicates that privacy cannot be guaranteed. Waddell (2016) noted that individuals who have more experience with technology are more skeptical of the effectiveness of ephemeral social media to maintain privacy. Despite the risk of the posted content being shared beyond the intended recipient, Waddell reported that individuals used ephemeral applications because the posted content offered more nonverbal cues. Some participants compared communicating via photographs to communicating face-to-face. Waddell's findings echo Media Richness Theory (Daft & Lengel, 1986) in that communication that offers the opportunity for more nonverbal context cues is rich.

Students and educators who utilize social media to communicate can increase opportunities for education and understanding. Students have more of an opportunity to engage in what Dewey called "shared inquiry." In other words, students have more time to be heard and understood because the time to share is not limited to the classroom's timeframe. For example, a student who desires to share his perspective or seek clarification will not be limited by the class schedule. He can share his perspective or ask the opinions of the professor and his classmates outside of the class time. However, the semester time frame may still serve as a limit. Additionally, students and faculty must commit to being genuine when posting content to social media. Educators serving as facilitators may remind students that the purpose of education is to learn, not necessarily

to reach agreement. Therefore, online interactions can be viewed as successful if the exchanges increase understanding.

Social Relationships and Retention Higher Education

Social relationships and social interactions are important for college students in terms of engagement (Strayhorn, 2008), reducing student attrition (Demetriou et al., 2017; Kuh, 2001; Pascarella et al., 1981; Tinto, 1993), learning outcomes (Hu et al., 2008), and students' well-being (Hanson et al., 2016). For this reason, many colleges and universities have implemented high-impact practices aimed at improving students' college experiences.

Kuh (2008) identified several high impact practices, including practices that increase opportunities for social interactions with faculty and peers. The following high impact practices are not an exhaustive list: (a) first-year seminars aim to build new students' practical and college-preparedness skills in a collaborative academic setting; (b) collaborative assignments and projects give students opportunities to learn to problem solve while honing their team-building skills; (c) service learning or community-based learning programs give students that opportunity to solve real-world problems while strengthening their connection to the community; (d) ePortfolios are electronic collections of students' works that the individual compiles over their academic career; and, (d) learning communities give students more opportunities to engage with their classmates by taking multiple courses with the same students. These examples illustrate some of the various ways that colleges are implementing programs to increase student engagement and retention. Although all of these programs and practices are worthy of further research, learning community programs are a focus of the current proposed study.

Learning Communities

The formats and structures of learning communities differ among institutions. The most basic definition of a learning community is a cohort of students enrolled together in two or more stand-alone courses (Andrade, 2007; Love, 2012; Tinto, 2000). However, the theoretical background is lost in this brief definition. Gabelnick, MacGregor, Mathews, and Smith (1990) define learning communities as programs that "purposefully restructure the curriculum to link together courses or course work so that students find greater coherence in what they are learning as well as increased intellectual interaction with faculty and fellow students" (p. 5). Gabelnick and colleagues' definition points to the intentional construction of a curriculum and emphasizes the need for interactions between faculty and students.

History. Learning communities birthed from dissatisfaction with curricula and teaching methods. Gabelnick and colleagues (1990) trace the conceptual framework of the curriculum component of learning communities to Alexander Meiklejohn and Joseph Tussman. Meiklejohn was experimenting with curriculum in higher education at a time when curriculum reform was prevalent in primary and secondary education as well. For instance, William Kilpatrick's project method emphasized learning problem solving through projects and John Dewey's proposal for learning through the integration of multiple subjects (Kliebard, 2004). Between 1927 and 1932 at the University of Wisconsin, Meiklejohn integrated multiple college courses with an overarching paper assignment. The students applied the knowledge from their courses on society to their hometowns between the summer of students' first and second years of college (Love, 2012). Meiklejohn's teaching philosophy emphasized the role of educators in

determining the curriculum for students. In *The Experimental College*, he refers to faculty in higher education as "creators of the national intelligence" (Meiklejohn, 1932, p. 317).

Tussman had a different philosophy on determining college curricula (Gabelnick et al., 1990). Tussman was a student of Meiklejohn's, though not during the experimental college years. He opposed the fragmentation of knowledge that was the result of dividing a curriculum into individual courses. He equated the student who takes a collection of courses that lack integration to someone who "lives the life of a distracted intellectual juggler" (Tussman, 1969, p. 7). His solution, put into practice at the University of California at Berkley from 1965 to1968, was for faculty to work as a team on an integrated program of study. It was not until the 1970s when Evergreen State College was formed that the curriculum approaches of Meiklejohn and Tussman gained traction (Gabelnick et al., 1990).

The theoretical underpinnings of learning communities are based on the work of Dewey in the early 1900s (Gabelnick et al., 1990; Love, 2012). Although Dewey's approach focused on elementary education, his philosophy influenced higher education as well. For instance, Dewey proposed curricula that demonstrated the interrelated nature of subjects, much like Meiklejohn and Tussman put into practice. Additionally, Dewey emphasized that learning is a social process and that teachers and students should have less of a power differential between them. He believed that the student's interests should serve as a starting point for education and that learning is a social process. Thus, he pushed for the student's daily activities to serve as the context for school subjects (Kliebard, 2004).

There are different models of learning communities (see Gabelnick et al., 1990). More recently, Levine-Laufgraben (2005) describes four fundamental models of curricular learning communities. The paired courses model links a cohort of 30 or fewer students together in two courses. The courses are often popular selections for first-year students and offered using block-scheduling (back-to-back). For example, a general education course and an introductory major course would be paired for each cohort. The second model, clusters, is similar to the paired model but differs in that three or more courses are linked together with a shared theme. For example, the cluster model may include a general education course, major course, writing course, and weekly seminar that serves to help students integrate the courses. Another model more common with large universities is the Freshman Interest Groups (FIG). This model creates subsections from larger course enrollments. The fourth model, team-taught learning communities, enrolls larger cohorts of students (up to 75) into two to five shared courses across disciplines. The courses are team-taught by two or more faculty members who represent their discipline. In some cases, the team-taught model can meet the majority of students' general education requirements. Additionally, some of the models can be paired with community living. Students in residential-based learning communities not only enroll in courses together, but they also live together.

Student outcomes. Research on learning communities indicates multiple positive student outcomes (see Love, 2012). Andrade (2007) examined the results of 17 different studies on learning communities and student outcomes. Andrade's review of the studies suggests that learning communities increase student persistence, academic achievement, involvement with faculty and peers, and satisfaction with the institution. Pike and

colleagues (2011), using data from the National Survey of Student Engagement, investigated the relationship between participation in a learning community and academic effort, higher-order thinking, diversity experience, collaborative learning, student-faculty interactions, and perceptions of a supportive campus environment. Although the effect sizes were small, their results indicated that learning communities were associated with increases in all the variables.

In part, researchers attribute the positive student outcomes as the natural byproduct of the increase in student interactions with faculty and peers (Andrade, 2007; Levine-Laufgraben, 2005). In other words, students who see each other frequently will have more opportunities to build relationships and engage in collaborative learning. Ward and Commander (2011) also noted the importance of the relationships they formed in their learning communities for social and academic reasons. One participant in the study commented that, "Because of the [learning community], I think it's easier to talk to people now. The comforting surrounding of my [learning community] taught me how to approach people" (p. 72). Another finding from Ward and Commander's study was that many of the relationships lasted beyond the semester and into students' senior year. The longevity of the influence of learning communities for some students is illustrated in Paige, Wall, Marren, Rockwell, and Dubenion's (2017) extensive overview of the qualitative experiences of students who participated in a learning community. One senior student, three years removed from her learning community, wrote of her experience:

> Looking back, I owe my experience and time in the Learning Community a
> proud recognition to my success here in college. When I first started college, I
> feared that I would slip into a situation where I would not be given any

opportunities to grow, and I would become a number to each and every professor

I met and every class I would take. This Community broke that fear almost

immediately. (p.75)

Although these results are in line with Tinto's (1993) model of attrition, other

research has found that learning communities are not associated with some positive

student outcomes. Specifically, Kilgo and colleagues (2015) found no relationship

between participation in a learning community and several student outcomes, including

critical thinking, need for cognition, and socially responsible leadership. However, the

researchers noted that learning community programs should not be dismissed based on

these results because there is a level of overlap between learning communities and other

high impact practices. For instance, Kilgo and colleagues did find active and

collaborative learning to be a predictor of critical thinking, need for cognition and

socially responsible leadership. Learning communities and collaborative learning do not

need to be mutually exclusive. In other words, it is possible for learning communities to

incorporate other high impact practices within their designs.

Learning communities are just one strategy that institutes of higher education can

use to improve student experiences and increase opportunities to interact with students

and faculty. However, it is an important one. The relationships and fellowships between

faculty and students have a long history in academia. In fact, Gabelnick and colleagues

(1990) remind us that the word college itself has its origins in the word community.

Social Media and Social Adjustment

Students' experiences as they transition to their new college community and

separate from their former home community have changed since Tinto (1993) introduced

his Interactional Theory of Student Attrition. Notably, technology has advanced in a way that offers students new rich communication channels (i.e., social media) to connect with others. However, it is unclear how social media influences students during their transition to college.

Authors	Type of Research	Social Media	Sample Population
DeAndrea, Ellison, LaRose, Steinfield, and Fiore (2012)	Quantitative	Discussion Boards	First-year students
Deepak, Wisner, and Benton (2016)	Qualitative	Facebook Discussion Boards	Undergraduates Graduates
Gray, Vitak, Easton, and Ellison (2013)	Quantitative	Facebook	First-year students
Lin, Peng, Kim, Kim, and LaRose (2012)	Quantitative	Facebook Other	Undergraduates Graduates
Raacke and Bonds-Raacke (2015)	Quantitative	Facebook MySpace	Undergraduates
Thomas, Briggs, Hart, and Kerrigan (2017)	Qualitative	Facebook Instagram Other	First-year students
Wohn and Larose (2014)	Quantitative	Facebook	First-year students
Yang and Brown (2013)	Quantitative	Facebook	Undergraduates
Yang and Brown (2015)	Quantitative	Facebook	Undergraduates
Yang and Robinson (2018)	Quantitative	Instagram	Undergraduates

Figure 2. Comparison of literature review articles.

The research on social media and college students' social adjustment is relatively new because social media is relatively new. A search for peer-reviewed academic literature in eight databases using the search terms "college students," "social media," and "social adjustment," yielded a total of 12 research studies. However, the researcher excluded two articles on dating and romantic relationships**.** Figure 2 compares the 10 articles by type of research design, social media application studied, and the sample

population included in the research. The majority of the research in this emerging area i

quantitative; only two studies are qualitative.

The literature review indicates that college students use social media for a variety

of purposes and in a variety of ways, some of which are associated with increased social

adjustment. One common purpose for using social media was to communicate with

friends (Deepak et al., 2016; Thomas et al., 2017). In one instance, Lin and colleagues

(2012) studied international undergraduate and graduate students' Facebook use to

interact with friends. Only 61% of the 195 participants in the study used Facebook; many

preferred to use social media applications (e.g., QQ, Xiaonei) that were popular in their

home countries. However, of those participants who did use Facebook, they did so to

communicate with American friends and scored higher on a 7-item social adjustment

scale adapted from the SACQ. In some cases, students who used social media to initiate

friendships or meet new people had lower social adjustment scores compared to those

who used social media to maintain existing relationships (Yang & Brown, 2013, 2015).

However, Raacke and Bonds-Raacke's (2015) study of 264 undergraduate students

indicated a negative relationship between students' Facebook use to maintain friendships

and social adjustment.

Other researchers have distinguished between social media use with on-campus

and off-campus friendships. Gray and colleagues (2013) studied 338 first-year students'

use of Facebook. Students reported that, on average, they considered only 19% of their

Facebook friends to be real-life friends and 10% of their Facebook friends to be students

at their college. The researchers' results indicated a positive predictive relationship

between the number of on-campus Facebook friends and social adjustment, as measured

by the SACQ. Additionally, social adjustment also predicted persistence in college, defined as remaining enrolled beyond the college's drop/add date for the fall semester of the next academic year.

Similarly, Yang and Robinson (2018) examined 208 college students' self-reported use of Instagram on social adjustment as moderated by social comparison orientation (i.e., opinion vs. ability). Their results indicated that students who reported using Instagram more with on-campus friends also scored higher on a six-item social adjustment subscale of the SACQ. The positive correlation was present for students regardless of their score on the social comparison orientation scale. The researchers did note that social adjustment scores were the lowest for first-generation college students.

Another factor several researchers considered when investigating the relationship between social media and social adjustment was the way in which college students used social media. Previous research has classified social media use as active, interactive, and passive (Yang, 2016; Yang & Brown, 2013; Yang & Robinson, 2018). Social adjustment was greater for students who used social media interactively (Yang & Brown, 2013; Yang & Robinson, 2018). Conversely, students who updated their Facebook statuses (i.e., active use) had lower social adjustment scores (Yang & Brown, 2013).

Several studies reported concerns about college students' use of social media, generally. For instance, several studies have found a negative relationship between social media use and academic performance (Raacke & Bonds-Raacke, 2015; Wohn & Larose, 2014). Others have indicated that those who use social media to compare themselves to others may experience more negative emotional affect (Thomas et al., 2017; Yang & Robinson, 2018). Using social media to broadcast or posting content that is not directed

at a specific individuals is related to loneliness (Yang, 2016; Yang & Brown, 2013). It is worth noting that loneliness has been associated with poor social adjustment (Wohn & Larose, 2014). Lastly, Deepak and colleagues' (2016) qualitative research revealed that students who use social media have concerns about maintaining boundaries with their parents and teachers. These students indicated that they are deliberate about the content they post to manage their self-presentation.

Conclusion

The majority of individuals who are college-aged report using social media. Although social media can have negative influences on those who use it, it remains a rich form of communication. Ethical social media use may offer college students a familiar way to engage with members of their college community, especially faculty and classmates. Although qualitative research on students' use of social media in an educational setting is sparse, students have indicated that it has the potential to build relationships with classmates (Deepak et al., 2016) and be part of the process of adjusting to college (Thomas et al., 2017). Overall, these digital interactions are particularly interesting because previous research points to social relationships as a factor that affects students' decisions to remain in college.

Colleges and universities have already taken steps to increase opportunities for students to develop social relationships, including implementing learning community programs. Students enrolled in learning community programs take multiple course with the same group of students. Thus, the students have more occasions to interact with their classmates. However, the ways in which students communicate socially has expanded beyond face-to-face interactions because of new technology and social media.

It is possible that social media use within a learning community may result in increased social adjustment for students. To date, there is no research on students' use of social media with their classmates and faculty within a learning community program. Understanding the relationship between social media use and social adjustment for students enrolled in learning community programs will add to the literature on student retention.

CHAPTER III: METHODOLOGY

This quasi-experimental explanatory sequential mixed methods study examined first-year, learning community college students' use of social media and its relationship to social adjustment. Research on social media use and social adjustment is limited because social media is relatively new. To date, the relationship between social media use and social adjustment has not been explored within the context of a learning community. This chapter presents a thorough report of the methodological process as follows: the piloting process, research design, participant demographics and sampling procedures, instrumentation and materials, recruitment and data collection procedures, and processes to ensure valid and reliable results.

Pilot Study

During the fall 2018 semester, an exploratory pilot study was conducted to determine if students in a learning community would use GroupMe, a social media messaging application (app), to communicate with their classmates and faculty in their learning community. An additional purpose of the pilot study was to assess if students who used the app believed that it was an ethical form of digital communication according to the principles of Dialogic Theory (Kent & Taylor, 2002; Pearson, 1989; Taylor & Kent, 2014). The principles of dialogic theory in the context of education are presented in

. The main research hypothesis was that students would use GroupMe and find the app to have the potential to be an ethical social media communication tool.

Method

 Participants. Nineteen out of 20 first-year students enrolled in a learning community section of an introductory psychology course consented to participate in the pilot study. The only student who did not consent to participate in the study was absent during the research window and did not have the opportunity to consent or withhold consent. Of those students who participated in the pilot study, 79% identified as female, 21% identified as male.

 Procedure. The GroupMe app was a supplemental component of regular course communication (e.g., last minute course updates, sharing articles, assignment reminders, etc.) for a learning community introductory psychology course. All students had the opportunity to use GroupMe and benefit from the communication method without participating in the pilot study. At the end of the academic semester, students had the opportunity to participate in the research study. Students who participated received one psychology department "research study credit" that they could apply toward partial fulfillment of the course's research participation requirement. The student who did not consent to participate in the research study was not penalized and could obtain Sona System research study credit (Sona Systems, 2019) from other ongoing research study participation.

 After signing an informed consent form (see Appendix A), participants completed an online survey through SurveyMonkey.com. The survey included questions about their experience with the GroupMe app, experience with social media in general, and background information. Additionally, the survey included questions from the SACQ in order to assess the feasibility of administering the survey in an online format.

Results

The pilot study participants indicated that they used several different social media platforms, including GroupMe (100%), Facebook (100%), Instagram (89.47%), Snapchat (89.47%), and Twitter (73.68%). Several responded Other and wrote in Tumblr (21.05%), Pinterest (5.26%), Reddit (5.26%), and Facebook Messenger (5.26%) as social media platforms that they used. The majority of participants indicated that they used Snapchat (52.63%) the most. No participants indicated that they used Facebook or GroupMe the most. All participants indicated that they accessed GroupMe from their smartphone despite the ability to access GroupMe from a computer or tablet.

Participants rated their experience with the GroupMe app using a series of 5-point Likert-scale questions. Participants rated (1 = Very Easy, 5= Very Difficult) the GroupMe app on ease of use ($M = 1.21$, $SD = 0.42$) and ease of following conversations on the app ($M = 1.26$, $SD = 0.45$). No participants rated the app less than "somewhat easy" on either question.

In order to assess whether or not communication via GroupMe is aligned with the principles of dialogic theory, participants answered a series of questions to capture these aspects of digital communication. All responses are on a 5-point Likert scale. A rating of one indicates a higher level of perception of the presence of each principle of dialogic theory. The results are displayed in Figure 3.

Principle	Survey Question	M ($N = 19$)
Mutuality	Inclusiveness embodies mutual respect and understanding of others viewpoints. Please rate how inclusive you found the GroupMe app to be. (1 = Very Inclusive)	1.79
Propinquity	Engagement in this survey refers to the interactions that build relationships and seek input from others. Please rate how engaging you found GroupMe to be. (1 = Very Engaging)	1.74
Empathy	Think about your experience with GroupMe. Please rate how acknowledged your voice was within the GroupMe communications? (1 = Very Acknowledged)	1.79
Risk	Think about your experience with GroupMe. Please rate how open to differences you felt that the communication was within GroupMe. (1 = Very Open)	1.63
Commitment	Think about your experience with GroupMe. Please rate how genuine or honest the communication was within the GroupMe app? (1 = Very Genuine)	1.47

Figure 3. Pilot study participants' perceptions of principles of dialogic theory.

Conclusion

Although the sample size was small, typical for a pilot study, the results support previous research on the ubiquity of smartphone access and social media use (Anderson & Jiang, 2018; Pew Research Center, 2018). Students were able to complete the questionnaires, including the SACQ, using an online format. Additionally, GroupMe appears to be a social media app that first-semester college students can use to communicate with their learning community classmates and faculty. None of the students found the app to be less than somewhat easy to use from their smartphones. As a communication tool, students indicated that following conversations on the app was at least somewhat easy to do.

More importantly, students indicated that the app has the potential to be an ethical digital communication tool, according to the principles of Dialogic Theory (Kent & Taylor, 2002; Pearson, 1989; Taylor & Kent, 2014). All students perceived their

experience with GroupMe to have the presence of all five ethical communication principles. Thus, GroupMe, when used according to the ethical guidelines of Dialogic Theory, can be considered an ethical social media app for communication in the field of education.

Research Design

Mixed methods research draws from the strengths of quantitative and qualitative research. The current quasi-experimental explanatory sequential mixed methods research design employed purposeful sampling to obtain quantitative information about participants' use of the app GroupMe and changes in social adjustment scores on the Student Adaptation to College Questionnaire (SACQ) over the span of a 16-week semester. Additionally, the researcher conducted an inductive thematic analysis of the qualitative GroupMe content created by participants to explore the ways in which participants used the social media platform within their learning community course to communicate with classmates and faculty. The quantitative and qualitative data were synthesized to add depth and elaboration to the findings.

Johnson, Onwuegbuzie, and Turner (2007) generally define mixed methods research as the combination of "elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (p. 123). There are several types of mixed methods approaches and these differ in terms of when each type of data is collected and analyzed (e.g. concurrently or sequentially). However, in all cases the researcher collects and analyzes the quantitative

and qualitative data before addressing the study's mixed methods research question (Onwuegbuzie & Leech, 2006).

In particular, an explanatory sequential mixed methods design begins with the collection and analysis of quantitative data (Creswell & Plano Clark, 2018). Based on the results of the quantitative analyses, the researcher collects qualitative data. Onwuegbuzie and Leech (2006) suggest that researchers reevaluate their study's mixed methods research question after data collection as well as during data analysis and data interpretation. The purpose of reevaluating is to uncover additional research questions that may emerge. Once the quantitative and qualitative data have been collected, researchers use the qualitative data to further explain the quantitative results. Creswell and Plano Clark (2018) recommend that researchers use an explanatory sequential design when the initial research question lends itself to a quantitative approach, but the researchers' understanding of the results benefits from the deeper explanation qualitative data may reveal. Additionally, an explanatory sequential design is best when the researchers have a quantitative measure already available. If not, an exploratory sequential design may be better because this type of mixed methods design begins with a qualitative data analysis to develop quantitative variables or measures.

Rationale for the Methodology Selected

Green, Caracelli, and Graham (1989) identified five main purposes for mixed methods research: triangulation, complementarity, development, initiation, and expansion. The purposes of using mixed methods for the current study are development and complementarity. The quantitative results served to inform the qualitative research questions as well as to develop the qualitative inquiry. In other words, the interactive and

active types of social media use were the focus of the qualitative analysis. The researcher only included participants who used the app and consented to have their data included in the qualitative analysis. Furthermore, the purpose of the study was complementarity because the results of qualitative analysis helped measure a different facet of social media use, namely the topics of communication (e.g. academic).

The quasi-experimental explanatory sequential mixed methods approach to this study is appropriate because the qualitative analyses are dependent upon the quantitative results and added a deeper level of understanding regarding the influence of social media on students' adjustment to college (Creswell & Plano Clark, 2011). Some of the strengths of this design include a strong quantitative orientation, a straightforward implementation, and a clear outlined order in written reports. Also, this approach is better for emergent qualitative inquiry. The challenges of this design include length of time to implement and initial ambiguity regarding phase two of the study until phase one is completed.

Traditionally, an explanatory sequential mixed methods design has two phases of data collection whereby the first phase of data collection and analyses directs the second phase of data collection and analyses (Creswell & Plano Clark, 2011). In the current study, the researcher collected quantitative and qualitative data on social media use simultaneously because the data were created simultaneously. First, the researcher focused on the frequency of participants' social media use and their social adjustment scores (see Figure 4) to examine if participants in the Social Media Use group had greater social adjustment scores than the control group. Then, the researcher engaged in a second phase of analysis to gain a deeper understanding of the participants in the Social Media Use group who used the GroupMe app. This qualitative analysis phase was, therefore,

dependent on the quantitative phase. For instance, if only active social media use was related to social adjustment, then the focus of phase two of the design would only be on participants' active use (i.e., non-personally directed) content. Moreover, participants in the Social Media Group who did not use the app were not part of the qualitative analysis. Although these individuals may have been a source of interesting information regarding their lack of use, this was beyond the scope of the current study.

Phase	Procedure	Product
Quantitative and Qualitative Data Collection	• Online survey and SACQ scores (*N*=44) • GroupMe social media use frequency and qualitative content (*n* = 35)	• Numeric Data • Text data • Digital photos and images data • Shared files or digital resources
Quantitative Data Analyses	• IBM SPSS dataset development • Data screening • T-test, ANOVA • Multiple regression, curvilinear regression	• Descriptive Statistics, missing data, normality • *t*-score, *F* values, and assumption violations • R^2, *B* weights, data plot, and assumption violations
Qualitative Protocol Development	• Determine type(s) social media use content to analyze in phase two (i.e., interactive and/or active)	• Number of participants • Protocol for qualitative analysis
Qualitative Data Analysis	• Qualitative analysis software (e.g., Nvivo) • Coding and inductive thematic analysis	• Codes and themes • Visual model of codes and themes
Integration of Quantitative and Qualitative Results	• Interpretation and explanation of quantitative and qualitative results • Qualitative data deepens understanding of quantitative results	• Discussion • Implications • Future Research

Figure 4. Explanatory sequential mixed methods research design.

Participants and Sampling

This study relied on purposeful selection because the focus was on first-semester students enrolled in learning community courses for the fall 2019 semester. More experienced students and students not enrolled in a learning community course were not

eligible to participate in the study. A total of four learning community cohorts, two for each condition, were invited to participate in the study. A total of 60 students were enrolled across the four learning community courses in education and psychology. There were 37 students enrolled in the treatment condition (i.e., Social Media Use group) courses and 23 enrolled in the control condition courses. Approximately 70% ($n = 26$) of the students in the treatment condition and 78% ($n = 18$) of students in the control condition fully participated in the quantitative of the study. Each learning community represented between 20.5% to 29.5% of the total sample. Participants' ages ranged from 17 to 20 years. The students' distance from their home residence ranged from a 0.50 mile to 12,300 miles, $Mdn = 140$ miles. Table 1 includes additional background information about the sample for quantitative phase of the study.

Table 1

Participant Background Characteristics

Characteristic	Total (*N* = 44)		Social Media		Control	
	n	%	n	%	n	%
Gender						
Male	7	15.9	4	15.40	3	16.70
Female	36	81.8	22	84.60	14	77.80
Other	1	2.30	-	-	1	5.60
Race/Ethnicity						
White/Caucasian	35	79.5	23	88.50	12	66.70
Black/African-American	1	2.30	-	-	1	5.60
Hispanic/Latino	3	6.80	1	3.80	2	11.10
Other	5	11.40	2	7.70	3	16.70
Religion						
Christian	27	61.36	18	69.23	9	50.00
Jewish	1	2.30	-	-	1	5.60
Non-religious	12	27.30	5	19.20	7	38.90
Atheist	1	2.30	1	3.80	-	-
Other	3	6.82	2	7.70	1	5.60
Sexual Orientation						
Heterosexual	36	81.80	23	88.50	3	72.20
Homosexual	2	4.50	1	3.80	1	5.60
Bisexual	5	11.40	2	7.70	3	16.70
Other	1	2.30	-	-	1	5.60

A research assistant visited the selected four learning community classrooms at the beginning of the semester and invited all students to participate in the study. If students were 18 or older, they only needed to sign the consent form to indicate that they gave consent. If they were under 18 years of age, they could still assent to participate if they obtained a letter of consent from their parent or guardian (Appendix B). The research assistant gave the consent form to students in the selected learning communities at the beginning of the semester (Appendix C). This consent form indicated that students would complete questionnaires at the beginning and the end of the semester. This

procedure was the same for the Social Media Use and control groups. A copy of the script that the research assistant used when speaking to students in the learning community classrooms can be found in Appendix D. At the end of the semester, a research assistant asked participants in the Social Media Use group to review another consent form (Appendix E) to allow the researcher to pair the students' GroupMe content with their responses on the questionnaires. At the end of the semester, if a student in the Social Media Use group was under 18 years of age, they could still give assent to participate if they obtained a letter of consent from their parent or guardian (Appendix F). The script the research assistant used when speaking to the Social Media Use group participants at the end of the semester is in (Appendix G).

A total of 35 participants consented to participate in the qualitative phase of the study and have their GroupMe data analyzed. The control group did not use GroupMe with their learning community, and therefore did not receive this supplemental consent form. However, some students who did not give consent to participate in the first phase (i.e., quantitative) of the study did volunteer to participate in the second phase of the study. Accordingly, the researcher was not able to report the background characteristics of the participants in qualitative phase off the study because background characteristics were part of the quantitative phase.

Lastly, the researcher integrated the quantitative and qualitative data for the mixed methods analyses. The sample size for the mixed methods analyses also differed ($n = 22$). The participants included in these analyses did complete the background Information Questionnaire and their characteristics are reported in Table 2.

Table 2

Mixed Methods Participant Background Characteristics

Characteristic	Total (*n* = 22)	
	n	%
Learning Community		
Psychology	12	54.50
Education	10	45.50
Gender		
Male	4	18.20
Female	18	81.80
Race/Ethnicity		
White/Caucasian	20	90.90
Hispanic/Latino	1	4.50
Other	1	4.50
Religion		
Christian	15	68.20
Non-religious	4	18.20
Atheist	1	4.50
Other	2	9.10
Sexual Orientation		
Heterosexual	20	90.90
Bisexual	2	9.10

Rationale for Selection of Research Site

The selected research site was a small private liberal arts college in the

southeastern United States. Although many colleges have implemented learning

community programs as a retention strategy, not every college does. Therefore, it was

essential that this study occur at a college campus that implemented learning

communities for their first-semester students. Nearly all first-semester students who

attend the selected college are placed into learning community courses based on their

declared intended academic major or primary interests. Although students are not

randomly assigned to a learning community, the benefit to using a college that enrolls all

of its students in learning community courses is that this eliminates the problem of

students self-selecting in or out of the learning community program. In other words,

because nearly all students are enrolled in learning communities, there is an equal chance

of all types of students being enrolled in any one learning community course.

Rationale for Learning Community Type

Learning communities differ in design and course content. Gabelnick and

colleagues (1990) outlined five different models of learning communities based on

institution size, basic unit of instruction, and number of students involved. Similarly,

Levine-Laufgraben (2005) defined four learning community models based on comparable

criteria. However, Levine-Laufgraben specified that learning community students may

also live together, a model known as a living learning community.

The learning communities at the research site reflect the diversity in learning

community models. The researcher chose the learning communities selected for this

study because the psychology and education learning communities were similar in

design. Each discipline offered two separate learning community cohorts and each

learning community was taught by a unique faculty dyad. Thus, a total of eight faculty

members worked in pairs to teach each of the four learning communities selected for this

study. In contrast, some academic disciplines at the research site offered only one

learning community (e.g., criminology or English). In other cases, a department had two

cohorts of learning communities, but the two learning community cohorts joined together

for only one of their courses. For example, the two communication learning community

cohorts combined into one classroom for one of the paired courses. However, the two

learning community cohorts were enrolled in different course sections for the other paired

course. The similarity of selected psychology and education learning community models allowed the researcher to control for the effect of the learning community model between the two learning communities in the Social Media Use group and the two learning communities in the No Social Media group.

Social Media Use Group

The researcher included two pairs of faculty members teaching within the learning community program who used the social media app GroupMe as a communication method with their learning community students for the semester. One faculty dyad taught in the psychology department and included the researcher as an instructor. The other faculty dyad taught in the School of Education. In the context of this research study, the learning community students who shared enrollment in two courses are called a cohort. Thus, students in the psychology learning community cohort ($n = 16$) enrolled in eight credits of introductory psychology classes. Students in the education learning community cohort ($n = 21$) enrolled in six credits of introductory education classes.

Students in the learning community courses were not be required to use the GroupMe app to satisfy any portion of the courses' graded requirements. Rather, students' use of the app was voluntary. Students in the Social Media Use group were invited by a research assistant to complete questionnaires via SurveyMonkey (i.e., Background Information Questionnaire (Appendix H), Social Media Experience Questionnaire (Appendix I), and the Student Adjustment to College Questionnaire (Baker & Siryk, 1999). A total of 13 students in the psychology cohort and 13 students in the education cohort participated in the quantitative portion of the study.

To check for bias, the researcher compared participants' frequency of social media use from the psychology learning community cohort to the social media use of the education learning community in the Social Media Use group. There was not a statistically significant difference in participants' use of GroupMe between the cohorts, for overall, active, interactive, or responsive social media use. Table 3 indicates the frequency of participants' GroupMe social media activity by cohort.

Table 3
Type of GroupMe Social Media Activity by Cohort

Type of Social Media Use	Education (n = 13)		Psychology (n = 13)			
	M	SD	M	SD	t	p
Active	4.23	3.56	5.34	3.62	-.82	.42
Interactive	8.93	8.92	8.23	7.87	.21	.84
Responsive	16.46	22.35	18.31	20.70	-.22	.83
Overall	29.62	30.87	31.92	30.10	-.19	.85

A total of 35 students from the Social Media Use learning communities consented to participate in the qualitative portion of the study and have their GroupMe data analyzed. Three students in the Social Media Use group did use the GroupMe app with their learning community but did not consent to have their data included in the study. Therefore, the sample of participants for the mixed methods research portion of the study was further reduced because only the learning community students within the social media cohorts who consented to be part of the quantitative (*n* = 26) and qualitative (*n* = 35) aspects of the study could have their data integrated. Thus, a total of 22 participants

were included in the mixed methods research analyses because they consented to and participated in phase one and phase two of the study.

No Social Media Group

The researcher identified two pairs of faculty members within the learning community program who do not use social media within their courses to routinely communicate with their students. One learning community faculty-pair was from the psychology department. This faculty-pair taught the same two introductory courses as one faculty-pair in the Social Media Use condition. The School of Education had a second learning community cohort whose students enrolled in the same number of credit hours as the Social Media Use education learning community cohort. These two learning community cohorts were part of the control condition. The participation of the comparison group was minimal. The students who consented in the control condition were invited to complete the same measures via SurveyMonkey as the participants in the Social Media Use condition. However, there was no qualitative research component for the students in the control group because they did not use the GroupMe app with their learning community classmates and faculty.

Rationale for Selection of Participants for the Study

Purposeful selection for this research design is preferred. First, this study focuses on the social adjustment of college students in a learning community program. Therefore, participants must have had experience being part of a learning community. Second, by selecting participants from learning communities in which the faculty members offer social media communication to the entire class or do not, all participants in a single course had the same opportunity. Thus, no student had an additional advantage over his

or her classmates. Furthermore, if every learning community in the study offered a social media component, the results of the study may have reflected differences between those who opt-in or self-select out of using social media.

Instrumentation and Materials

Teaching Style Inventory 3.0

Grasha (1994) developed the Teaching Style Inventory 3.0, an assessment for determining the teaching styles among college professors. Gohagan (2000) reported the alpha level for the full measure of all five styles as $\alpha = .72$. The five styles (i.e. expert, formal authority, personal model, facilitator, and delegator) can be combined to establish a professor's primary style and a secondary style. Grasha called these combinations of teaching styles "clusters." For instance, a professor with primary teaching styles of expert and formal authority and secondary styles of personal model, facilitator, and delegator (i.e., Cluster 1) would teach though lectures and teacher-centered class discussions. This cluster of teaching styles is also associated with strict standards and an emphasis on grades or tests. Furthermore, questioning and discussions are teacher-centered (Grasha, 1996). Conversely, a professor with primary teaching styles expert, facilitator, and delegator and secondary styles of formal authority and personal model (i.e., Cluster 4) would rely more on student-designed group projects and cooperative learning activities (Grasha, 1994).

Previous research indicates that there is not a statistically significant difference in teaching styles by course level at the undergraduate level (Grasha, 1994). Furthermore, only faculty with the academic rank of full professor scored higher on expert teaching style compared to instructors, assistant professors, and associate professors. However,

Grasha reported differences in teaching styles among faculty from 10 different academic disciplines. Of interest to the current study, faculty in the social sciences had statistically significant higher scores on formal authority ($M = 5.01$) than faculty in education ($M = 4.50$). However, these scores are both moderate based on the test's established norms (see Figure 5). Grasha reported no other significant differences between the teaching styles of social sciences faculty and education faculty. Other differences in teaching style across disciplines emerged but are not central to the current study.

Teaching Style Inventory Ranges Based on Norms			
	Low	Moderate	High
Expert	1.0 – 3.2	3.3 – 4.8	4.9 - 7.0
Formal Authority	1.0 – 4.0	4.1 – 5.4	5.5 - 7.0
Personal Model	1.0 – 4.3	4.4 – 5.7	5.8 - 7.0
Facilitator	1.0 – 3.7	3.8 – 5.3	5.4 - 7.0
Delegator	1.0 – 2.6	2.7 – 4.2	4.3 - 7.0

Figure 5. Range of scores for the Teaching Style Inventory (Grasha, 1996; Richlin, 2006).

The researcher invited faculty members teaching the learning community courses selected for the current study to complete the Teaching Styles Inventory 3.0 (Grasha, 1996; Richlin, 2006). The researcher compared the teaching styles of the faculty members teaching the learning community students by discipline and condition. Faculty teaching styles were not significantly different by discipline on any of the five teaching styles, $ps > .19$. Faculty teaching students in the Social Media Use group ($M = 5.41$, *SD* = .16) scored higher on expert teaching style compared to the faculty teaching the control

group (M = 4.75, SD = .35), $t(4)$ = -3.40, p < .05. Additionally, faculty teaching students

in the Social Media Use group (M = 6.03, SD = .12) scored higher on formal authority

teaching style compared to the faculty teaching the control group (M = 4.81, SD = .09),

$t(4)$ = -12.49, p < .001. There was no significant difference between faculty teaching

students in the Social Media Use group verses the control group on personal model,

facilitator, and delegator teaching styles, ps > .08. The full inventory and scoring key can

be found in Appendix J.

GroupMe

GroupMe is a social media application that allows users to send messages to

group members from their smartphone or computer (GroupMe, Inc, 2018). Additionally,

users can share photos, videos, emojis, weblinks, and more. GroupMe users are not

anonymous and users must be invited to join a group. Therefore, group membership can

be limited to only those students enrolled in one learning community cohort.

SACQ

The SACQ (Baker & Siryk, 1999) is proprietary and therefore the entire

questionnaire cannot be included in its entirety in this dissertation. The researcher

obtained a limited-use license for the SACQ in a digital format (see Appendix K). The

SACQ is a 67-item Likert-type scale questionnaire that assesses the full Adaptation score

and four subscales: Academic Adjustment, Personal–Emotional Adjustment, Social

Adjustment, and Attachment (to the institution). Only two items (i.e., "I feel I have good

control over my life situation at college" and "I feel confident that I will be able to deal in

a satisfactory manner with future challenges here at college") appear solely on the full

Adaptation score and not any of the subscales. Some items are present in more than one subscale.

A sample statement from the 24-item Academic Adjustment subscale is "*I have been keeping up to date on my academic work.*" Personal-Emotional Adjustment is measured by 16 statements, including "I have been feeling tense or nervous lately." The sample statement "I am very involved with social activities in college" is one of 20 items that assesses Social Adjustment. Lastly, Attachment is measured by 15 items, including "I am pleased now about my decision to go to college." More information about the scale can also be found at: https://www.wpspublish.com/store/p/2949/(SACQ™)-Student-Adaptation-to-College-Questionnaire™-.

Practitioners and college administrators using the SACQ (Baker & Siryk, 1999) convert raw scores into *T*-scores and percentiles according to the tables provided in the SACQ Manual. However, for research purposes, the raw scores will be used for statistical comparisons (e.g., Cousins, Servaty-Seib, & Lockman, 2017; Darlow et al., 2017; Yang & Robinson, 2018). Therefore, the researcher will utilize participants' raw scores for the statistical analyses in this study and report internal reliability values for the scores.

Additionally, the developers of the SACQ do not recommend that the full Adaptation score be the stand-alone score to determine a student's adjustment to college (Baker & Siryk, 1999). They explain that two students may have the exact same Full Scale Score but differ in their subscale scores. For instance, one student's Full Scale Score may be influenced more by Attachment and another student's Full Scale Score may

be more influenced by Social Adjustment. In this case, the students' experiences

adjusting to college are different despite the exact same Full Scale Score.

Reliability. The reliability of a scale translates to the consistency of responses to

the questions on all of the instrument's items. Instruments with high internal reliability

indicate that people who rate one question highly will also rate similar questions highly.

Cronbach's alpha coefficient is a statistical representation of the reliability of a measure

that ranges from 0 to 1.0. Unlike Spearman's split-half reliability technique that compares

the even and odd items of a test, Cronbach's technique considers all the possible splits in

a test (Cronbach & Shavelson, 2004). Although the current study focuses only on

participants' social adjustment scores, the alpha coefficients for all scales of the SACQ,

as reported by the SACQ Manual (Baker & Siryk, 1999), are as follows: Full Scale (α =

.85 to .91), Academic Adjustment (α = .81 to .90), Personal-Emotional Adjustment (α =

.77 to .86), Social Adjustment (α = .83 to .91), and Attachment (α = .85 to .91).

Typically, tests and measures with alpha coefficients above .70 are considered reliable.

These alpha coefficients were calculated based on the assessment of approximately 1,000

students at several institutions over a four year period.

Procedures

Prior to beginning the study, the researcher obtained permission to conduct the

research from the college's Institutional Review Board (IRB). The researcher satisfied

any concerns that the IRB had regarding the treatment of participants, collection of data,

storing of data, and reporting of the results before beginning the study.

Participants were not randomly assigned to the Social Media Use group or the

control group that does not use social media as a communication tool within the learning

community. Rather, the college's academic advisors assigned all first-semester students to a learning community. No first-semester students are able to opt-in or opt-out of a learning community.

Ethical use of social media is especially important within the learning community because GroupMe communication serves as an extension of the classroom. Thus, psychology and education learning community faculty members were invited to participate in the research study. A copy of the email recruitment scripts can be found in Appendix L. Those faculty who consented (see Appendix M) to participate in the study and were part of the Social Media Use group received Ethical Communication Using Social Media in Education (ECUSME) training prior to the beginning of the fall 2019 semester. The ECUSME training encompassed the principles of Kent and Taylor's (2002) dialogic theory (see Figure 1) and how these principles can guide educators' decisions when communicating with their students using social media. Faculty members teaching courses in the No Social Media group were asked to refrain from using social media applications with their learning community students. These faculty members were able to use standard forms of communication with students (e.g., in-person communication, email, course management system communication). Additionally, the faculty members in the control group had the opportunity to participate in the ECUSME training after all data had been collected.

Faculty members' teaching styles were also assessed in order to statistically control for differences among faculty members. Thus, prior to the start of the fall 2019 semester, the researcher gave the faculty members in the Social Media Use group and the control group the opportunity to complete the 40-item Teaching Style Inventory 3.0

(Richlin, 2006) after signing a consent form (Appendix N). A full list of inventory items included as well as the scoring key can be found in Appendix J.

All participants in the Social Media Use and control conditions had the opportunity to complete the same online questionnaires regarding their background information, experience with social media, and adaptation to college via SurveyMonkey. Within the first weeks of classes (approximately late August), participants in all four of the learning community cohorts had the opportunity to sign a consent form and complete the Background Information Questionnaire (see Appendix H) and the 67-item Student Adaptation to College Questionnaire (SACQ). A research assistant obtained signed consent forms from students in the selected learning community courses and provided access to the questionnaires during regular class time. The researcher and the course faculty together established the best time for the research assistant to obtain consent forms and for participants to complete the questionnaires (e.g., the end of class). The initial results of the SACQ served as a baseline for assessing changes in social adjustment. Then, within the last two weeks of the semester (approximately late November), all participants had the opportunity to complete the Social Media Experience Questionnaire (see Appendix I) and the SACQ. The students completed the questionnaires at a time that was agreeable to the researcher and course faculty. The questionnaires took no more than 30 minutes to complete at each point in the semester.

Although the Social Media Experience Questionnaire was the same online form for all participants in the Social Media Use group and the control group, some participants could skip questions pertaining to the GroupMe app (see question 4 in Appendix I). It was possible that some participants in the Social Media Use group would

not use the GroupMe app within their classes. Similarly, it was possible that some

students in the control group would independently, and without their faculty members'

knowledge, adopt the GroupMe app to use with some of their learning community

classmates. Therefore, all participants had the opportunity to disclose their experiences

with GroupMe regardless of the study condition in which they were enrolled. These

questionnaires took no more than 30 minutes to complete at the beginning of the semester

and no more than 30 minutes to complete at the end of the semester.

The researcher analyzed the GroupMe content for the students in the Social Media

Use group because these students were the only ones who posted content that was visible

to all students and faculty within their learning community. Faculty members who agreed

to use the GroupMe app for the semester requested that their students use the app.

However, students' use of the app was voluntary and they were not be required to post

content, reply to content, or "like" any content. The researcher reviewed the content and

classified it as active, interactive, or responsive for each individual. Then, during phase

two of the study, the content was analyzed again for qualitative codes and themes.

Recruitment

The researcher recruited participants for the research study through previously

identified faculty members' learning community courses (i.e., introductory psychology

and introductory education courses). However, students enrolled in these courses were

not automatically enrolled in the research study. Rather, a research assistant visited one

classroom for each of the four previously identified learning communities and invited all

students enrolled to participate in the study. Participation in the research study was

voluntary. However, students who participated may have been eligible for research

participation credit through the psychology department Sona-System research pool or for

extra credit if their course faculty member offered extra credit as an incentive. The

research assistant distributed consent forms to the students and instructed students on

how to create personal codenames that the researcher used to match participants'

responses to the questionnaires from the beginning and the end of the semester.

Data Collection Procedure

The researcher recorded the frequency of participants' interactive (i.e., directed

posts and replies), active (i.e., non-directed posts), and responsive (i.e., "likes" and votes)

GroupMe actions in an Excel database on a password-protected computer. Data was

recorded by day of use and aggregated by week, month, and semester for each student.

Figure 6 is an example of the Excel database that was used for the study. The study's

design did not allow the researcher to directly assess passive social media use (i.e.,

browsing) and was not included in the database.

	A	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1		3-Oct Wed			4-Oct thurs			5-Oct Fri			6-Oct Sat			Total	Week7		Total
2	Name	Active	Interactive	Responsive	Active	Interactive	Responsive	Active	Interactive	Responsive	Active	Interactive	Responsive	Active	Interactive	Responsive	Activity
3	Abc1			2										0	0	4	4
4	Abc2		1	3			1				1	1		1	2	4	7
5	Abc3			2			3						1	0	0	7	7
6	Abc4													0	0	0	0
7	Abc5			1									1	1	2	2	5
8	Abc6			2										1	0	2	3
9	Abc7			3	1		3					1		0	2	7	9
10	Abc8	1		2			1						1	1	1	4	6
11	Abc9			1	1		1							2	1	3	6
12	Abc10			1			1						2	2	1	5	8
13	Abc11			3			3						2	0	0	9	9
14	Abc12			2	3		1						1	3	0	4	7
15	Abc13			1										0	0	1	1
16	Abc14	1					1							2	1	2	5
17	Abc15			2			3						2	0	0	8	8
18	Abc16	3	1	2									1	3	1	3	7
19	Abc17													0	0	0	0
20	Abc18			3									2	0	0	6	6
21	Abc19													0	0	0	0
22	Faculty												1	0	0	2	2
23	Faculty	1	1	3	1		1				1		2	5	7	9	21
24	SUM	6	3	33	5	2	18	0	0	0	2	2	16	21	18	82	121

Figure 6. Participants GroupMe use sample Excel datafile.

Additionally, the researcher safeguarded the content posted to GroupMe by

copying and pasting the user content (i.e., posts, replies, images, polls) into a Word

document that was stored on a password-protected computer. All qualitative data files were stored on a password-protected computer.

Those students who agreed to participate in the study signed a consent form and completed online surveys at the beginning (late August) and at the end (late November) of the fall 2019 semester. Participants in the Social Media Use group signed an additional consent form (see Appendix E). The initial survey included the Background Information Questionnaire (see Appendix H), and SACQ. The end-of-semester survey included the Social Media Experience Questionnaire (see Appendix I) and the SACQ. Participants completed the surveys via SurveyMonkey (2018), a password-protected online survey tool. Students who did not consent to participate in the research did not complete the online surveys.

The researcher matched participants' data from the surveys to their GroupMe data by asking participants to create a personally generated codename known only to themselves. The codename was recorded on a detachable portion of the consent forms. Once the social media use data and online surveys (i.e., Social Media Experience Questionnaire, Background Information Questionnaire, and SACQ) data had been matched for each participant, the codenames were detached from the consent form and stored in a separate file folder in a file cabinet.

Participants chose a codename based on the last two digits of their telephone number and first five letters of the street they grew up on. For example, if a participant grew up on Roosevelt St. and her phone number was (123) 555-7547, then her codename would be 47Roose. Once all data was collected and paired, participants' real names were deleted from all databases, and participants and their associated data were referred to only

by the codenames. All data were kept confidential and private by removing participants'

names from the data as soon as possible. Additionally, the data were kept on a password-

protected computer device and/or in a locked file cabinet. Students who did not consent

to participate in the study did not have their quantitative or qualitative GroupMe data

included in the study.

Timeline for data collection. There were two main sources of data for this study:

the GroupMe app and the online surveys (i.e., Social Media Experience Questionnaire,

Background Information Questionnaire, and two SACQs). The researcher collected data

using the GroupMe app over a 16-week semester, specifically fall 2019 (see Figure 7).

Faculty members who participated in the Social Media Use condition of the study

introduced the app to their students on the first day of classes. The first day of class

served as the beginning point of data collection. Data collection ceased on the last day of

regularly scheduled class (i.e., early December). Students who wished to continue using

the app between the last day of class and their course finals were able to do so; however,

these communications were not included in the database.

The researcher collected data from the online survey portion of the study during

the beginning (late August) and the end of the semester (late November). According to

the SACQ Manual (Baker & Siryk, 1999), the survey takes no more than 20 minutes to

complete. Thus, the initial survey, which includes the Background Information

Questionnaire and the SACQ took no more than 30 minutes to complete. The end-of-

semester survey (i.e., Social Media Experience Questionnaire and the SACQ) took

approximately 30 minutes to complete.

Date	Individuals	Group	Procedure
Mid-August	Faculty	Social Media Use	• Signed consent form • Completed teaching style inventory • Received ECUSME training
		No Social Media	• Signed consent form • Completed teaching style inventory
August 20-21 (First day of classes)	Faculty Students	Social Media Use	• Began using GroupMe app
Late August	Students	Social Media Use No Social Media	• Signed consent form • Completed SACQ for baseline • Completed Background Information Questionnaire
Late November	Students	Social Media Use No Social Media	• Completed end-of-semester SACQ • Completed Social Media Experience Questionnaire
December 6 (Last day of classes)	Faculty Students	Social Media Use	• GroupMe data collection period ended

Figure 7. Data collection timeline.

Validity and reliability of data collection processes. GroupMe app data were

recorded within the app and users were unable to delete their own or others' posts.

Therefore, the collection of interactive and active use of the app was highly accurate.

However, GroupMe users have the ability to add and remove 'likes;' therefore, this

responsive form of social media data could have been changed by the individuals who

originally posted them. To ensure the integrity of this form of data was retained and

accurately captured, the researcher recorded the data more frequently and stored the

record of the responsive posts offline.

Design-based decisions. The current study measured first-semester learning

community students' social adjustment over a 16-week semester. Measures of social

adjustment occurred at the beginning and the end of the semester. This pattern of assessment was used in previous research to assess changes in student adaptation to college via the SACQ (see Conti, 2000). A research assistant invited participants to complete the initial online survey (i.e., Background Information Questionnaire and SACQ) in late August. The results of the initial SACQ served as a baseline measure of student adaptation to college. Participants completed the end-of-semester survey (i.e., Social Media Experience Questionnaire and SACQ) prior to final exam week (i.e., late November) so that participants were not distracted from their final exams. Students who did not consent to participate in the research had their GroupMe data excluded from the analyses.

Processes to Ensure Valid and Reliable Results

This study had two sources of quantitative data: faculty and students. Faculty members teaching students in the Social Media Use group and the control group completed the 40-item Teaching Style Inventory 3.0 (Grasha, 1996; Richlin, 2006). The full survey can be found in Appendix J. However, only faculty and students in the Social Media Use group used GroupMe with their learning community cohort and had their GroupMe data recorded quantitatively and qualitatively.

Quantitative Data

GroupMe. In the current study, the researcher took a direct approach to measuring participants' use of GroupMe with their classmates and the faculty within their learning community. The literature reports on previous work that has relied on indirect (i.e., self-report) measures of students' social media use. The following studies are not an exhaustive review of self-reported social media use in research on social adjustment.

Rather, these are a few examples spanning the literature on various types of social media. In one case, DeAndrea, Ellison, LaRose, Steinfield, and Fiore (2012) assessed students' self-reported use of their university's student-only social media site on students' perceptions of their ability to form social relationships at college. In another study, Raacke and Bonds-Raacke (2015) correlated scores on the SACQ scores with information on the types of social accounts students had (i.e., Facebook or MySpace) and the frequency of use for each account. Similarly, Yang and Robinson (2018), asked participants to rate their use of Instagram as interactive, active, and passive and then compared the frequency of participants self-reported use to social adjustment scores on the SACQ.

The researcher built from previous researchers' (e.g., Yang, 2016; Yang & Robinson 2018) classification of social media use (see Figure 8). Interactive social media use included replying to content, directly targeting a person in a post, or interacting with another person via social media. Active social media use included broadcasting information or content without a specific person in mind. Lastly, passive use involved only looking at content or scrolling though posts without engaging. The only way to determine if a person is passively using the GroupMe app is to ask him or her to self-report their passive use of the app. However, previous research did not specifically address "likes" or other preformed responses (e.g., "heart" or voting in a poll) on social media posts or replies. Therefore, the researcher also included this personally directed, low involvement responsive data to capture a more valid measure of social media use (see Figure 9).

Passive   Active   Interactive

Low   High

Level of Interaction
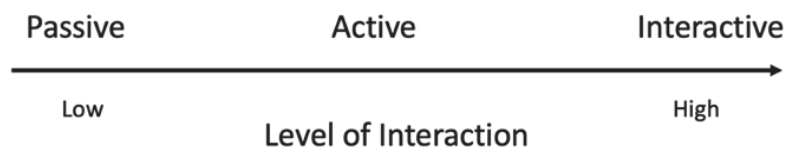
Figure 8. Linear representation of social media use classification.

High

Personal-Direction

Responsive (e.g., likes, poll votes)	**Interactive** (e.g., personally directed posts, replies)
Passive (e.g., scrolling, browsing)	**Active** (e.g., non-directed, general posts)

Low

Low   High

Involvement
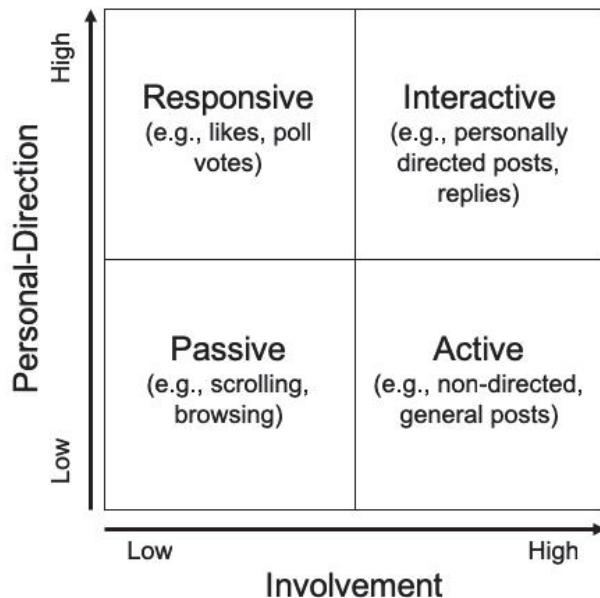
Figure 9. Current research study's two-dimensional classification of social media use.

Users' posted content on the GroupMe app cannot be deleted. Therefore, the interactive and active content was stable and an accurate measure of use. At the end of the semester, the researcher compared the frequency of social media use of the learning community cohorts and reported data differences between the groups in the results. Comparing the data at the end of the semester was possible because users' posted content (i.e., interactive and active) on the GroupMe app could not be deleted.

Teaching styles. Although teaching styles are not the focus of the proposed study, reporting the results of the Teaching Style Inventory 3.0 for faculty members strengthens the validity of the proposed study. Specifically, the researcher reported the categorical

results of the five teaching styles for the faculty of the Social Media Use group courses and the faculty of the control group courses. The researcher will classify the faculty members' scores as low, moderate, or high in each of the teaching styles based on established norms (see Figure 5) (Richlin, 2006).

The researcher did not include individual faculty scores for two main reasons. First, the students in the learning communities are part of either the Social Media Use group or the control group. Therefore, the faculty teaching these courses were treated as a group, respectively. Second, the results were reported as a set of scores in order to maintain the confidentiality of the faculty members. This comparison allowed the researcher to understand if teaching style may be a confounding variable. If the learning community cohorts for the Social Media Use group and the control group have a balance of teaching styles among their faculty, then differences in social adjustment are less likely to be the result of teaching style.

Qualitative Data

To ensure valid and reliable results for the qualitative phase of the study, the researcher maintained a reflective journal during the fall 2019 semester as well as during the qualitative data analysis process. A reflective journal serves several purposes. First, Peshkin (1988) recommends that researchers continuously seek out their subjectivity throughout the research process and not wait until the end of the research study. He further explains that the more conscious researchers are of their biases then the better they are able to disclose them in their research. Second, journals may be used as a way to maintain an audit trail to document the integrity of the qualitative research process (DeCuir-Gunby & Schutz, 2017). Third, researchers can add credibility to a study by

including information about themselves in the research (Patton, 1999). Thus, the researcher disclosed her position as a faculty member of a learning community in the study and, more generally, her experience as a college instructor.

Conclusion

This chapter first reviewed the initial pilot study, the current research study's design, rationale for the selected methodology, characteristics of the participants and sampling procedures, rationale for the selected research site, rationale for the selected learning community type, explanation of the treatment condition, and all instruments and materials. Then, the procedures, including recruitment process, data collection procedure, validity and reliability of the data collection process, and design-based decisions were explained. Lastly, the processes to ensure valid and reliable results were presented, including the study's novel two-dimensional classification of social media use and qualitative data analysis process.

The current study used a quasi-experimental explanatory sequential mixed methods research design to investigate the influence of social media on the social adjustment of first-semester college students enrolled in a learning community. The researcher selected GroupMe as the social media app to use in the study based on the results of the pilot study. Namely, students found the app to be easy to use and perceived the app to be ethical based on elements of Dialogic Theory (Kent & Taylor, 2002; Taylor & Kent, 2014). The study began with a quantitative focus by utilizing the SACQ (Baker & Siryk, 1999), a statistically reliable measure of student adjustment to college. Additionally, social media use within the learning community was quantitatively measured using GroupMe data and qualitatively analyzed the participants' GroupMe

active, interactive posts for communication themes. Lastly, the researcher conducted the

mixed methods analysis and continually reevaluated the mixed methods research question

as part of this process. The two types of data were integrated to increase the depth of

understanding of the quantitative results and qualitative findings.

CHAPTER IV: RESULTS AND FINDINGS

An explanatory sequential mixed-methods research design requires that the analysis of quantitative data is conducted first. The results then inform the qualitative analysis procedure. Qualitative data analysis is a complex process of recognizing patterns and interpreting the data to increase the understanding of the area of study (Tai & Ajjawi, 2016). When researchers engage in a qualitative analysis they are attempting to answer "what" or "how" research questions rather than comparing groups or variables as they do in a quantitative analysis (Onwuegbuzie & Leech, 2006). In an explanatory sequential mixed methods design, researchers conduct a qualitative analysis in phase two of the study (Creswell & Plano Clark, 2018).

Lastly, the results of the quantitative and qualitative analyses are mixed. The qualitative results are used to provide a deeper understanding of the quantitative results (Creswell & Plano Clark, 2018). Thus, the results of the quantitative analyses precede the results of the qualitative analysis and the integration of the data in the reporting of the results of the current study.

Individuals who consent to be a part of the first phase of a study with a sequential design may or may not consent to participate in the second phase of the research. In the current quasi-experimental study, students were part of a learning community and their participation in the study was not a requirement of their enrollment in their learning community. Accordingly, the quantitative results ($n = 44$), qualitative findings ($n = 35$), and mixed methods results ($n = 22$) have varying sample sizes based on the voluntary consent of students to participate in each phase of the study.

Quantitative Results

The researcher conducted a series of quantitative analyses in order to answer the two research questions. First, does Tinto's interactional theory of student attrition explain the relationship between social media use and social adjustment, as measured by the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999)? The null hypothesis for this research question predicted that there would be no difference between the change in students' SACQ Social Adjustment subscale raw scores in the social media condition and no social media condition (control). The alternative hypothesis (H_1) predicted that the change in the SACQ's Social Adjustment subscale raw scores would be greater for students in the social media condition than for students in the no social media condition. The statistical analyses used to test H_1 include a series of mixed-subjects factorial ANOVAs and independent *t*-tests to establish baseline equivalencies.

The second quantitative research question investigates the relationship between the types of social media use (i.e., interactive, active, and responsive) and the students' social adjustment to college as measured by the SACQ. The null hypothesis predicted no relationship between the type of social media use of participants in the social media use group and the change in their SACQ raw scores. The alternative hypotheses predicted a positive relationship between students' frequency of interactive (H_2), active (H_3), responsive (H_4), and overall (H_5) social media use and changes in SACQ Social Adjustment raw scores. The statistical procedures used to test these hypotheses include a series of linear regressions and polynomial regression analyses.

A regression analysis is a statistical analysis used to determine the relationship between the independent variable and the dependent variable (Kaplan & Saccuzzo,

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2005). Unlike a correlational analysis, a regression analysis results in an equation that can be used to determine the predictive relationship between the variables. Using the current study as an example, if the amount of a participant's social media use is known, then it is possible to predict the participant's social adjustment score. A linear or polynomial regression may be used when the dependent and independent variables are continuous. Both of these types of statistical procedures determine a line of fit or regression line. However, a linear regression estimates a straight line of best fit whereas a polynomial regression estimates a curvilinear line of fit.

Social Media Experience Descriptive Statistics

  General social media. Participants in the Social Media Use group and the control group indicated that they have experience with social media platforms. The most frequently used social media platforms amongst participants were Instagram (95.5%) and Snapchat (95.5%). Participants also indicated that they used Facebook (70.5%), YouTube (65.9%), Twitter (54.5%), and Slack (2.3%). Two participants marked 'other' on the survey and specified that they used Pinterest and Tumblr. The majority of participants in the Social Media Use group (92.3%) and the control group (83.3%) reported using GroupMe. Participants reported using Snapchat (45.5%) the most frequently, followed by Instagram (29.5%), YouTube (18.2%), Facebook (2.3%), Twitter (2.3%), and GroupMe (2.3%). Lastly, participants self-reported the frequency with which they check their social media accounts. The majority of participants checked their social media accounts three or more times a day (79.5%). An additional 13.6% reported that they checked their accounts one to two times a day. Only one participant indicated that they did not use social media.

GroupMe. A total of 26 participants in the treatment condition rated their experience using the GroupMe social media app with their learning community classmates and faculty members. Participants rated their experience with the app on a five-point Likert scale (1 = low). The five survey questions were associated with the five dimensions of Kent and Taylor's (2002) dialogic theory. For example, Kent and Taylor's empathy factor includes acknowledging others' voices. The survey item associated with empathy asked participants "Please rate how acknowledged your voice was within the GroupMe communication." No participants rated their use of the GroupMe app lower than a three on any of the dimensions. Furthermore, an independent samples t-test indicated that there was no difference in ratings on any of the items by learning community department, ps >.13. Table 4 lists the descriptive statistics and t-test results for each dimension.

Table 4
Student Ratings of GroupMe by Discipline

Dialogic Theory Dimension	Education		Psychology			
	M	*SD*	*M*	*SD*	*t*(24)	*p*
Mutuality	4.54	.78	4.54	.66	.00	1.00
Propinquity	4.08	.64	4.23	.23	-.53	.60
Empathy	4.08	.76	4.38	.65	-1.11	.28
Risk	4.15	.80	4.08	.76	.80	.80
Commitment	4.69	.48	4.31	.75	.13	.13

Hypothesis 1

The first hypothesis in the current study predicted that the change in the SACQ's Social Adjustment subscale raw scores would be greater for students in the social media condition than for students in the no social media condition. The data indicate a failure to reject the null hypothesis. There was no difference between the change in students' SACQ Social Adjustment subscale raw scores in the social media use condition and control condition. A series of 2 x 2 x 2 mixed-subjects factorial ANOVAs were conducted with condition (social media, control) and department (psychology, education) as the between subject factors and baseline and post-treatment assessments of SACQ-Full Adjustment, SACQ-Social Adjustment, SACQ-Academic Adjustment, SACQ-Personal/Emotional Adjustment, and SACQ-Attachment as the repeated, dependent measures.

As with any repeated measures design it is important to establish baseline equivalencies on the dependent measures. Therefore, a series of independent samples t-tests were conducted to test for differences in initial scores on the SACQ and subscales from the beginning of the fall semester. First, Levene's test for equality of variances for all independent t-tests was checked and the results were not significant. Therefore, the assumption of equal variances was met. Students in the social media use condition ($M = 170.11$) reported lower baseline of Academic Adjustment than those in the control group ($M = 189.12$), $t(42) = 2.71$, $p = .01$. Participants in the social media use condition did not differ significantly from those in the control condition on any of the other dependent measures collected at baseline, ps > .06. Table 5 includes the results of the series of the independent samples t-tests, including means and standard deviations for the social media

use group and the control condition for all SACQ dependent measures.

Table 5
Baseline SACQ Independent Samples t-Tests

SACQ Baseline	Social Media		Control			
	M	*SD*	*M*	*SD*	*t*(42)	*p*
Full Scale	461.60	70.29	485.19	52.17	1.21	.23
Social Adjustment	138.73	28.30	132.00	23.82	-.83	.41
Academic Adjustment	170.11	24.69	189.12	19.91	2.71*	.01
Personal-Emotional Adjust.	87.77	22.21	97.11	18.65	1.46	.15
Attachment	115.77	16.48	115.17	13.16	-.13	.90

SACQ-Social Adjustment. Overall, for all 44 participants, there was no significant change in Social Adjustment scores from baseline (*M* = 72.49% or 135.98, *SD* = 16.55% or 26.48) to post-treatment (*M* = 71.68% or 134.68), *SD* = 17.48% or 27.97), *F* < 1, ηp^2 = .00. In other words, altogether the social adjustment of the students in the learning communities who took part in the study did not change significantly. As shown in Table 6, there was a significant interaction between the baseline and post-treatment assessments and condition, $F(1, 40) = 4.36$, $p = .04$, $\eta p^2 = .098$. Planned paired-sample *t*-tests revealed that for those in the control condition there was no significant difference between baseline Social Adjustment score (*M* = 70.00% or 132.00, *SD* = 14.89% or 23.82) and the post-treatment score (*M* = 73.13% or 137.00, *SD* = 14.63% or 23.40), $t(17) = 1.085$, $p = .29$, *Cohen's d* = .21.

Table 6

Two-way Interaction SACQ Scores from Baseline to Post-Treatment

SACQ Scale	Social Media		Control			
	M_1	M_2	M_1	M_2	$F(1,40)$	p
Full Scale	461.60	431.23	485.19	463.22	0.39	.535
Social Adjustment	138.73	133.08	132.00	137.00	4.36*	.043
Academic Adjustment	170.11	158.96	189.12	172.67	1.05	.311
Personal-Emotional Adjust.	87.77	76.73	97.11	89.06	0.44	.512
Attachment	115.77	110.19	115.17	112.67	0.62	.437

* $p < .05$

However, for those in the social media use condition there was a decrease in Social Adjustment from baseline to post-treatment that approached significance, $t(25) = -2.05$, $p = .052$. Additional follow-up independent samples t-tests indicated that on the post-treatment assessment, those in the social media use group were not significantly less socially adjusted ($M = 70.68\%$ or 133.08, $SD = 19.43\%$ or 31.09) compared to those in the control condition ($M = 73.13\%$ or 137.00, $SD = 14.63\%$ or 23.40), $t(42) = .45$, $p = .65$, *Cohen's d* $= .14$. Figure 10 illustrates the two-way interaction of social adjustment by condition. There was no significant interaction between test of social adjustment and department, $F < 1$. There was also no three-way significant interaction between test of Social Adjustment, department, and condition, $F < 1$. To summarize, despite an almost significant reduction in Social Adjustment from baseline to post-treatment for participants in the social media use condition, they were still not significantly less socially adjusted compared to the control participants after treatment.
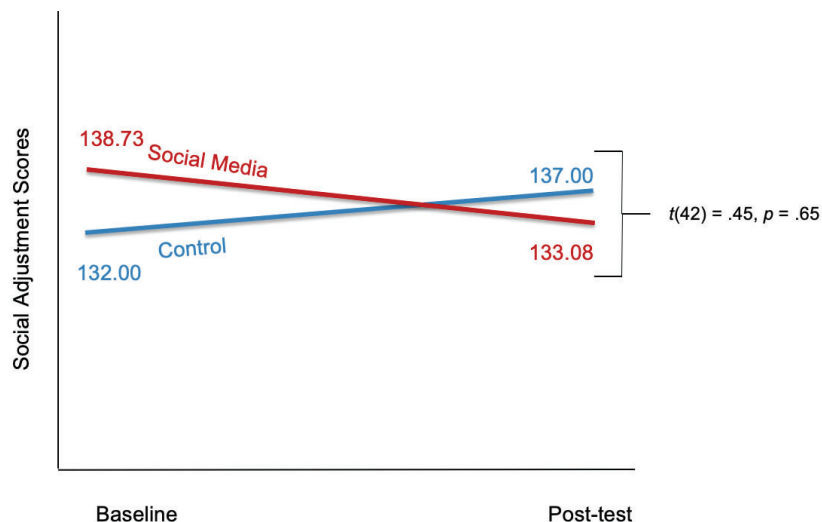
Figure 10. Conceptual representation of the two-way interaction of social adjustment by condition

SACQ-Academic Adjustment. Overall, for both learning communities combined, there was a significant decrement in Academic Adjustment scores from baseline (M = 80.15% or 177.89, SD = 12.76% or 24.15) to post-treatment (M = 73.18% or 164.57), SD = 12.58% or 24.50), $F(1, 40) = 26.01$, $p < .001$, $\eta p^2 = .39$. In other words, altogether, the participants in the learning communities did experience a decrease in academic adjustment over the span of the semester. As shown in Table 6, the significant decline in Academic Adjustment scores did not vary as a function of condition or department for the two-way interaction between the baseline and post-tests and condition and the three-way interaction between test, condition, and department was not significant, $Fs < 1$. To summarize, participants in both the control and treatment conditions reported a significant decrease in Academic Adjustment from baseline to post-treatment.

SACQ-Personal / Emotional Adjustment. Overall, for both learning communities combined, there was a significant decrement in Personal /Emotional

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Adjustment scores from baseline (M = 63.83% or 91.59, SD = 17.65% or 21.18) to post-treatment (M = 55.64% or 81.77), SD = 19.45% or 23.34), $F(1, 40)$ = 17.56, $p < .001$, ηp^2 = .31. As indicated in Table 6, the significant decline in Personal /Emotional Adjustment scores did not vary as a function of condition or department for the two-way interaction between the baseline and post-tests and condition and the three-way interaction between test, condition, and department was not significant, $Fs < 1$. To summarize, participants in both the control and social media use conditions reported a significant decrease in SACQ- Personal/Emotional Adjustment from baseline to post-treatment.

SACQ-Attachment. Overall, for both learning communities combined, there was a significant decrement in Attachment scores from baseline (M = 83.77% or 111.20, SD = 12.54% or 19.64) to post-treatment (M = 80.18% or 115.53), SD = 16.37% or 15.05), $F(1, 40)$ = 5.23, p = .028, ηp^2 = .12. As shown in Table 6, the significant decline in Attachment scores did not vary as a function of condition or department for the two-way interaction between the baseline and post-tests and condition, and the three-way interaction between test, condition, and department was not significant, $Fs < 1$. To summarize, participants in both the control and Social Media Use conditions reported a significant decrease in Attachment from baseline to post-treatment.

SACQ-Full. Overall, for both learning communities combined, there was a significant decrement in SACQ-Full scores from baseline (M = 75.42% or 471.25, SD = 11.93% or 63.92) to post-treatment (M = 70.40% or 444.32), SD = 13.29% or 71.22), $F(1, 40)$ = 17.87, $p < .001$, ηp^2 = .31. As shown in Table 6, the significant decline in SACQ-Full scores did not vary as a function of condition or department for the two-way interaction between the baseline and post-tests and condition, and the three-way

interaction between test, condition, and department was not significant, $Fs < 1$. To summarize, participants in both the control and social media use conditions reported a significant decrease in SACQ-Full from baseline to post-treatment.

Hypothesis 2

Hypothesis 2 predicted that there would be a relationship between students' frequency of interactive social media use and change in SACQ Social Adjustment raw scores. To test the predictive relationship between interactive social media use (e.g., personally directed replies) and changes in SACQ Social Adjustment scores, a linear regression analysis was conducted. There was no significant relationship between students' frequency of interactive social media use and change in Social Adjustment raw scores, $F(1, 24) < 1$ ($R^2 = .01$, $p = .72$). Furthermore, to rule out the presence of a curve in the regression line, a curvilinear or quadratic regression analysis was calculated. The results indicated that there was not a significant interaction between interactive social media use and changes in Social Adjustment raw scores, $F(1, 23) < 1$ ($R^2 = .05$, $p = .59$).

Hypothesis 3

Hypothesis three predicted a relationship between students' frequency of active social media use (e.g., posts) and change in Social Adjustment raw scores. However, the results of the linear regression analysis did not indicate the presence of a relationship between the variables, $F(1, 24) < 1$ ($R^2 = .00$, $p = .91$). A curvilinear regression analysis was conducted to rule out the presence of a curve in the regression line. The result of the analysis was not significant, $F(1, 23) < 1$ ($R^2 = .02$, $p = .76$). Therefore, the alternative hypothesis was rejected.

Hypothesis 4

Hypothesis four predicted a relationship between students' frequency of responsive social media use (e.g., likes) and change in Social Adjustment raw scores. The results of the linear regression analysis indicated that there was no relationship between the variables, $F(1, 24) < 1$ ($R^2 = .01$, $p = .66$). A further curvilinear regression analysis did not indicate the presence of an interaction, $F(1, 23) < 1$ ($R^2 = .02$, $p = .82$). The alternative hypothesis was rejected.

Hypothesis 5

The final quantitative hypothesis predicted a relationship between students' overall frequency of social media use and change in SACQ Social Adjustment raw scores. The data indicate a failure to reject the null hypothesis. A linear regression was conducted to predict changes in SACQ Full and four subscale scores based on Total Social Media use. There was no relationship between students' overall frequency of social media use and change in SACQ Social Adjustment raw scores, $F < 1$ ($R^2 = .01$, $p = .67$). Additionally, a curvilinear regression analysis was calculated to rule out an interaction, $F < 1$ (R^2 of .02, $p = .68$). Table 7 includes a list of the results of linear and quadratic regression analyses for the SACQ Full scale scores as well as the four subscales and total social media use.

Table 7
Predicting Change in SACQ Scores from Total Social Media Use

Step	R^2	ΔR^2	F for ΔR^2	df	p
Full Scale Scores					
1: Linear	.02	.12	.39	1, 24	.54
2: Quadratic	.02	.00	.00	1, 23	.96
Social Adjustment					
1: Linear	.01	.01	.18	1, 24	.67
2: Quadratic	.02	.01	.17	1, 23	.68
Academic Adjustment					
1: Linear	.03	.03	.67	1, 24	.42
2: Quadratic	.06	.04	.90	1, 23	.35
Personal-Emotional Adj.					
1: Linear	.07	.07	1.17	1, 24	.20
2: Quadratic	.11	.04	.97	1, 23	.34
Attachment					
1: Linear	.02	.00	.01	1, 24	.93
2: Quadratic	.14	.02	.42	1, 23	.52

Qualitative Findings

The qualitative research question aimed to add a deeper of understanding of how students and faculty use social media within the context of a learning community. Specifically, the qualitative research question sought to understand the topics of communication that first-semester students enrolled in a learning community program use social media to communicate with their learning community classmates and course faculty members. Although the learning community faculty used GroupMe as part of their regular course communication, students' use of GroupMe was voluntary. Additionally, students could participate in the course and use GroupMe with their learning community and not be part of the study. Therefore, a total of 35 participants from the Social Media Use group consented to have their GroupMe analyzed for the qualitative phase for the study.

The researcher imported the GroupMe data into NVivo qualitative analysis software. The GroupMe data included text, images, and emojis. Accordingly, data from 116 active posts and 258 interactive posts were included in the analyses. The 404 responsive (e.g., likes) uses of GroupMe were quantitative and could not be included in the qualitative analyses. However, responsive data is summarized numerically in parentheses after the participant's name to indicate the number of users who "liked" that specific post or reply. All active, interactive, and responsive data is summarized by week in Figure 11. Lastly, passive data cannot be measured directly. All participants' names were replaced with pseudonyms to help keep their identities confidential.

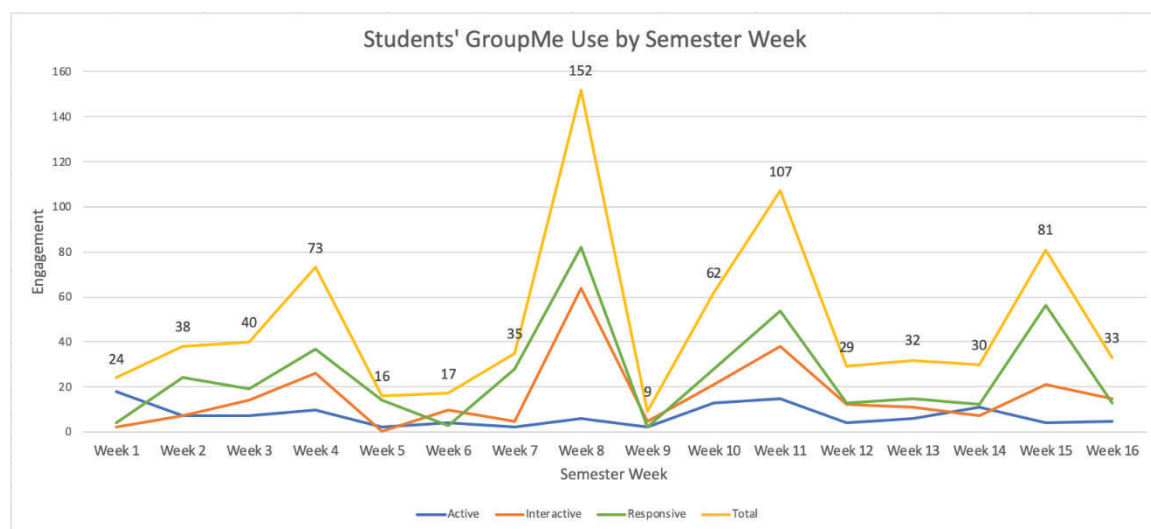*Figure 11*. Students' active, interactive, and responsive GroupMe

Patton (1999) reminds researchers that although qualitative research is a more creative process than quantitative research, it is not without a rigorous systematic process. The researcher began the data analysis process by preparing the data to be imported into NVivo, a qualitative data analysis software program. First, the researcher copied the

qualitative data into a MS Word file format. Images, emojis, and Internet URLs did not transfer seamlessly into MS Word. Therefore, the researcher resized images, replaced the emoji file formats with a jpg file format that NVivo would recognize, and verified URL addresses before the data were imported into NVivo. Once the data were imported, each GroupMe user was designated as a case and classified as a faculty member or a student. Students were then marked as having given consent or not. Students who did not give consent were excluded from the data analyses. However, for continuity and comprehension of GroupMe conversations, their data were not immediately deleted.

As suggested by Creswell (2013), the qualitative content analysis for the current study began with the researcher immersing herself in the data through reading the data multiple times and remaining open to unexpected themes. Indeed, Patton (1999) recommends that researchers examine data not only for the initial themes that emerge, but for alternative explanations to the initial themes. In some cases, the data were coded with multiple themes (e.g., humor, images, and replies). The data were winnowed to reduce the number of meaningful codes. Then the codes were grouped into themes.

The inductive approach of the general content analysis resulted in three major themes that centered on academic content, non-academic content, and prosocial behaviors. Creswell (2016) recommends labeling themes with an *in vivo* label, meaning a label derived from the language of the participant. Thus, the academic content is labeled "Does Anyone Know?," the non-academic content is labeled "So Cute!," and the prosocial behaviors are labeled "Thank You!" (see Figure 12).

Qualitative GroupMe Data Findings

```
Academic: Does          Non-Academic:          Prosocial: Thank
Anybody Know?            So Cute!               You!

  Due Dates               Humor                  Greetings

  Assignment              Personal               Appreciation
  Details                 Events

  Assignment                                     Sharing
  Submissions                                    Resources

  Academic                                       Sharing
  Advising                                       Examples of
                                                 Work

                                                 Reminders

                                                 Praise/Concern
```
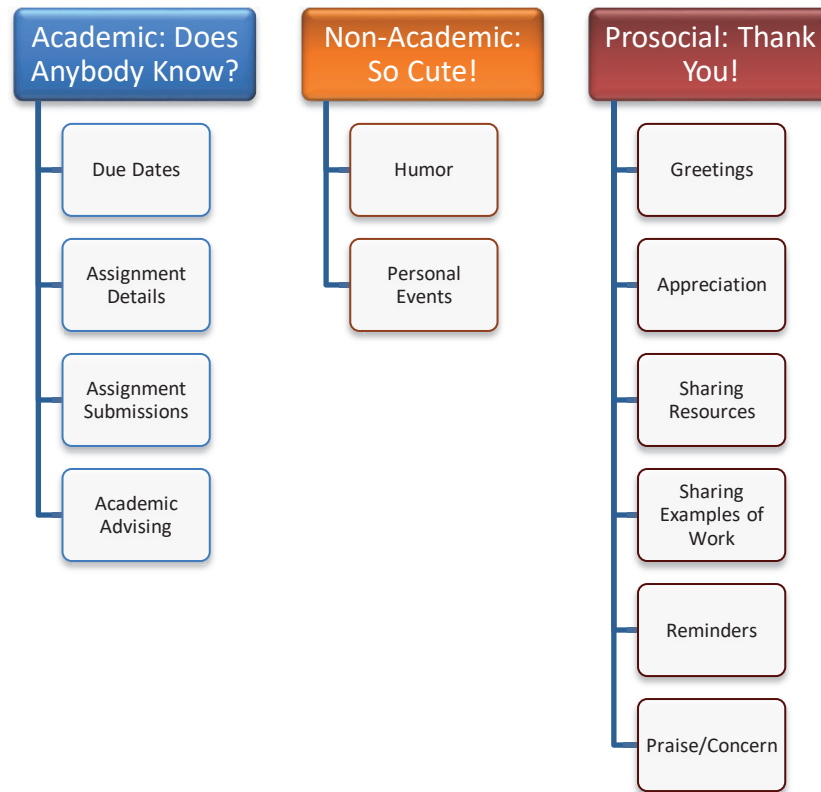
Figure 12. Overview of the major findings from the inductive qualitative analysis.

Academic Communication: Does Anyone Know?

The most common topics of conversation within the GroupMe app related to academic communication, particularly coursework. Multiple students initiated academic topics by posting a statement that began "Does anyone know…" and then asking a question related to assignment due dates, assignment specifications or details, submission of assignments, or academic advising. In the majority of cases, these inquiries were not personally directed at a particular classmate or faculty member. Yet, students or faculty would respond via GroupMe in most cases. The response rates varied in number of respondents as well as the amount of time that lapsed between responses.

Due dates. The dates that assignments were due in the courses appeared to be a

topic in which students desired clarification. This need for information about due dates is

demonstrated when Jacqueline, a student in the education courses, asked her learning

community about the due date for a particular course assignment. She indicated that she

needed clarification because her initial assumption about the due date conflicted with the

fact that another student had already completed the work. Four classmates replied to her

question or to the other students' replies to her initial question. The following example of

interactive posts occurred over the period of two minutes.

> **Jacqueline**: Does anyone know if we were supposed to do the reflection about inclusion for foundations of special ed tonight? I thought she said not to but someone already did.
> **Emily**: Discussion was for after class I thought
> **Julie**: Was that homework?
> [A student indicates that the work did not have to be completed, yet]
> **John** (1): thank god
> **Julie**: OMG THAT SCARED ME
> **Jacqueline**: Thank you [omitted name] that's what I thought but wanted to make sure we were all on the same page
> [A student indicates the due date for the assignment]

In another instance, a student needed clarification regarding whether an

assignment was to be completed in class or outside of class time. The student's informal

address within the GroupMe app seemed to indicate that her inquiry was directed to her

classmates generally, not the course faculty member. Although several students

responded to the student, there was still confusion surrounding the assignment.

Approximately two hours later the faculty member commented in the GroupMe app with

a final comment that ended the interaction. The conversation began just before seven

o'clock in the evening when Amy asked:

> **Amy**: Hey guys! I was just wondering if the google slides were due before class tomorrow or if they were an in-class activity! Thanks!

Julie: I thought she said just to make sure you can open it. I think it is in class
Jayden (1): also — is chapter 3 notes for dr sullivan's class due thursday?
Amelia (1): Yes
[Professor Kirkland posted a comment not related to Julie's inquiry. The discussion topic resumes after the non sequitur.]
Prof. Kirkland (2): FYI....I have a group of 3 for Primary School Academy. Please be prepared to let me know in class tomorrow your partner choice. I only need pairs now.
Jacqueline: The portal says we have nothing due for Sullivan's class on Thursday
Crystal: Yeah I was a bit confused there too, there's nowhere to submit it
Amelia (1): There is a chapter 3 reading notes thing on the coursework.
Crystal (1): I see that now, thanks Amelia! I must have missed it earlier
Amelia (1): Yeah, I know it wasn't on there last week so maybe she just put it up.
Jacqueline: We looked like 10 minutes ago and it wasn't up there
Prof. Sullivan: It's there, Jacqueline. Check again, please. Thx

Assignment details. Students also used the GroupMe app to discuss assignment details. In one case, a student from the psychology learning community inquired about making changes to a chart on a course assignment. No students had replied after 11 hours. However, the course faculty member responded to the student at the end of the day and suggested that she and the student speak about the problem in person. Their brief exchange occurred as follows:

Melissa: Does anyone know how to change the text on the data chart for series 1 2 and 3?
Prof. Foster: I'm not sure what you mean. Can we take a look in class?

In the education learning community, a student, Rene, indicated that she needed help with an annotated bibliography assignment. Two students commented on GroupMe within 10 minutes of Rene's initial post to the app. The students were able to clarify how the assignment was supposed to be completed.

Rene: For anyone who did the annotated bibliographies yet, how did you annotate on your computer? I'm writing comments on the article in a google doc but they won't show up when I download it as a pdf
Crystal: The first link that was in the email from Dr. Sullivan says to write a summary and connect it to our topic in paragraphs under the article, so that's what I've been doing. Did anyone else do that?

> **Julie:** Yes! And then a second paragraph to say how it connects to my inquiry
>
> **Rene**: ohh i must've just completely misunderstood thank you!
>
> **Crystal**: I thought it was an annotation style thing too, but after she said to print it and I looked at the link, I figured we just misunderstood it. I could still be wrong though, that's just what I'm doing

Additionally, a faculty member in the education learning community posted an image from the classroom whiteboard with brief instructions for students regarding what they should submit for the "Chalk and Wire Phonics Assignment." Figure 13 is a copy of the faculty-posted image of the assignment specifications.
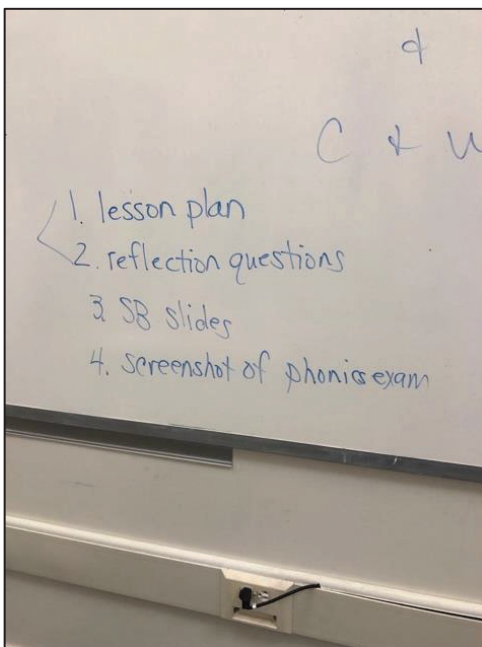
Figure 13. Chalk and Wire phonic assignment image posted by education faculty.

Assignment submissions. Several students used GroupMe to ask others in their learning communities about how to submit assignments or to report a problem submitting an assignment. In the education learning community, one student was uncertain about which of two online submission platforms an assignment should be submitted. Alta asked, "[A]re we submitting to C&W and portal or just C&W?" Within the hour Julie replied, "Just c and w." In another instance, Crystal asked her learning community a

question about where to turn in an assignment, and the faculty member answered within

15 minutes.

Crystal (1): Maybe I'm just being dumb, but I can't find the feedback section. Does anyone know where to turn it in?
Dr. Sullivan (2): Portal has been fixed. You can now upload directly to portal. Thanks again for your patience.

In October, the wireless Internet stopped working across campus for

approximately a three-hour period. The outage interfered with the online submission of

an assignment in the psychology learning community course. Although the faculty

member extended the deadline, not all students were able to get their assignments posted

by the extended deadline. The following day, several students were not able to submit the

assignment because the deadline on the online submission program had passed and

blocked further submissions. Through GroupMe communication, the faculty member was

able to communicate that the assignment was open for students. In this instance, a student

also made the faculty member aware of a typo regarding the time of the deadline. The

faculty member was able to correct the error within minutes.

Jane: how can i send my Lab 3? the wifi is finally working again
Prof. Foster (1): It's open now :)
Jane (1): thank you!!!
[The next day]
Harry: i still can't submit the lab
Berkleigh: Me too harry
Westley: ^^^ [The three carrots indicates that the user shares the same sentiment or comment as the previous user]
Prof. Foster: I opened it last night I think I had it Scheduled to close again at 10 o'clock this morning. Let me get to my office and I'll open it up for you
Harry: Oops I didn't even see it was opened again
Prof. Foster: It is now open until 5 o'clock pm
Harry: I'm on the portal right now and it still says it's closed. Saying it closed at October 8th at 5AM
Prof. Foster: Oops! I just fixed it. Try reloading it.

Academic advising. Students also used GroupMe to communicate about academic advising and scheduling classes for the next semester. In the education learning community, a student asked a question about course prerequisites. A classmate responded within 15 minutes by posting a form that her advisor gave her about courses within the major. The document appeared to help answer the student's question.

> **Rene:** has anyone found where would I be able to find the requirements or the sample 4 year schedule for our major? I'm trying to look for classes next semester but cant find anything
>
> **Amelia** (2): This is the sheet that my advisor gave to me. Sorry for all the marks and writing on it.

School of Education Elementary Four-Year Plan

> **Rene** (1): ugh yes thank you!!

In the psychology learning community, a student used GroupMe to ask about the process of academic advising. She was unable to register for classes because her academic advisor had not approved her proposed schedule. This is a standard practice at the college. In this instance, one student and a faculty member responded.

> **Jordan:** Does anyone have Dr. [Advisor] for an advisor?
> **Jordan**: Did he clear you for registration bc he didn't clear me and I can't sign up for anything lol
> **Westley**: Nah I emailed him but he hasn't got back with me yet
> **Prof. Foster**: Have you met with him for advising? Typically advisors will not clear you until after you have met.

Non-Academics: So cute!

The learning communities used GroupMe to communicate about non-academic content, including personal events and humorous memes. These communications took the form of words or images. In some cases the images were personal photos and in other cases they were memes, "an amusing or interesting item (such as a captioned picture or video) or genre of items that is spread widely online especially through social media" (*Meme*, 2020). Although some of these communications reference academic topics, they are not adding knowledge or furthering understanding. Rather, they are posted for their non-academic value.

In the education learning community, a faculty member posted in the evening about what she was currently doing at that moment. Two students replied to state their current activity. Although one student simply shared that she was studying, another shared that she was in the process of getting her hair dyed. The interaction occurred as follows:

> **Dr. Kirkland**: Sitting in [auditorium] waiting for the concert to start. Come on
> over….. the fam[ily] is here!"
> **Gertie**: Ashley is dying my hair right now :(((
> **Julie**: I am studying for a fluency exam. Don't know which class it's for lol
> **Dr**. **Kirkland**: [posted meme of celebrity Bryan Cranston dropping a microphone
> with the caption "I'M OUT"]

Dr. Sullivan posted pictures of herself and some children dressed in costumes at a fall festival along with the comment "Hope you all had a good weekend. I spent tonight at the fall festival at church at the cake walk table! Gave away a ton of cupcakes and loved on some littles!" Three students replied that the children in the photos looked "adorable" or "so cute!!!" before Dr. Sullivan clarified that the children were not her grandchildren. Rather they were children of family friends.

In the psychology learning community, Dr. Lutz posted a picture of her black kitten being held in her arms along with the statement "Hi! My name is Elvis Westley! Make sure you study for your classes!!!" Later in the semester, a student also shared a picture of her new puppy in the app. Dr. Foster shared a picture of her three children with their carved pumpkins as well as a picture of herself outside in fall foliage while at a conference during the college's fall break.

In some instances, students and faculty contributed humorous posts to their learning community's GroupMe group. In the education learning community, Dr. Kirkland posted an image that listed the words "cough, rough, though, and through" and then stated "why dont [*sic*] these words rhyme but for some god [*sic*] forsaken reason pony and bologna do." She also posted a comic of a brain talking and asking its human host "Hey you goin' to sleep?" The human replies with her eyes closed, "Yes, now shut up" but, the brain continues "Every C in 'Pacific Ocean' is pronounced differently." The next frame shows the human's eyes wide awake. Two students replied to the post. Ashley posted in all capital letters "HAHAHAHAHAHA" and Jayden said, "lol i [*sic*] just busted out laughing at the picture ahaha."

The majority of humorous posts were present in the psychology learning community. For example, in the psychology learning community, Prof. Foster posted a meme that included a black-and-white picture of Sigmund Freud with the caption in all capital letters "I JUST WROTE A BOOK ON REVERSE PSYCHOLOGY DON'T BUY IT!" Dr. Lutz appeared to tease a student when she posted, "Mark, I took 50% off your engaged learning for letting Pat eat your paper. Jk of course :). I have tape."

Several students posted images that humorously addressed APA Style formatting and citing sources. APA Style formatting is stressed in many of the assignments in the psychology courses. A student, Melissa, posted a meme of the superhero The Hulk from the 2012 movie *Marvel's The Avengers*. On one side of the meme, The Hulk is posing in a way that makes him appear to be screaming aggressively. This side of the image is captioned "Incredible Hulk." In the other half of the meme, the same character is presented in a smiling pose wearing glasses. This side of the image includes the caption "Credible Hulk" and "I always cite my sources." Another student, Westly, posted a photo and made a joke about citing sources in APA Style. The image is of a car's license plate and the letters on the license plate read APA. Westley posted the comment "Yo this persons [*sic*] on another level of apa [*sic*]." Prof. Foster replied "I need this!!"

Prosocial Behaviors: Thank you!

The students and faculty demonstrated prosocial behaviors (e.g., caring and helping behaviors) within the GroupMe app. For students, these behaviors included greetings, words of appreciation, sharing resources, sharing examples of work, and posting reminders. Faculty also used the app to communicate reminders to students, offer praise, and express concern for students.

Greetings. At the beginning of the semester, the students in the education learning community joined GroupMe and 20 of them promptly said hello to the other members of their learning community. The greetings were all short, but varied in style. For example, Emily posted "Hey!," Amelia posted "Hello!," Marilyn posted "hey y'all," and Jayden posted only an emoji (e.g., ☺).

Appreciation. Over the span of the semester, students and faculty demonstrated their appreciation by thanking one another. A variation of the phrase "thank you" was posted 61 times, 40 times in the education learning community and 21 times in the psychology learning community. For example, Jordan in the psychology learning community, thanked a faculty member for posting about a correction in the lab manual. In another instance, Olivia thanked Jane for posting a file to the GroupMe. In some posts, students made a request that also included a form of thanks at the same time.

Sharing resources. Students and faculty used GroupMe to share resources from the Internet. Faculty were more likely than students to initiate the sharing of Internet-based resources. For example, Dr. Sullivan shared a link to an Internet article from medium.com and stated, "Here's a link to an article on writing. It's an easy read with good ideas for your own writing and for teaching. [link]" Similarly, Dr. Kirkland posted "Good perspective on "fun" lessons all the time [link]" and shared a link from www.weareteachers.com.

In the psychology learning community, several students shared links to resources from the Internet. Early in the semester, Olivia shared a link to a TED Talk that the students watched in class. Likewise, Jordan posted a link to a YouTube video of the Milgram experiment along with the comment "Here's another video of the milgram experiment if you couldn't hear the audio well in class." However, the sharing was not limited to links resources shared in class. For example, another student posted two articles from Psychology Today on selective attention and false memories, topics included as part of the psychology course curriculum but were not specifically used in the course. Likewise, Prof. Foster shared a link to an article about mental health and the

benefits of spending time in nature along with the comment "[link] Get some nature over break [smiling face with sunglasses emoji]."

In addition to Internet-based resources, students in the psychology learning community shared online quizzes with each other for exams as well as class notes. Jane shared a study tool that she made using the website Quizlet.com. She posted a link to the study tool along with the website's automatically generated introductory phrase "Start studying Exam Four Prof. Foster. Learn vocabulary, terms, and more with flashcards, games, and other study tools. [link]" and the personal comment "please tell me if there are any mistakes!" Jane posted a similar Quizlet tool for Exam Five as well. In another instance, Amanda shared a photo of a page from the course's lab manual that included a taste rating scale. This post was made during class because a student had forgotten their lab manual and needed access to the scale.

Sharing examples of work. In the education learning community, five students uploaded images of their group assignments to GroupMe. Students created these assignments in the classroom on large sheets of paper and wrote the information using multicolored markers (see Figure 14). In the psychology learning community, one student, Melissa, posted an image of a student-created study guide for an exam. She added a comment with the posted image to clarify that "Technology and Phineas Gage are listed but hard to see."
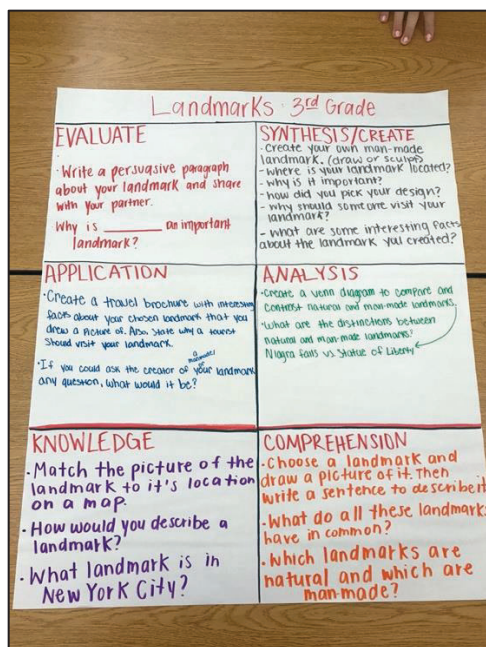
Figure 14. Group assignment image posted by education students.

Reminders. Students and faculty used the app to remind each other to bring materials to class as well as about events and meetings. Olivia, in the psychology learning community, posted on the app in the evening a reminder for her classmates to bring their lab manuals to class the following day. Specifically, she stated, "Hey just thought I would remind everyone to bring their lab manuals tomorrow." Her post was liked by five individuals. Similarly, Amanda from the psychology learning community posted, "For all of you that came to the discussion tonight, bring your paper and your fill out questions to class from extra credit." However, only one person acknowledged this post by liking it. No students in the education learning community used the app to remind their classmates about any assignments or events. Rather, only education faculty posted the reminders.

Faculty in the psychology and education learning communities posted reminders for students about events and meetings outside of class, materials needed for class, and other resources. In the education learning community, Dr. Sullivan used the app to

communicate a reminder regarding a change in the meeting location, specific details about the procedure for meeting outside the classroom and for students to bring their laptop computers.

> **Dr. Sullivan** (6): For tomorrow, remember that you need to sign in the front office before 8 and then go to your classrooms. You will leave your classroom at 10:30 and we will have seminar in EDGE HALL, room 210 from 10:45-11:45. We can't meet in the Primary School library because [dean of education] is having a meeting in there. Please bring your laptops to seminar!!!

Likewise, Dr. Kirkland used GroupMe to remind students about a meeting outside of the classroom. She also provided instructions for students upon arrival and specific dress code requirements. She expressly reminded students to "Sign in with the CORRECT time when you get to Primary School Academy in the morning. Also be sure you are dressed professionally, hair brushed, and representing the profession well. I'll see you there!" Five individuals acknowledged Dr. Kirkland's post.

In the psychology learning community, both faculty members used the app to communicate reminders to students. Dr. Lutz reminded students to bring their laptop computers to class on multiple occasions. In one instance she stated, "I need to remind everyone to bring their laptops to class and make sure you are in class to get credit for teamwork." Later in the semester she indicated that computers would be needed for research purposes and posted, "Hi all! Please remember to bring your computers tomorrow for research." Prof. Foster used GroupMe to remind students about events outside of regular class time, including an off-campus bar-b-que event, an APA formatting workshop titled "Get PSYCHed for APA Formatting!," and two different movie events on campus.

Praise and concern. Faculty used the GroupMe app to offer praise as well as express concern. In the psychology learning community, Dr. Lutz praised her class's performance when she stated, "Great job today all of you!" Similarly, Prof. Foster offered praise to her class when she posted "I love that you are helping each other [smiling cat with heart-eyes emoji]" in response to Jane sharing a study tool with the learning community.

The faculty also used GroupMe to express concern. In early September, weather forecasters predicted that a hurricane had the potential to affect the city where the college is located. The college closed to allow students to evacuate. Although the hurricane did not directly affect the city or campus, the campus remained closed. Dr. Lutz posted, "Stay safe everyone!" and Prof. Foster stated, "I hope you all are safe!" After it became apparent that the storm would not affect the college, Dr. Kirkland posted to her education learning community, "I hope everyone is doing well, getting rest, and having fun!..."

In one instance, a student reported to her learning community on the GroupMe app that she had suffered a serious injury. A student and the learning community faculty expressed their concern about the students' injury.

> [Student posted details about her injury]
> **Mike** (2): Glad you're okay, hope you recover well!
> **Dr. Lutz** (1): Oh no, maybe you should not join my lab after all
> **Prof. Foster** (1): Oh my goodness! I am so sorry! Do we get to see copies of the
>   CT?
> [Student explained more details but assured the learning community she will
>   recover]

Explanatory Sequential Mixed Methods Results

A mixed methods research design with a complementarity purpose attempts to elaborate on the findings of the quantitative and qualitative results (Greene et al., 1989).

Consistent with Onwuegbuzie and Leech's (2006) recommendation, the researcher continually evaluated the mixed methods research question during the quantitative and qualitative analyses. The mixed methods research question in the current study sought to understand to what extent and in which ways did first-semester college students' use of social media with their classmates and course faculty members within a learning community influence their social adjustment beyond that provided through participation in a learning community. In other words, to what extent and in which ways do students' qualitative communications via GroupMe about academic, non-academic, and prosocial topics influence the quantitative raw SACQ (Baker & Siryk, 1999) scores or subscale scores?

The first and quantitative phase of data analysis investigated which type of social media use (i.e., active, interactive, or responsive) were related to students' social adjustment. The results of the quantitative phase of the current study did not indicate that social media use within a learning community enhanced the social adjustment of first-semester college students over the span of the semester. Furthermore, the quantitative results did not indicate that type of social media use (i.e., active, interactive, or responsive) influenced social adjustment nor other subscales of the SACQ.

In the second phase of the current study, the researcher interpreted the qualitative data and three topics of communication emerged within the relevant types of social media use (i.e., active and interactive). The qualitative analyses revealed three themes within students' social media communication with their learning communities over the span of the fall semester. Specifically, students used the GroupMe app for academic, non-

academic, and prosocial communications with their classmates and course faculty in their learning communities.

The mixed methods data analysis related the topics of communication (i.e., academic, non-academic, and prosocial) back to the students' SACQ results to attempt to add clarity to the quantitative and qualitative results of the study. Specifically, to what extent did students' use of social media for each of the three qualitative themes enhance students' social adjustment beyond that provided through participation in a learning community?

In order to analyze the quantitative and qualitative data together for a mixed method analysis, the qualitative GroupMe content specific to each of the emerging themes was isolated using NVivo qualitative software package. Then, the researcher calculated the total frequency of each student's GroupMe communication (i.e., active and interactive social media use) within each theme. Lastly, the researcher paired students' frequency of communication within the three topics with their SACQ raw scores. Only participants ($n = 22$) who consented to participate in the quantitative phase and the qualitative phase of the study had their scores included in the mixed method analyses.

Whereas the initial quantitative analyses examined if using social media actively, interactively, or responsively in general predicted changes in social adjustment as indicated by the differences in scores on the social adjustment subscale of the SACQ, the mixed methods analysis examined social media from a different, qualitative angle. Specifically, the researcher conducted a series of regression analyses to determine if students' use of GroupMe for each of the three qualitative themes (i.e., academic, non-academic, and prosocial communications) predicted changes in students' raw full scale

SACQ scores as well as the SACQ subscales of academic adjustment subscale, personal-emotional subscale, and attachment.

Academic Communications

Students used the GroupMe app to communicate about academic topics. The researcher interpreted the qualitative theme "Does Anyone Know?" to include GroupMe content about due dates, assignment details, assignment submissions, and academic advising. The initial linear regression analyses did not reveal any significant relationships between students' use of social media for academic communications and changes in the raw full SACQ scores or the social adjustment, personal-emotional adjustment, or attachment subscales, $F < 1$. However, the linear relationship did approach significance for predicting changes in students' raw scores of academic adjustment based on academic communications via GroupMe, $F(1,20) = 4.07$, $p = .06$, with an R^2 of 0.17. This analysis used the more conservative two-tailed hypothesis test. Participants' predicted change in academic adjustment score is equal to -18.61 + (1.57 X Academic Communications). Participants' raw academic adjustment scores increased 1.57 points for each use of GroupMe for academic communication. In other words, the results suggest that changes in students' academic adjustment scores may be able to be predicted by students' use of GroupMe to discuss due dates, assignment details, assignment submissions, and academic advising within their learning communities. A simple scatterplot in Figure 15 displays the positive relationship between academic communication in GroupMe and changes in academic adjustment raw scores.
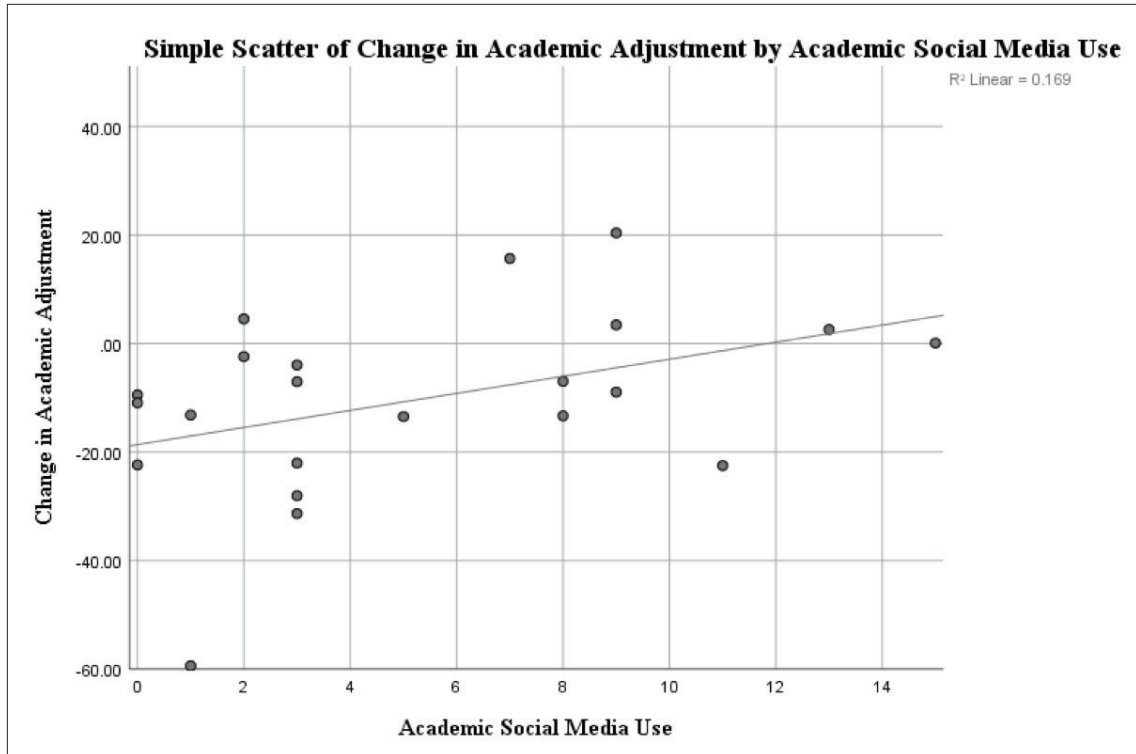
Figure 15. Change in academic adjustment by academic social media use.

An example of academic communication is Alta asking her learning community "how many teachers do we need to interview for special ed and when is that due?" An example of an item from the academic adjustment subscale is "I have been keeping up to date on my academic work." Figure 16 conceptualizes the relationship between the qualitative academic communications theme Does Anybody Know? and students' quantitative SACQ academic adjustment subscale raw scores.
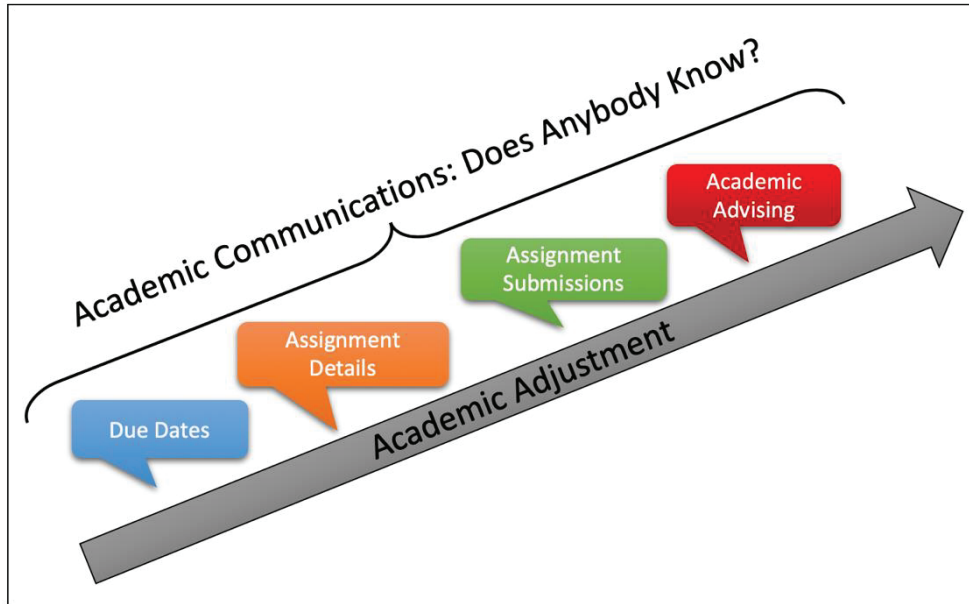
Figure 16. Relationship between academic communications and academic Adjustment.

Additionally, to rule out a curve in the regression line, the researcher also conducted a series of quadratic regression analyses. The results of the quadratic regression analyses did not reach significance. Table 8 lists the linear and quadratic regression analyses results for changes in SACQ full scale and subscale scores based on students' use of social media for the qualitative, academic communications theme Does Anybody Know?

Table 8

Predicting Change in SACQ Scores from Academic Social Media Use

Step	R^2	ΔR^2	F for ΔR^2	df	p
Full Scale Scores					
1: Linear	.01	.01	.11	1, 20	.74
2: Quadratic	.03	.03	.32	1, 19	.73
Social Adjustment					
1: Linear	.01	.01	.18	1, 20	.67
2: Quadratic	.02	.01	.21	1, 19	.63
Academic Adjustment					
1: Linear	.17	.17	4.07	1, 20	.06
2: Quadratic	.19	.02	2.15	1, 19	.14
Personal-Emotional Adj.					
1: Linear	.09	.09	1.85	1, 20	.19
2: Quadratic	.09	.00	.90	1, 19	.42
Attachment					
1: Linear	.04	.04	.87	1, 20	.36
2: Quadratic	.16	.12	1.82	1, 19	.19

Non-Academic Communications

The second qualitative theme, "So Cute!," consisted of non-academic content, including humorous and personal posts and replies. The researcher calculated students' frequency of non-academic social media communication. First, students' frequency of non-academic social media use was compared to changes in raw scores on the SACQ and the four subscales using a series of linear regression analyses. The results did not indicate a significant relationship between non-academic social media use and changes in students raw SACQ full scale scores or changes in students' raw subscale scores, $F < 1$.

Additionally, to rule out a curve in the regression line, the researcher also conducted a series of quadratic regression analyses. The results of the quadratic regression analyses did not reach significance for the full scale SACQ nor the four subscales. Table 9 lists the results of the linear and quadratic regression analyses to

determine if use of GroupMe for non-academic communications predicted changes in full

scale SACQ scores or changes in scores on the subscales.

Table 9
Predicting Change in SACQ Scores from Non-Academic Social Media Use

Step	R^2	ΔR^2	F for ΔR^2	df	p
Full Scale Scores					
1: Linear	.03	.03	.52	1, 20	.48
2: Quadratic	.04	.01	.35	1, 19	.71
Social Adjustment					
1: Linear	.01	.01	.14	1, 20	.71
2: Quadratic	.01	.00	.07	1, 19	.94
Academic Adjustment					
1: Linear	.01	.01	.26	1, 20	.62
2: Quadratic	.05	.04	.48	1, 19	.63
Personal-Emotional Adj.					
1: Linear	.00	.00	.03	1, 20	.88
2: Quadratic	.16	.16	1.86	1, 19	.18
Attachment					
1: Linear	.04	.04	.77	1, 20	.39
2: Quadratic	.05	.02	.54	1, 19	.59

Prosocial Communications

The last theme, "Thank You!," included communications that the researcher

interpreted as prosocial. These prosocial communications included greetings,

appreciation, sharing resources, sharing examples of work, reminders, and praise and

concern. The researcher calculated each students' frequency of prosocial social media

communication. Subsequently, students' prosocial social media use was compared to

their changes in raw scores on the SACQ and the raw scores on the four subscales.

The predictive relationship between students' use of social media for prosocial

communications and changes in students' raw personal-emotional adjustment raw SACQ

subscale scores approached significance using the more conservative two-tailed

hypothesis test, $F(1,20) = 3.26$, $p = .09$, with an R^2 of 0.14. Participants' predicted change in personal-emotional adjustment score is equal to -6.49 + (-1.14 X Prosocial Communications). Participants' personal-emotional raw scores decreased by 1.14 points for each use of GroupMe for prosocial communications. In other words, students' raw personal-emotional adjustment may be able to be predicted by students' use of social media for prosocial communications. A simple scatterplot in Figure 17 displays the negative relationship between prosocial communication in GroupMe and changes in personal-emotional adjustment raw scores.
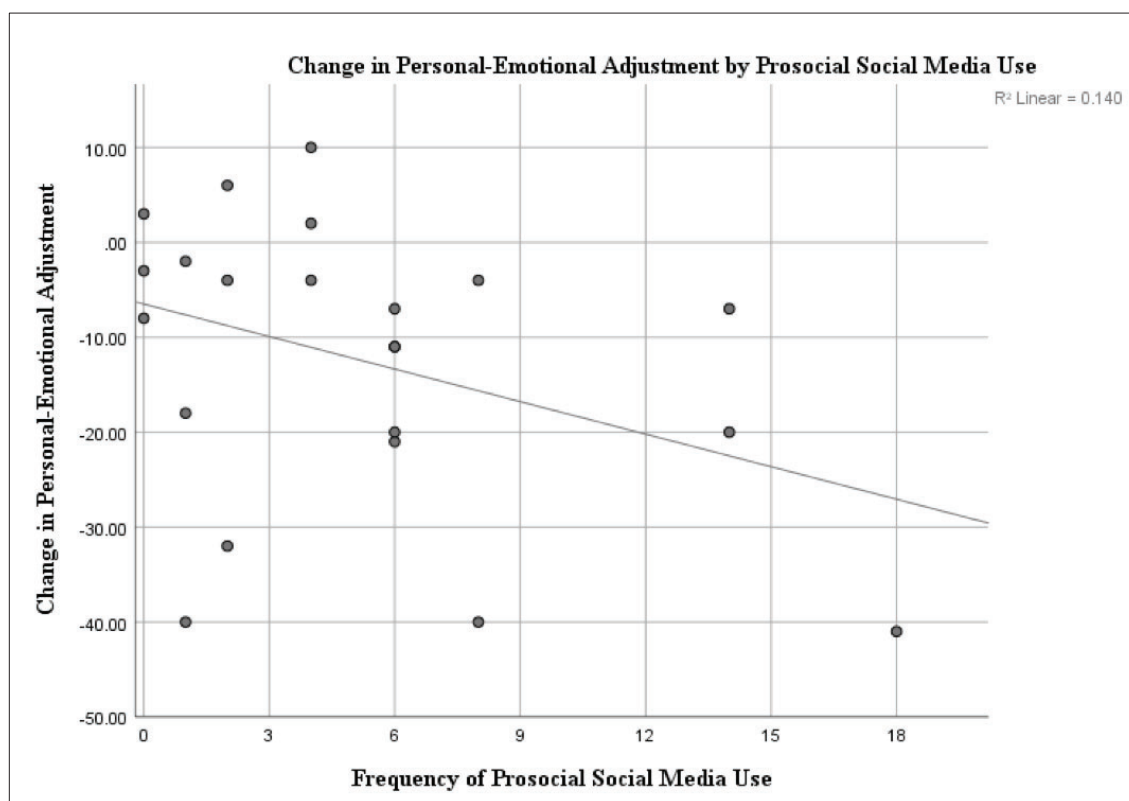
Figure 17. Change in personal-emotional adjustment by prosocial social media use.

An example of prosocial communication is when Julie in the education learning community shares a resource with her classmates by posting: "Hey guys, So I recommend that you go online and search up phoneme counting practice and try the big

brown bear website. They start easy but it gets harder so… try it out! It has 6 levels." An

example of an item from the personal-emotional adjustment subscale is "I am

experiencing a lot of difficulty coping with the stresses imposed upon me in college

(reverse scored)." Figure 18 conceptualizes the negative relationship between the

qualitative theme "Thank You!" and students' personal-emotional adjustment.
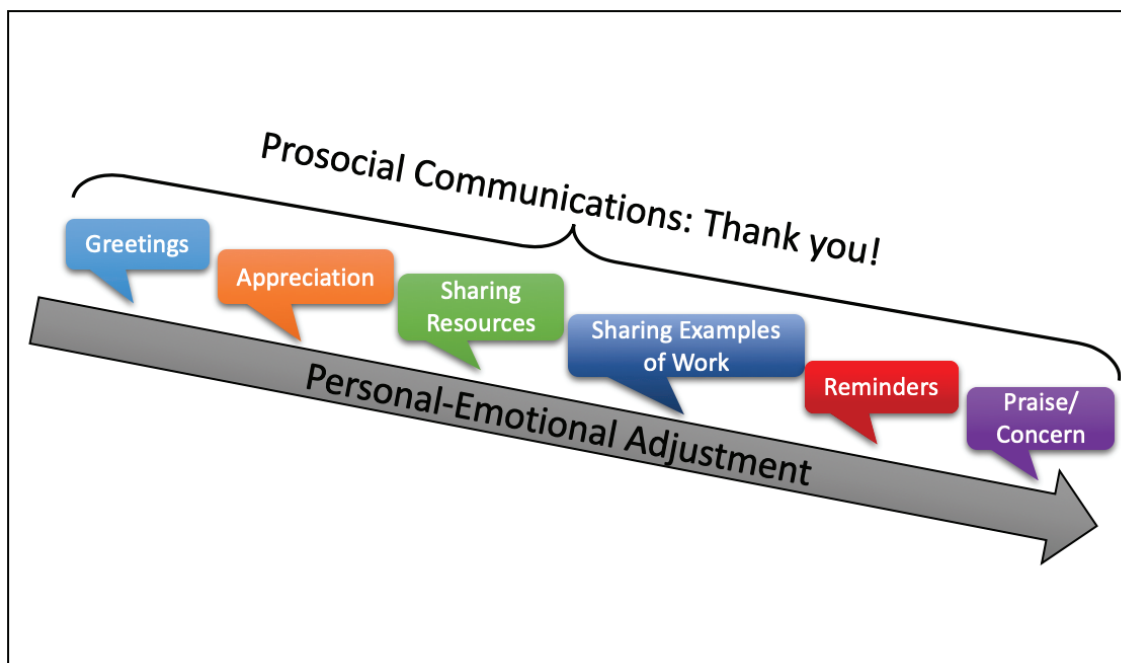
Figure 18. Relationship between prosocial communications and personal-emotional adjustment.

All other regression analyses results failed to indicate a significant relationship

between students' prosocial communications and changes in the raw SACQ full scale

scores or other three subscales, $F < 1$. Table 10 lists the results of the linear and quadratic

regression analyses to determine if use of GroupMe for prosocial communications

predicted changes in full scale SACQ scores as well as the changes in scores on the

subscales.

Table 10
Predicting Change in SACQ Scores from Prosocial Social Media Use

Step	R^2	ΔR^2	F for ΔR^2	df	p
Full Scale Scores					
1: Linear	.00	.00	.00	1, 20	.99
2: Quadratic	.00	.00	.02	1, 19	.98
Social Adjustment					
1: Linear	.09	.09	1.98	1, 20	.17
2: Quadratic	.10	.01	1.07	1, 19	.36
Academic Adjustment					
1: Linear	.01	.01	.20	1, 20	.66
2: Quadratic	.03	.02	.26	1, 19	.77
Personal-Emotional Adj.					
1: Linear	.14	.14	3.26	1, 20	.09
2: Quadratic	.16	.02	1.86	1, 19	.18
Attachment					
1: Linear	.02	.02	.31	1, 20	.58
2: Quadratic	.05	.04	.49	1, 19	.62

Conclusion

This chapter described the characteristics of the study's participants, the results of the quantitative phase, the findings of the qualitative phase, and the results of the integration of participants' SACQ scores and communication themes. The data did not support hypotheses 1 through 5 in phase one of the study. The researcher identified three qualitative themes within the GroupMe communications: Does Anybody Know?, So Cute!, and Thank You! These themes represented academic, non-academic, and prosocial communications, respectively. The integration of the themes and their positive relationship to the quantitative results indicated that academic communications (i.e. Does Anybody Know?) and academic adjustment approached significance. Additionally, the negative relationship between prosocial communications (i.e., Thank You!) and personal-emotional adjustment approached significance.

CHAPTER V: DISCUSSION

The discussion section includes a summary of the current study, including background, theory, methodology, and research questions. Following the summary, the key findings and conclusions, limitations, implications for future research and practice and educational implications and recommendations are presented.

Summary

The postsecondary enrollment rates of students have increased substantially over the past 140 years (Snyder, 1993). However, the 59% to 66% overall graduation rates of students enrolled in four-year colleges and universities (NCES, 2018) reflects that there are many students who leave college. Tinto's (1993) interactional theory of student attrition is one theoretical model that attempts to understand the factors that influence students' decisions to leave college. According to Tinto's theory, there are four main institutional influences on student attrition: difficulty, incongruence, isolation, and adjustment. Adjustment is further divided into academic and social adjustment. The primary interest of the current study is social adjustment, the social connections that students make with others while attending college.

Leaders of academic institutions are aware that social interactions play a role in student attrition and retention. Some colleges have developed retention strategies that help to provide opportunities for more social interactions. In particular, learning communities combine groups of students for at least two courses over the span of a semester (Andrade, 2007; Love, 2012; Tinto, 2000). Additionally, learning communities may be structured to offer students a cross-disciplinary academic experience and more comprehensive intellectual engagement with classmates and faculty (Gabelnick et al.,

1990). Although learning communities vary in class size, number of courses, and number of faculty, these all provide more students with more opportunities to engage with other students and their course faculty. Previous research indicates that learning communities are associated with positive student outcomes (Andrade, 2007; Paige et al., 2017; Pike et al., 2011; Ward & Commander, 2011).

Although the college classroom is an important place for student-to-student and student-to-faculty interactions to occur, the ways in which students communicate with each are no longer limited to face-to-face interactions or class time. Specifically, social media has become a popular communication medium, particularly among college-aged individuals (Pew Research Center, 2018) and allows students to communicate with each other from any location at any time of day. Thus, social media may offer students more opportunities for social interactions beyond those permitted by enrollment in a learning community alone.

Prior to the start of the current study, the researcher conducted a pilot study and determined that students would use a social media app with their classmates and faculty. Additionally, the researcher assessed and concluded that students perceived the use of the GroupMe app to be ethical based on the five principles of Dialogic Theory (Kent & Taylor, 2012). The purpose of the current quasi-experimental explanatory sequential mixed methods study was to examine first-year learning community students' use of social media and its relationship to social adjustment.

The current study sought to address two quantitative research questions, one qualitative research question, and one overarching mixed methods research question. The first quantitative research question investigated whether Tinto's (1993) interactional

theory of student attrition explained the relationship between social media use and social adjustment, as measured by the SACQ. The second quantitative research question examined the relationship between the types of social media use (i.e., interactive, active, and responsive) and the students' social adjustment to college as measured by the SACQ. The qualitative research examined which topics of communication first-semester students enrolled in a learning community program use social media to communicate with their learning community classmates and course faculty members. Lastly, the mixed methods research question assessed to what extent and in which ways first-semester college students' use of social media with their classmates and course faculty members within a learning community influences students' social adjustment beyond that provided through participation in a learning community.

The current study investigated the role of social media in first-year learning community college students' social adjustment by examining a total of four learning community cohorts, two from psychology department and two from the school education, with a total enrollment of 60 students. Over the span of a semester, one psychology and one education learning community used GroupMe with their classmates and faculty. The other two learning communities served as a control group. All students in the learning communities had the opportunity to complete the same surveys: Background Information Questionnaire, Social Media Experiences Questionnaire, and the SACQ (Baker & Siryk, 1999).

The quasi-experimental explanatory sequential mixed methods design began with an analysis of the quantitative data, then an inductive analysis of the qualitative data. Lastly, the data were integrated to add further understanding to the quantitative results. In

the first phase (i.e., quantitative) of the study, the researcher compared students in the control group's scores on the SACQ to the scores of those in the Social Media Use group. Then, within the Social Media Use group, students' GroupMe content was classified as active, interactive, or responsive. The type of social media use was compared to students' SACQ raw scores. In phase two (i.e., qualitative) of the current study, the researcher conducted an inductive content analysis of the GroupMe content generated by students in the Social Media Use group. The data were interpreted, coded, and winnowed resulting in the emergence of three themes. Lastly, the frequency of students' social media use within each theme was compared to their SACQ raw scores.

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Key Findings and Conclusions

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Quantitative Results

     Social media experience. Consistent with the findings of the Pew Research Center's (2018) report, the majority of participants (N = 44) reported using at least one social media platform (95.5%). Although Facebook has been the focus of early research on social media, the current study indicates that other social media platforms may be more popular with college-aged individuals. In particular, Snapchat was the most frequently used social media app by this study's participants, followed by Instagram. It is interesting to note that although 70.5% of participants had a Facebook account, only 2.3% indicated that it was their most frequently used social media platform.

     Hypothesis 1. There was no difference found between the change in students' Social Adjustment raw scores in the Social Media Use group and the control group. Although the initial results indicated a difference in social adjustment scores for students in the Social Media Use group, additional analyses clarified that students in the Social

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Media Use group were not less socially adjusted than students in the control group. Students in the Social Media Use group's social adjustment scores were statistically equivalent to those in the control group. Although students in the Social Media Use group were the only ones to use the GroupMe app with their learning community classmates and faculty as a whole group, it is possible that students in the control group used other social media platforms to communicate with at least some of their learning community classmates or other classmates in non-learning community courses.

These findings are not consistent with other research on social adjustment and social media use with on-campus friends (Gray et al., 2013; Morris et al., 2010; Yang & Robinson, 2018). However, the findings are consistent with research that suggests social adjustment is lower for students who use social media to initiate friendships rather than maintain existing friendships (Yang & Brown, 2013, 2015). Similarly, Raacke and Bonds-Raacke (2015) found that using Facebook for friendship and to share information about one's self was associated with lower levels of social adjustment. It is possible that first-semester college students have not established friendships with their classmates because they are getting to know their classmates for the first time.

Additionally, it is possible that students who had established friendships with students on campus interacted in-person rather than through Internet-based communication. Thus, Tinto's (1993) interactional theory of student attrition may explain social adjustment through in-person communications rather than Internet-based communications. This idea may be supported by Media Richness Theory (Daft & Lengel, 1986). Media Richness Theory states face-to-face communication is the richest form of

communication. Communication via social media has fewer cues present and can be more asynchronous.

Hypothesis 2 through 5. The subsequent hypotheses predicted that the type of social media use (i.e., interactive, active, responsive, and total) would influence students' social adjustment raw scores. However, the data indicate that the type of social media used was not a predictor of social adjustment raw scores for students in a learning community. By design, students in learning communities have more opportunities for face-to-face interactions (Gabelnick et al., 1990). It is possible that any benefits that may result from additional opportunities to communicate via social media could not be detected. In other words, face-to-face interactions may still provide the best opportunities for social adjustment. Daft and Lengel (1986) assert that face-to-face communication is the richest form of communication. Therefore, face-to-face communications may influence students in a learning community more than other types of communication that are lower in richness.

Additionally, previous research indicated that frequent self-reported active social media use (i.e., frequent status updating on Facebook) is associated with decreased social adjustment (Yang & Brown, 2013), and interactive social media use is associated with increased social adjustment (Morris et al., 2010; Yang & Brown, 2013; Yang & Robinson, 2018). The current study did not reflect the findings of these research studies. However, these previous studies examined self-reported active and interactive social media use, not a direct measurement approach like the current study. Self-report is different than direct report and measures actual use of social media rather than perceived

use. The lack of congruency between the findings of self-report data and direct report data needs further investigation.

Lastly, previous research did not investigate responsive social media use (e.g., likes). Responsive social media use in the current study was operationally defined as high in personally-directedness and low in involvement. This type of social media use is different from active, interactive, and passive use (see Figure 9). Although the current study did not indicate that there was a significant relationship between responsive social media use and measurements of social adjustment, responsive use is distinct and able to be measured directly. Those individuals who engage in responsive social media use are able to acknowledge others' posts or comments. Thus, responsive use may be related to others' perceptions of empathy, one of the ethical principles of dialogic theory (Kent & Taylor, 2002).

Qualitative Findings

Three themes emerged from the qualitative inductive analysis of the Social Media Use group's GroupMe content. The first, Does Anybody Know?, encompassed academic communications regarding due dates, assignment specifications, submission of assignments, and academic advising. This theme is in line with Tinto's (1993) interactional theory of student attrition that specifies adjustment is a factor in students' decisions to remain enrolled in college. Adjustment includes academic and social adjustment. It is not surprising that students in an academic setting would communicate generally about academic topics. Those who did use GroupMe for academic communication did receive responses from classmates or faculty. In some cases, the responses occurred within minutes of the original post, including late at night or at other

times that would normally be considered outside of regular "business hours." Students may have found this level of responsiveness to be supportive of their needs.

The second theme, So Cute!, included non-academic communications that were humorous and regarded personal events. The majority of humorous content was posted in the psychology learning community. This difference is unlikely to be due to a difference in teaching styles because the education and the psychology faculty's scores on the Teaching Style Inventory 3.0 (Grasha, 1994; Richlin, 2006) were not significantly different on any of the five teaching styles. However, it is possible that different types of students are drawn to the fields of education and psychology. Thus, it is important for researchers to study students from a variety of disciplines because students who are drawn to different majors may use social media differently.

The third theme, Thank You!, to emerge from the qualitative GroupMe data included prosocial communications. Students used GroupMe for greetings, words of appreciation, sharing resources, sharing examples of work, and posting reminders. Additionally, faculty communicated reminders to students as well as offered praise or expressed concern. Some of the prosocial communications could be viewed as initial communications for forming friendships. For example, greetings are often the first communication when introduced to new individuals or when reuniting with familiar friends. Forming relationships (i.e., social adjustment) with others at college is an important part of Tinto's (1993) interactional theory of student attrition. However, it is unclear when, or if at all, students move from initiating a relationship online to maintaining the relationship offline. In other words, students may use social media to communicate with others when they have minimal in-person relationships.

Overall, GroupMe was one communication tool that supplemented regular classroom communication. For some students this additional digital medium provided opportunities to discuss course assignments, share their personal lives, share resources, and generally communicate more with their classmates and course faculty. The fact that students did use GroupMe with their learning communities is not unanticipated. As indicated by the Pew Research Center (2018), the majority of college-aged individuals use social media. Moreover, when faculty members choose to communicate with their students in a medium that students are familiar with, they are demonstrating aspects of Dialogic Theory's ethical principal of mutuality (see Figure 1). Thus, as students continue to use social media, faculty should consider using social media to supplement regular course communication.

Mixed Method Results

The mixed method results integrated the quantitative SACQ scores and the qualitative themes. Specifically, the integration allowed the researcher to examine how students' use of social media for academic, non-academic, and prosocial communications predicted changes in students' raw SACQ scores or subscale scores. There were two main findings from the mixed methods analyses, one for academic communications and one for prosocial communications.

The results indicated a positive relationship that approached significance between students' use of GroupMe for academic communications with their learning community and changes in academic adjustment scores. This suggests that students who use social media to communicate about academic topics may increase their academic adjustment over the span of a 16-week semester. This finding is relevant to Tinto's (1993)

interactional theory of student attrition, which includes academic adjustment as a factor that influences students' decisions to stay enrolled in college. Tinto's theory suggests that students who interact with faculty and students are more likely to be retained. Although the classroom setting is the traditional environment for academic interactions, social media makes it possible for students and faculty to expand the classroom setting into the digital environment outside the classroom. This is not to suggest that social media can replace the traditional classroom. Rather, social media may be an effective supplement to the classroom that allows students greater access to academic communication.

The second key finding as a result of the mixed methods analysis was a negative relationship between students' use of social media for prosocial communications with their learning community and raw Personal-Emotional Adjustment scores. The more that students used social media for prosocial communications, the more their raw Personal-Emotional Adjustment scores decreased over the 16-week semester. Initially, this finding appears counterintuitive. Prosocial communications included greetings, appreciation, sharing work examples, sharing resources, reminders, and expressing praise or concern. Although these are positive behaviors, they could be indicative of a need for connection. Previous research indicates that one of the purposes of social media use is to initiate friendships (Deepak et al., 2016; Thomas et al., 2017; Yang & Brown, 2013, 2015). In other words, students who used GroupMe more in prosocial ways may have been doing so to initiate friendships. However, using social media to initiate friendships is associated with lower social adjustment (Raacke & Bonds-Raacke, 2015; Yang & Brown, 2013, 2015). Therefore, students' use of social media for prosocial communications may serve as an indicator that students are having difficulty forming friendships. This finding is

related to Tinto's (1993) interactional theory of student attrition because the absence of friendships may lead to poorer social adjustment or isolation.

Limitations

The current study does have several limitations. The sample size is small. The total student enrollment in the four learning communities selected for the study was 60 students. Only 44 of these students consented to participate and completed the surveys in the quantitative portion of the study. The sample size for the qualitative second phase of the study was reduced to 35 participants for several reasons. First, only students enrolled in the Social Media Use group learning communities used the GroupMe app with their learning communities. Students in the control group were excluded from phase two of the study. Second, learning community course faculty did not require students to use GroupMe, although it was part of regular course communication. Third, some students did not consent to have their GroupMe data included in the study. Furthermore, the sample size for the mixed methods analyses was reduced to 22 participants. This sample included only those students who had participated in both the quantitative and qualitative phases. Students who participated in only one or the other could not have their data integrated. However, these class sizes are not unusual at the college where students were enrolled.

Another limitation of the study is that it was not possible to completely restrict participants' social media use outside the learning community. Although faculty in the control group did not use social media in their course with their learning community students, students could still use social media with other students. Additionally, students may have used a variety of apps or text-messaging platforms to develop connections with

students. However, this lack of restriction is reflective of real-world situations and may increase the external validity of the results and findings. Likewise, because social media is ubiquitous (Pew Research Center, 2018) it may not be realistic to completely restrict students from using social media for a 16-week semester.

The fall semester during which the study took place was atypical and this could have influenced students' use of the GroupMe app as well as their adjustment to college. Specifically, the threat of a major hurricane caused the college to close its campus for a week. Many students left the college to return home or evacuated to another location until the college reopened and classes resumed. Although the hurricane did not directly impact the research site, the cancellation of classes did impact students. For example, many of the courses at the college were modified to accommodate the loss of classroom time. However, the results of this study may indicate the need for more support when students experience stressful and unusual circumstances during their first semester of college.

Furthermore, the study only followed one class year of students for one semester. Other studies have examined students' adjustment and relationships for longer periods or several class years of students. For example, Ward and Commander (2011) studied first-semester students from multiple class years and Gray et al. (2013) assessed student adjustment during students' second semester of college. It is possible that the effects of social media use within a learning community could be more robust after a year. Alternatively, the effects of social media use could fade over time.

Implications and Recommendations for Future Research

The current study has implications and recommendations for future research. In particular, future research should consider the ways in which social media use is

classified, whether or not direct-report or self-report data is most appropriate, clearly

present ethical guidelines for social media use, and investigate how social media within a

non-learning community course compares to those enrolled in a learning community.

Additionally, future research should investigate social media communication across a

variety of disciplines.

This study introduced a new way to classify social media use (see Figure 9).

Previous research has insightfully noted the distinction between types of social media

use: passive, active, and interactive (Yang, 2016; Yang & Robinson, 2018). Passive

social media use is non-interactive and includes browsing and scrolling through others'

content. Active social media use includes posting content that is not aimed at any

particular person. Interactive social media use includes conversations or personally

directed content. However, this classification does not distinctly reflect responsive social

media use (e.g., likes). Similar to interactive social media use, responsive social media

use is personally directed. However, it involves minimal involvement on the part of the

user. Future research should continue to explore the influence of a variety of types of

social media use on student outcomes using the two-dimensional classification model.

This model distinguishes social media use by personal directedness and the amount of

user involvement.

Previous research relied on self-report data to determine the frequency of

participants social media use (e.g., Raacke & Bonds-Raacke, 2015; Wohn & Larose,

2014; Yang, 2014; Yang & Brown, 2013, 2015). The current study relied on direct-report

data by calculating each participant's post, reply, or like within the GroupMe app. This

direct approach to data collection has the advantage of being more reliable than self-

report. However, it was not possible to collect direct passive social media use because passive use (e.g., scrolling) does not result in an indicator of use. Therefore, future studies may consider using direct-report and self-report measures to capture all four types of social media use.

Additionally, the research design included an ethical framework to guide course faculty in their use of social media with their students. Researchers have noted that some individuals use Internet-based communications to troll (Hardaker, 2010), cyberbully (Kowalski et al., 2014; Whittaker & Kowalski, 2015) or engage in other negative social behaviors (Melander, 2010). Kent and Taylor's (2002) Dialogic Theory can be applied to education settings. Prior to the start of the fall semester, the researcher developed a faculty training based on the five principles of dialogic theory: mutuality, propinquity, empathy, risk, and commitment. Students in the pilot study and current study rated their experience with GroupMe to be neutral or positive on all five principles. Future research that includes the use of social media in an academic setting should address the ethics of using social media with students because social media acts as an extension of the classroom. Although training alone will not guarantee that unethical behaviors will be eliminated entirely, it can help faculty understand the most ethical ways to engage with students when using social media as well as refresh faculty on institutional policies and resources available at their institutions.

The current study investigated the influence of learning community students' use of social media on social adjustment. Learning communities are designed to provide students with more opportunities to interact with their classmates and peers (Gabelnick et al., 1990). Students in non-learning community courses may benefit more from the

increased opportunities for interactions via social media than students enrolled in learning communities. Therefore, the influence of non-learning community students' use of social media on social adjustment compared to students enrolled in a learning community is a research area of interest.

In addition to researching non-learning community courses, courses from a variety of disciplines should be studied because different disciplines may attract different types of students. For instance, at the college where the current study took place, the education and psychology majors tend to enroll a greater number of students who gender identify as female. Other disciplines (e.g., business administration) tend to enroll more students who gender identify as male. It is possible that differences may exist in terms of communication topics and frequency of communication by discipline because of the individual characteristics of students who are attracted to certain majors.

Lastly, with a greater sample size, additional mixed methods research analyses could be conducted. For example, individuals' frequency of each type of social media use (i.e., active, interactive, and responsive) within each theme of communication could be related to changes in SACQ (Baker & Siryk, 1999) scores. To illustrate, students who communicate interactively about academic topics may differ in changes in academic adjustment more so than students who communicate actively or responsively about academic topics.

Educational Implications and Recommendations

The current research study suggests several implications for those in educational environments, including recommendations for ethical considerations, professional development, and, more generally, the use of social media by educators. Social media use

is associated with some negative social behaviors (Hardaker, 2010; Kowalski et al., 2014; Melander, 2010; Whittaker & Kowalski, 2015). However, social media is not inherently detrimental. Students who participated in the current study did not indicate that using social media with their learning community violated any of the ethical principles of Dialogic Theory. Therefore, social media has the potential to be an ethical medium for communication.

Leaders of academic institutions that have the opportunity to offer faculty professional development workshops or courses on the best ways to use social media in education should do so. The current study administered a brief training (i.e., Ethical Communication Using Social Media in Education) to the faculty teaching learning community courses selected for the Social Media Use condition. The training included information on best practices for faculty, an ethical framework based on Dialogic Theory (Kent & Taylor, 2012), resources regarding common emojis and acronyms, and on-campus resources for students who experience cyber sexual harassment or cyberbullying.

In an educational setting, social media has the potential to positively influence some first-year students' adjustment to college as well as serve as a barometer for students' adjustment. Although some research has found that social media use is associated with poor academic performance (Janković et al., 2016; Raacke & Bonds-Raacke, 2015; Wohn & Larose, 2014), this may not be the case when social media is used in an intentional and thoughtful way and in conjunction with course faculty and classmates. The current study indicated that some students' academic adjustment may increase when they used GroupMe to communicate about academic topics. This is important because academic adjustment is linked to retention (Tinto, 1993). Additionally,

faculty who use social media with their learning communities may be able to gauge if some students are having difficulty adjusting to college. In the current study, the course faculty served as trained facilitators of the GroupMe groups for their learning community and had access to all group communication. This access allows faculty to have a "window" into students' experiences beyond the classroom setting and class meeting times. Consequently, faculty may be able to detect students who are struggling with personal-emotional adjustment earlier and offer them opportunities to for help.

Using social media may also encourage academic communication and prosocial behaviors using a medium with which students are familiar. The majority of students in the current study did use social media and these results mirrored the findings of the Pew Research Center's findings (2018). There was ample evidence that students did communicate with one another about their academic coursework as well as share resources using GroupMe. Communicating about academic topics and sharing resources are aspects of a community of scholars and is congruent with Tinto's (1993) interactional theory of student attrition.

Lastly, social media is a low-cost method of communication because many social media platforms are free for individuals to use. The majority of individuals who will be college-aged in the near future have reported that they have access to a smart phone (Anderson & Jiang, 2018). Therefore, social media has the potential to be a cost effective supplement to regular course communication that is accessible to students.

Concluding Remarks

The decisions that students make about whether to remain enrolled in college or to leave are complex. Tinto's (1993) interactional theory of student attrition points to

individual characteristics and institutional characteristics that influences students' decisions to remain in college. Although colleges have little ability to affect students' pre-college characteristics, opportunities exist for colleges to influence students' decisions once they enroll. Tinto notes that adjustment, which includes academic adjustment and social adjustment, is one interactional factor between the college and the student that it is associated with retention.

Social media, when used ethically, has the potential to be a cost-effective tool to help students adjust to college either directly or indirectly. Directly, some students may increase their academic adjustment when they use social media to communicate about their coursework or other academic topics. Indirectly, social media may be helpful to faculty because it can serve as a barometer of students' lack of adjustment. Although prosocial communications are positive, those who engage in many prosocial communications may be struggling to adjust to college.

Further research is needed to increase the understanding of how ethical social media use within an education setting influences students and their decisions to remain enrolled in college. Research should continue to investigate how active, interactive, passive, and responsive social media use influences students' adjustment to college. Furthermore, the ways in which students use social media is important and research should continue to explore students' use through qualitative analyses.

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APPENDICES

Appendix A

Informed Consent to Participate in Research
Information to Consider Before Taking Part in this Research Study
Project Title: Social Media Use
Principal Investigator(s): Melanie Law

PURPOSE OF THE STUDY: The purpose of this research is to understand how students use social media in college.

STUDY PROCEDURES: You will complete a brief experiential questionnaire to determine your experience with a social media app (i.e., GroupMe) and your experiences in college. Your responses will be paired with data regarding your usage of the app during the fall semester.

RISKS AND DISCOMFORTS: This content is not designed to be physically or psychologically disturbing. However, you will be asked about your experiences with the app and your college experiences. Additionally, your usage of social media will be explored. If you become distressed and feel that you cannot continue then you will be allowed to leave without penalty. If you feel that you would benefit from some professional help, the phone number for the FSC Counseling Center is (863) 680-6236.

POTENTIAL BENEFITS: You will not directly benefit from participating in this study, however you will be provided an experience that allows you to reflect on your own experiences. This may provide you with satisfaction that you will be aiding in improving the understanding of the social media and students' college experiences.

CONSENT: By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research.

CONFIDENTIALITY: We must keep your study records confidential. Your privacy will be protected because you will not be identified by name as a participant in this project. This study requires you to create a unique codename that is known only to you. Your data will be assigned that codename and will be kept in a locked cabinet. No records will be kept with your name on them. The obtained information will be kept until the data collection is complete and will be shredded after completion. However, certain people may need to see your study records (including IRB officials). By law, anyone who looks at your records must keep them completely confidential.

VOLUNTARY PARTICIPATION / WITHDRAWAL: Your participation is completely voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

QUESTIONS, CONCERNS, OR COMPLAINTS: If you have any questions, concerns or complaints about this study, please contact Melanie Law, the principal investigator, at (570) 640-

7547 or Dr. Victoria Giordano at (863)680-5080. For any further questions or clarifications, please contact the Chair of the Institutional Review Board at (863) 680-6205, or Vice President for Academic Affairs at (863) 680-4124.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form, if the following statements are true.

I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research.

_____   _____

Signature of Person Taking Part in Study   Date

_____

Printed Name of Person Taking Part in Study

Appendix B

Parental Consent Letter

Melanie Law, M.A.
Doctoral Candidate
Department of Education
Florida Southern College
mlaw@flsouthern.edu

Dear Ms. Law:

I am the parent/guardian of [student's full name] _____.
I understand that my child is currently a student at Florida Southern College and that he/she has the opportunity to learn about academic research by participating in an empirical study titled First-Year Students' Experiences in Higher Education. This study has been approved by the College's Institutional Review Board. The purpose of the study is to learn more about the experiences that students who are enrolled in a learning community course have during their first semester of college. I understand that the study involves the completion of online surveys at the beginning and the end of the Fall 2019 semester. These surveys will take no more than 30 minutes to complete at each time period. There will be no disclosure of individual performance. In accordance with ethical standards, the researcher is required to obtain consent from students prior to their participating in the research. However, since my child is not yet 18 years of age, he/she does not have the legal status to consent to participate. I understand that my child may refuse to participate in any study to which he/she has any objection.

I therefore [check one]:

_____ Delegate authority to my child to sign the informed consent form for the First-Year Students' Experiences in Higher Education study.

_____ Do not want my child to participate in the First-Year Students' Experiences in Higher Education study. My child will not incur any penalty for lack of participation.

_____
Signature

_____
Printed Name

_____
Relationship to Student

_____
Date
*This letter will be on College letterhead

Appendix C

<u>Student Informed Consent to Participate in Research</u>

Information to Consider Before Taking Part in this Research Study
Project Title: First-year Students' Experiences in Higher Education
Principal Investigator(s): Melanie Law

PURPOSE OF THE STUDY: The purpose of this research is to understand first-year students' experiences at college.

STUDY PROCEDURES: Today, you will complete online questionnaires about your background information and experiences at college. These questionnaires will take no more than 30 minutes to complete. Additionally, toward the end of the semester, you will complete another series of questionnaires about your experiences with technology and your experiences at college. The second set of questionnaires will take no more than 30 minutes.

RISKS AND DISCOMFORTS: This content is not designed to be physically or psychologically disturbing. However, you will be asked about various aspects about your experiences as a student at college. If you become distressed and feel that you cannot continue then you will be allowed to leave without penalty. If you feel that you would benefit from some professional help, the phone number for the FSC Counseling Center is (863) 680-6236.

POTENTIAL BENEFITS: You will not directly benefit from participating in this study, however you will be provided an experience that allows you to reflect on your own experiences at college. Additionally, you may gain satisfaction by knowing that you play an integral role in this research process.

CONSENT: By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research.

CONFIDENTIALITY: We must keep your study records confidential. Your privacy will be protected because you will not be identified by name as a participant in this project. This study requires you to create a unique codename that is known only to you. Your data will be assigned that codename and will be kept in a locked cabinet or a password protected computer that is stored in a locked office. No records will be kept with your name on them. The obtained information will be kept until the data collection is complete and will be shredded after completion. However, certain people may need to see your study records (including IRB officials). By law, anyone who looks at your records must keep them completely confidential.

VOLUNTARY PARTICIPATION / WITHDRAWAL: Your participation is completely voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

QUESTIONS, CONCERNS, OR COMPLAINTS: If you have any questions, concerns or complaints about this study, please contact Melanie Law, the principal investigator, at (570) 640-7547 or Dr. Victoria Giordano at (863) 680-5080. For any further questions or clarifications, please contact the Chair of the Institutional Review Board at (863) 680-6205, or Vice President for Academic Affairs at (863) 680-4124.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form if the following statements are true:

I freely give my consent to take part in this study. By completing and signing this Informed Consent form I am acknowledging that I voluntarily agree to participate in the study and that I am over age 18.

_____   _____

Signature of Person Taking Part in Study   Date

_____

Printed Name of Person Taking Part in Study

……………………………………………………………………………………………

This portion will be detached so your codename is not directly connected to your name.

I agree to consent to participate in the study and have signed the consent form.

My codename is _____

Appendix D

Student Recruitment Script

<u>Initial Student Recruitment Script:</u>
(A research assistant will use this initial script to recruit participants from the treatment and control groups. During this time the research assistant will hand out consent forms to interested students. A copy of the consent form can be found in Appendix D)

Hello, I am [name], a research assistant with the [academic department]. I am here today to offer you an opportunity to participate in scientific research. If you choose to consent to participate, you will complete questionnaires today and at the end of the semester. The questionnaires will take no more than 30 minutes to complete each time. This study does qualify for SONA research credits if you are enrolled in a class that requires research participation. [If not, your professor may offer your class _____ extra credit]. However, your participation is strictly voluntary.

Please read over the consent form. [Research assistant hands out consent form]. If you are at least 18 years of age and consent to participate, please sign the consent form. If you are under 18 years of age, you can still participate once you provide a signed letter of consent from your parent/guardian. Then, you may complete the questionnaires. Please scan the QR code to access a copy of the parental consent letter that you can give your parent/guardian. Once you have the letter signed, you may complete the consent form and email these documents to mlaw@flsouthern.edu [written on classroom board]. Then, you will receive access to the online questionnaire.

You will notice at the bottom of the consent form there is a place for a codename. The codename is the last 2 digits of your phone number and the first 5 letters of the name of street you grew up on. Please enter your codename on the form in the spot provided. The questionnaires will ask you to provide the same codename now and at the end of the semester. [Research assistant provides online access to the questionnaires]. Thank you!

*Actual QR code that links students to the parental consent letter will be larger when the researcher presents the image.

Appendix E

Supplemental Student Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study
Project Title: First-Year Students' Experiences in Higher Education
Principal Investigator(s): Melanie Law

PURPOSE OF THE STUDY: The purpose of this research is to qualitatively understand first-year students' experiences at college.

STUDY PROCEDURES: Earlier in the semester you completed a series of questionnaires related to this study. Today, you are giving consent for the researcher to have access to pair your GroupMe data with your responses to the questionnaires.

RISKS AND DISCOMFORTS: This content is not designed to be physically or psychologically disturbing. However, you are not being asked to take any action other than consent to have your GroupMe data paired with your responses to the questionnaires you previously completed. However, if you find that this request makes you become distressed you may decline the request. If you feel that you would benefit from some professional help, the phone number for the FSC Counseling Center is (863) 680-6236.

POTENTIAL BENEFITS: You will not directly benefit from participating in this study, however you will be provided an experience that allows you to understand scientific research from the perspective of a participant. Additionally, you may gain satisfaction by knowing that you play an integral role in this research process.

CONSENT: By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research.

CONFIDENTIALITY: We must keep your study records confidential. Your privacy will be protected because you will not be identified by name as a participant in this project. This study requires you to create a unique codename that is known only to you. Your data will be assigned that codename and will be kept in a locked cabinet or a password protected computer that is stored in a locked office. No records will be kept with your name on them. The obtained information will be kept until the data collection is complete and will be shredded after completion. However, certain people may need to see your study records (including IRB officials). By law, anyone who looks at your records must keep them completely confidential.

VOLUNTARY PARTICIPATION / WITHDRAWAL: Your participation is completely voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

QUESTIONS, CONCERNS, OR COMPLAINTS: If you have any questions, concerns or complaints about this study, please contact Melanie Law, the principal investigator, at (570) 640-

7547 or Dr. Victoria Giordano at (863) 680-5080. For any further questions or clarifications, please contact the Chair of the Institutional Review Board at (863) 680-6205, or Vice President for Academic Affairs at (863) 680-4124.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form if the following statements are true:

I freely give my consent to take part in this study. By completing and signing this Informed Consent form I am acknowledging that I voluntarily agree to participate in the study and that I am over age 18.

_____   _____
Signature of Person Taking Part in Study   Date

_____
Printed Name of Person Taking Part in Study

……………………………………………………………………………………………

This portion will be detached so your codename is not directly connected to your name.

I agree to consent to have my GroupMe data paired with my questionnaire responses and

have signed the consent form. My codename is _____

Appendix F

Supplemental Parent Consent Letter

Melanie Law, M.A.
Doctoral Candidate
Department of Education
Florida Southern College
mlaw@flsouthern.edu

Dear Ms. Law:

I am the parent/guardian of [student's full name] _____.
I understand that my child is currently a student at Florida Southern College and that he/she has the opportunity to learn about academic research by participating in a supplemental portion of the empirical study titled First-Year Students' Experiences in Higher Education. This study has been approved by the College's Institutional Review Board. The purpose of the supplemental portion of the study is to address an additional research question regarding my child's use of the social media app GroupMe as part of his/her course communication with his/her faculty and classmates in a learning community course. My child's participation in this supplemental portion of the study will not require any additional time. There will be no disclosure of individual performance. In accordance with ethical standards, the researcher is required to obtain consent from students prior to their participating in the research. However, since my child is not yet 18 years of age, he/she does not have the legal status to consent to participate. I understand that my child may refuse to participate in any study to which he/she has any objection.

I therefore [check one]:

_____ Delegate authority to my child to sign the supplemental informed consent form for the First-Year Students' Experiences in Higher Education study.

_____ Do not want my child to participate in the supplemental portion of the First-Year Students' Experiences in Higher Education study. My child will not incur any penalty for lack of participation.

_____
Signature

_____
Printed Name

_____
Relationship to Student

_____
Date

Appendix G

Supplemental Student Recruitment Script

<u>Supplemental Student Recruitment Script:</u>
(A research assistant will use this supplemental script to recruit participants from the treatment group who used the GroupMe app during the semester. The research assistant will hand out consent forms to interested students. A copy of the consent form can be found in Appendix F)

Hello, I am [name], a research assistant with the [academic department]. Earlier in the semester some of you volunteered to participate in a scientific research study. As part of that same study, I am here today to request permission to pair your questionnaire responses with your GroupMe data. Please read over the consent form. [Research assistant hands out consent form]. However, your participation is strictly voluntary.

If you are at least 18 years old and consent, please sign the consent form. If you are under 18 years of age, you can still participate once you provide a signed letter of consent from your parent/guardian. Then, you may complete the questionnaires. Please scan the QR code to access a copy of the supplemental parental consent letter that you can give your parent/guardian. Once you have the letter signed, you may complete the consent form and email these documents to mlaw@flsouthern.edu [written on classroom board]. Then, you will be able to have your GroupMe data paired with your questionnaire responses.

Please provide your codename on the detachable portion of the form. Remember, the codename is the last 2 digits of your phone number and the first 5 letters of the name of street you grew up on.

*Actual QR code that the research assistant presents will be larger.

Appendix H

Background Information Questionnaire

Instructions: Please answer the following questions regarding your use of social media generally.

1. What is your gender?
   _____Male
   _____Female
   _____Other (Please specify)_____

2. What is your sexual orientation?
   _____Homosexual (e.g., Gay/Lesbian)
   _____Bisexual
   _____Heterosexual (e.g. straight)
   _____Other (Please specify) _____

3. What is your current class year?
   _____Freshman
   _____Sophomore
   _____Junior
   _____Senior

4. What is the highest level of education completed by your mother?
   _____High School
   _____Associates Degree
   _____Bachelor's Degree
   _____Master's Degree
   _____Doctorate Degree
   _____Other

5. What is the highest level of education completed by your father?
   _____High School
   _____Associates Degree
   _____Bachelor's Degree
   _____Master's Degree
   _____Doctorate Degree
   _____Other

6. Are you eligible or currently receiving a Pell grant?
   _____Yes
   _____No
   _____Unsure

7. How many college credits have you <u>completed</u> at another college, excluding AP credits? _____

8. What is your age in years? _____

9. What is your race/ethnicity? (Select all that apply).
   _____Arab/Arab-American
   _____American Indian/Alaskan Native
   _____Asian/ Pacific Islander
   _____Black/ African-American
   _____Hispanic/ Latino

_____White/Caucasian
_____Other (Please specify)_____

10. What is your religion?
_____Atheist
_____Christian
_____Hindu
_____Jewish
_____Muslim
_____Non-Religious
_____Other (Please specify) _____

11. In miles, approximately how far is the college campus from your permanent address (e.g., parents' home)? _____

12. How frequently do you intend to visit your permanent address this semester?
_____ Not at all
_____ Fairly infrequently
_____ Sometimes
_____ Fairly frequently
_____ Very frequently

Appendix I

Social Media Experience Questionnaire

Instructions: Please answer the following questions regarding your use of social media.

1. With which of the following social media platforms or apps do you have an account? Select all that apply.

    ____ Facebook
    ____Instagram
    ____Snapchat
    ____Twitter
    ____GroupMe
    ____Slack
    ____YouTube
    ____Other (Please list: _____)
    ____None

2. Which social media platform do you use the most? Select only one.

    ____ Facebook
    ____Instagram
    ____Snapchat
    ____Twitter
    ____GroupMe
    ____Slack
    ____YouTube
    ____Other (Please list: _____)
    ____I do not use social media.

3. Think about all the social media platforms and apps for which you have an account. How frequently do you use social media or check your social media accounts?

    ____1-3 times a month
    ____1-3 times a week
    ____4-6 times a week
    ____1-2 times a day
    ____3 or more times a day
    ____I do not use social media.

4. Did you access the social media platform GroupMe with your learning community courses? If you answer "Yes," please continue to question 5. If you answer "No," please skip to the next portion of the survey.

    ____Yes
    ____ No

5. Think only about the GroupMe social media platform. How did you typically access GroupMe?

    ___via the smartphone app
    ___via Text-messaging app
    ___via computer's web browser.

6. Think about how you typically accessed GroupMe. Please rate GroupMe in terms of ease of use.
   - _____Very easy
   - _____Somewhat easy
   - _____Neither easy nor difficulty
   - _____Somewhat difficult
   - _____Very difficult

7. Please rate the ease in which you could follow conversations from posts, replies, and "likes."
   - _____Very easy
   - _____Somewhat easy
   - _____Neither easy nor difficulty
   - _____Somewhat difficult
   - _____Very difficult

8. Inclusiveness embodies mutual respect and understanding of others viewpoints. Please rate how inclusive you found the GroupMe app to be.
   - _____Very inclusive
   - _____Somewhat inclusive
   - _____Neither inclusive or not inclusive
   - _____Somewhat not inclusive
   - _____Not at all inclusive

9. Engagement in this survey refers to the interactions that build relationships and seek input from others. Please rate how engaging you found GroupMe to be.
   - _____Very engaging
   - _____Somewhat engaging
   - _____Neither engaging or unengaging
   - _____Somewhat not unengaging
   - _____Very unengaging

10. Think about your experience with GroupMe. Please rate how acknowledged your voice was within the GroupMe communications?
    - _____Very acknowledged
    - _____Somewhat acknowledged
    - _____Neither acknowledged or ignored
    - _____Somewhat ignored
    - _____Very ignored

11. Think about your experience with GroupMe. Please rate how open to differences you felt that the communication was within GroupMe.
    - _____Very open
    - _____Somewhat open
    - _____ Neither open or unopen
    - _____Somewhat unopen
    - _____Very unopen

12. Think about your experience with GroupMe. Please rate how genuine or honest the communication was within the GroupMe app?
    - _____Very genuine
    - _____Somewhat genuine
    - _____ Neither genuine or ingenuine
    - _____Somewhat ingenuine
    - _____Very ingenuine

13. Think about your experience with GroupMe and how it affected your relationships with your classmates offline.

    a. In what ways did GroupMe improve your relationships offline, if at all?

       _____
       _____

    b. In what ways did GroupMe hurt your relationships offline, if at all?

       _____
       _____

14. While using GroupMe for your psychology class, did you form a subgroup or become a member of a subgroup?

    ___Yes
    ___No

    a. If you answered yes, what were the reasons you formed or joined a subgroup?

       _____
       _____

15. Would you recommend that future instructors use GroupMe in their courses?

    ___Yes
    ___No
    ___Other _____

16. Would you recommend instructors use a different app in their courses?

    ____Yes (Please list: _____)
    ____No

Appendix J

Teaching Style Inventory 3.0

Title of Course: _____

Primary Level of This Course: Freshmen __   Sophomore __   Junior __   Senior __

Is this course required for undergraduate majors and/or a graduate degree? Yes __ No __

What is the average enrollment in the course? _____

How many times have you taught this class? _____

Respond to each of the items below in terms of how they apply to the course you have chosen. Answer as honestly and as objectively as you can. Resist the temptation to respond as you believe you "should or ought to think or behave" or in terms of what you believe is the "expected or proper thing to do." Put your answers on the answer sheet that is provided. Respond to the items on the following pages by using the following scale.

1	2	3	4	5	6	7
Strongly Disagree		Somewhat Disagree	Neither Disagree or Agree	Somewhat Agree		Strongly Agree
Very Unimportant Aspect to My Approach to Teaching this Course						Very Important Aspect to My Approach to Teaching this Course

1. Facts, concepts, and principles are the most important things that students should acquire.
2. I set high standards for students in this class.
3. What I say and do models appropriate ways for students to think about issues in the content.
4. My teaching goals and methods address a variety of student learning styles.
5. Students typically work on course projects alone with little supervision from me.
6. Sharing my knowledge and expertise with students is very important to me.
7. I give students negative feedback when their performance is unsatisfactory.
8. Students are encouraged to emulate the example I provide.
9. I spend time consulting with students on how to improve their work on individual and/or group projects.
10. Activities in this class encourage students to develop their own ideas about content issues.

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11. What I have to say about a topic is important for students to acquire a broader perspective on the issues in that area.
12. Students would describe my standard and expectation as somewhat strict and rigid.
13. I typically show students how and what to do in order to master course content.
14. Small group discussions are employed to help students develop their ability to think critically.
15. Students design one or more self-directed learning experiences.
16. I want students to leave this course well prepared for further work in this area.
17. It is my responsibility to define what students must learn and how they should learn it.
18. Examples from my personal experiences often are used to illustrate points about the material.
19. I guide students' work on course projects by asking questions, exploring options, and suggesting alternative ways to do things.
20. Developing the ability of students to think and work independently is an important goal.
21. Lecturing is a significant part of how I teach each of the class sessions.
22. I provide very clear guidelines for how I want tasks completed in this course.
23. I often show students how they can use various concepts and principles.
24. Course activities encourage students to take the initiative and responsibility for their learning.
25. Students take responsibility for teaching part of the class sessions.
26. My expertise is typically used to resolve disagreements about contentious issues.
27. This course has very specific goals and objectives that I want to accomplish.
28. Students receive frequent verbal and/or written comments on their performance.
29. I solicit student advice about how and what to teach in this course.
30. Students set their own pace for completing independent and/or group projects.
31. Students might describe me as a "storehouse of knowledge" who dispenses the facts, principles, and concepts they need.
32. My expectations for what I want students to do are clearly stated in the syllabus.
33. Eventually, many students begin to think like me about the course content.
34. Students can make choices among activities in order to complete course requirements.
35. My approach to teaching is similar to a manager of a work group who delegates tasks and responsibilities to subordinates.
36. I have more material in this course than I have time to cover.
37. My standards and expectations help students develop the discipline they need to learn.
38. Students might describe me as a "coach" who works closely with someone to correct problems in how they think and behave.
39. I give students a lot of personal support and encouragement to do well in this course.
40. I assume the role of a resource problem who is available to students whenever they need help.

Teaching Style Inventory 3.0 Scoring Key

1. Copy the rating you assigned to each item in the spaces provided below.

1 _____	2 _____	3 _____	4 _____	5 _____
6 _____	7 _____	8 _____	9 _____	10 _____
11 _____	12 _____	13 _____	14 _____	15 _____
16 _____	17 _____	18 _____	19 _____	20 _____
21 _____	22 _____	23 _____	24 _____	25 _____
26 _____	27 _____	28 _____	29 _____	30 _____
31 _____	32 _____	33 _____	34 _____	35 _____
36 _____	37 _____	38 _____	39 _____	40 _____

2. Sum the rating for each column and place the total in the spaces below.

_____	_____	_____	_____	_____

3. Divide each column score above by 8 to obtain the average numerical rating you assigned to the items associated with each teaching style. Place your average rating to the nearest decimal point in the spaces below.

_____	_____	_____	_____	_____
Expert	Formal Authority	Personal Model	Facilitator	Delegator

4. The teaching style that corresponds to each column is shown above.

(Adapted from Richlin, 2006)

Appendix K

Limited-Use License for the SACQ

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WPS-001052

Date:

September 21, 2017

Principal Investigator's name and title:

Victoria Giordano

Name of the Assessment:

Student Adaption to College Questionnaire (SACQ)

Permitted number of uses:

300 uses

Description of the study:

"Adjustment and Retention."

Reference terms dated 31 Aug'17.

Method of administration:

Administration and scoring via a secure, password-protected online enviornment.

The required copyright notice that must be affixed in its entirety to each reprint/viewing of the assessment:

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Appendix L

Faculty Recruitment Email Scripts

Email Recruitment Script for Social Media Use Group Faculty:

Hello [faculty member name], I am a doctoral candidate in the Doctor of Education program at Florida Southern College. I am writing to you to request your help with a research study on the experiences of first-year learning community students. As part of the study, you will use the social media app GroupMe with your learning community class and be able to offer your students first-hand experience participating in research. Additionally, you will have the opportunity to complete a brief teaching style questionnaire and receive Ethical Communication Using Social Media in Education training. If you are interested in helping me with the study, I can meet with you to explain your role in the study and/or send you the consent forms for participation.

Thank you,

Melanie

Email Recruitment Script for No Social Media Group Faculty:

Hello [faculty member name], I am a doctoral candidate in the Doctor of Education program at Florida Southern College. I am writing to you to request your help with a research study on the experiences of first-year learning community students. As part of the study, you will have the opportunity to complete a brief teaching style questionnaire as well as offer your students first-hand experience participating in research. If you are interested in helping me with the study, I can meet with you to explain your role in the study and/or send you the consent forms for participation.

Thank you,

Melanie

Appendix M

Social Media Faculty Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study
Project Title: First-Year Students' Experiences in Higher Education
Principal Investigator(s): Melanie Law

PURPOSE OF THE STUDY: The purpose of this research is to understand first-year students' experiences at college. You have been selected to participate in this study because you teach college students participating in the study.

STUDY PROCEDURES: You will complete the Ethical Communication Using of Social Media in Education (ECUSME) training prior to using the social media app GroupMe with your learning community class. The training is based on Kent and Taylor's (2002) five principles of ethical communication. The ECUSME training will also include best practices, identifying risks, and resources for reporting concerns. The in-person ECUSME training will take no more than 60 minutes to complete. Then, at the conclusion of the fall 2019 semester, you will be asked to share your GroupMe data with the researcher or research assistant who has signed a third-party confidentiality agreement.

RISKS AND DISCOMFORTS: This content is not designed to be physically or psychologically disturbing. However, you will be asked about various aspects of teaching college courses and to imagine hypothetical situations involving social media use (e.g., cyberbullying).

POTENTIAL BENEFITS: You will gain an understanding of the principles of ethical communication which may help you reflect upon your experience as you use social media as supplemental communication with your students. This may provide you with satisfaction that you will be aiding in improving the understanding of the ways in which you teach college courses and interact with students virtually.

CONSENT: By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research.

CONFIDENTIALITY: We must keep your study records confidential. Your privacy will be protected because you will not be identified by name as a participant in this project. Your responses will be reported in published materials using a pseudonym. Your data will be assigned that code number and will be kept in a locked cabinet in a locked office at the Florida Southern College. No records will be kept with your name on them. The obtained information will be kept until the data collection is complete and will be shredded after completion. However, certain people may need to see your study records (including IRB officials). By law, anyone who looks at your records must keep them completely confidential.

VOLUNTARY PARTICIPATION / WITHDRAWAL: Your participation is completely voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

QUESTIONS, CONCERNS, OR COMPLAINTS: If you have any questions, concerns or complaints about this study, please contact Melanie Law, the principal investigator, at (570) 640-7547 or Dr. Victoria Giordano at (863) 680-5080. For any further questions or clarifications, please contact the Chair of the Institutional Review Board at (863) 680-6205, or Vice President for Academic Affairs at (863) 680-4124.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form, if the following statements are true.

I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research.

_____   _____

Signature of Person Taking Part in Study   Date

_____

Printed Name of Person Taking Part in Study

Appendix N

Faculty Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study
Project Title: First-Year Students' Experiences in Higher Education
Principal Investigator(s): Melanie Law

PURPOSE OF THE STUDY: The purpose of this research is to understand first-year students' experiences at college. You have been selected to participate in this study because you teach college students participating in the study.

STUDY PROCEDURES: You will complete a brief 40-item teaching styles questionnaire to determine your teaching style for the learning community course you are teaching in the fall 2019 semester. This questionnaire will take no more than 20 minutes to complete.

RISKS AND DISCOMFORTS: This content is not designed to be physically or psychologically disturbing. However, you will be asked about various aspects of teaching college courses. If you become distressed and feel that you cannot continue then you will be allowed to leave without penalty. If you feel that you would benefit from some professional help, the phone number for the FSC Counseling Center is (863) 680-6236.

POTENTIAL BENEFITS: You will not directly benefit from participating in this study, however you will be provided an experience that allows you to reflect on your own teaching style. This may provide you with satisfaction that you will be aiding in improving the understanding of the ways in which you teach college courses.

CONSENT: By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research.

CONFIDENTIALITY: We must keep your study records confidential. Your privacy will be protected because you will not be identified by name as a participant in this project. Your responses will be reported in published materials as a low, moderate, or high, not as a numeric score. Furthermore, your results will be grouped with other faculty teaching students in the social media study. In other words, your individual scores will confidential. Your data will be assigned that code number and will be kept in a locked cabinet in a locked office at the Florida Southern College. No records will be kept with your name on them. The obtained information will be kept until the data collection is complete and will be shredded after completion. However, certain people may need to see your study records (including IRB officials). By law, anyone who looks at your records must keep them completely confidential.

VOLUNTARY PARTICIPATION / WITHDRAWAL: Your participation is completely voluntary and you are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice.

QUESTIONS, CONCERNS, OR COMPLAINTS: If you have any questions, concerns or complaints about this study, please contact Melanie Law, the principal investigator, at (570) 640-7547 or Dr. Victoria Giordano at (863) 680-5080. For any further questions or clarifications, please contact the Chair of the Institutional Review Board at (863) 680-6205, or Vice President for Academic Affairs at (863) 680-4124.

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_____   _____
Signature of Person Taking Part in Study   Date

_____
Printed Name of Person Taking Part in Study